



# THE CLASSIC - COPPER TUBULAR CABLE LUGS

Not every product becomes a classic at Klauke. Only the best ones. Tubular cable lugs made from high-quality electrolytic copper have been part of the Klauke standard range since 1960. The hallmarks: We handle all phases, from development to production. We monitor each and every step. The result: The certified classic remains - in every version.



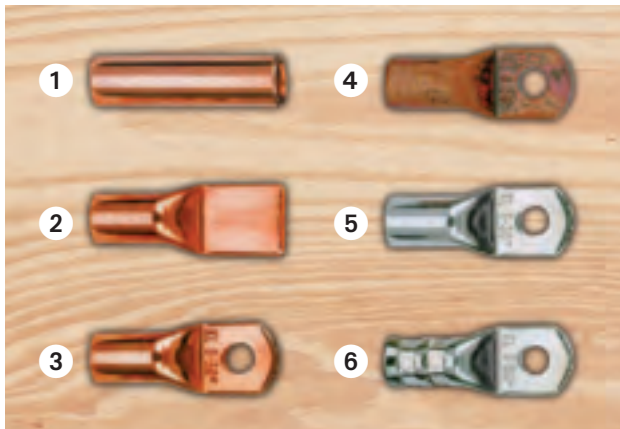
#### In brief

- ▶ Everything from a single source, from development to production
- ▶ Best electrical conductivity thanks to electrolytic copper
- ▶ Available for all cross sections and in many special versions
- ▶ Tested to international standards

## ► The system - Klauke connectors

At Klauke all products are matched to one another and we manufacture in our own factories. We think in your work steps – and produce everything systematically. Every cable lug, every tool for the perfect connection.

- Full flexibility through solutions for all conductor classes to DIN EN 60228
- For cables with compacted round conductors, cables with sector-shaped conductors and to suit individual requirements
- A single source - for everything from the cable lug to the tool for professional electrical installations



- |                        |                      |
|------------------------|----------------------|
| 1 Source material      | 4 Annealing          |
| 2 Folding and crimping | 5 Tinned end product |
| 3 Punching             | 6 After crimping     |

## ► The preparation - Traditional quality

The best material is the basis for quality products. For our classics we use - as for all Klauke products - exclusively high-quality material from certified suppliers. You get all our cable lugs with the optimum features. To achieve this, we manufacture using a special annealing process.

- Optimum conductivity, high loading capacity and increased safety thanks to high-quality materials
- Outstanding processing properties

## ► The proof - independent quality tests

Klauke aspires to its own high standard. We have this verified by several independent inspection authorities and have put ourselves through the tough IEC tests - with success.

- IEC (International Electric Commission): The IEC is an advisory board for standards in the electrical engineering and electronics sector. The certifications encompass all areas of electrical engineering that have to meet especially high demands.
- UL (Underwriters Laboratories): UL is an independent organisation that examines and certifies products for safety. The certification is particularly important on the American market.

- DNV (Det Norske Veritas) and GL (Germanischer Lloyd): DNV and GL have now merged to form the world's largest consulting company for onshore and offshore systems.





## Tubular cable lugs, Cu, standard type



- ▶ Cable lug for fine-stranded round conductors, e.g. to DIN EN 60228 Cl. 5
- ▶ Simple processing thanks to inspection hole for monitoring full conductor insertion

### Characteristics

- Annealed material optimises material and crimping properties
- Simple and safe connection due to flat contact surfaces and internal chamfer
- Item identification on cable lug

### Material

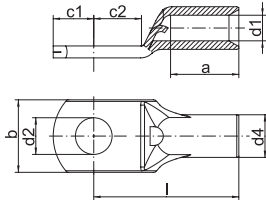
- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

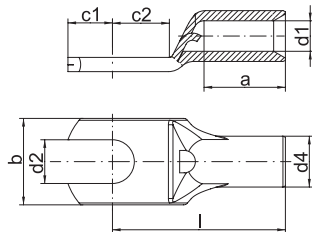
### Technical instructions

- Tool: see page 38



| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No. | Dimension mm |   |      |     |     |      |     |    | Weight/100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------------|----------|--------------|---|------|-----|-----|------|-----|----|----------------------|------------------|
|                                       |                   |          | d1           | a | b    | d2  | d4  | c1   | c2  | l  |                      |                  |
| 0.75                                  | M3                | 91R3     | 1.3          | 6 | 6.0  | 3.2 | 2.8 | 3.25 | 4.0 | 12 | 0.060                | 100              |
|                                       | M4                | 91R4     | 1.3          | 6 | 6.5  | 4.3 | 2.8 | 4.00 | 5.0 | 13 | 0.060                | 100              |
|                                       | M5                | 91R5     | 1.3          | 6 | 7.5  | 5.3 | 2.8 | 4.75 | 5.5 | 14 | 0.060                | 100              |
| 1.5                                   | M3                | 92R3     | 1.8          | 6 | 6.5  | 3.2 | 3.3 | 3.25 | 4.0 | 12 | 0.080                | 100              |
|                                       | M4                | 92R4     | 1.8          | 6 | 6.5  | 4.3 | 3.3 | 4.00 | 5.0 | 13 | 0.080                | 100              |
|                                       | M5                | 92R5     | 1.8          | 6 | 7.5  | 5.3 | 3.3 | 4.75 | 5.5 | 14 | 0.080                | 100              |
|                                       | M6                | 92R6     | 1.8          | 6 | 9.0  | 6.5 | 3.3 | 6.50 | 6.5 | 16 | 0.090                | 100              |
| 2.5                                   | M3                | 93R3     | 2.3          | 6 | 7.5  | 3.2 | 4.2 | 3.25 | 4.0 | 12 | 0.120                | 100              |
|                                       | M4                | 93R4     | 2.3          | 6 | 7.5  | 4.3 | 4.2 | 4.00 | 5.0 | 13 | 0.120                | 100              |
|                                       | M5                | 93R5     | 2.3          | 6 | 8.5  | 5.3 | 4.2 | 4.75 | 5.5 | 14 | 0.130                | 100              |
|                                       | M6                | 93R6     | 2.3          | 6 | 9.5  | 6.5 | 4.2 | 6.50 | 6.5 | 16 | 0.150                | 100              |
|                                       | M8                | 93R8     | 2.3          | 6 | 13.0 | 8.5 | 4.2 | 7.75 | 9.5 | 20 | 0.180                | 100              |
| 4                                     | M4                | 94R4     | 3.0          | 8 | 8.5  | 4.3 | 5.0 | 4.75 | 5.5 | 18 | 0.210                | 100              |
|                                       | M5                | 94R5     | 3.0          | 8 | 9.0  | 5.3 | 5.0 | 4.75 | 6.0 | 18 | 0.213                | 100              |
|                                       | M6                | 94R6     | 3.0          | 8 | 10.0 | 6.5 | 5.0 | 6.50 | 6.5 | 19 | 0.220                | 100              |
|                                       | M8                | 94R8     | 3.0          | 8 | 13.0 | 8.5 | 5.0 | 8.50 | 9.5 | 22 | 0.280                | 100              |
| 6                                     | M4                | 95R4     | 4.0          | 9 | 9.5  | 4.3 | 6.0 | 5.00 | 5.5 | 18 | 0.290                | 100              |
|                                       | M5                | 95R5     | 4.0          | 9 | 9.5  | 5.3 | 6.0 | 6.00 | 6.0 | 19 | 0.300                | 100              |
|                                       | M6                | 95R6     | 4.0          | 9 | 10.0 | 6.5 | 6.0 | 7.00 | 6.5 | 19 | 0.300                | 100              |
|                                       | M8                | 95R8     | 4.0          | 9 | 14.0 | 8.5 | 6.0 | 8.50 | 9.5 | 22 | 0.320                | 100              |

## Tubular cable lugs, Cu, fork type



- ▶ Cable lug to 6 mm<sup>2</sup> for fine-stranded round conductors Cl. 5, 10 mm<sup>2</sup> and 16 mm<sup>2</sup> for multi-stranded round conductors Cl. 2, e.g. to DIN EN 60228
- ▶ Simple fork-type mounting
- ▶ Simple processing thanks to inspection hole to check the inserted conductor

### Characteristics

- Annealed material optimises material and crimping properties
- Simple and safe connection due to flat contact surfaces and internal chamfer
- Item identification on cable lug

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

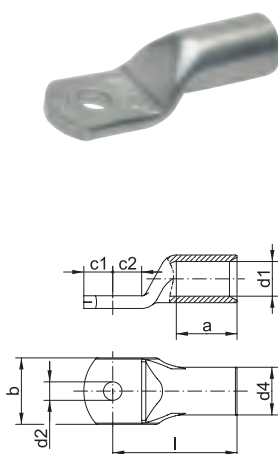
### Technical instructions

- Tool: see page 38

| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No. | Dimension mm |    |      |     |     |       |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------------|----------|--------------|----|------|-----|-----|-------|------|----|-----------------------|------------------|
|                                       |                   |          | d1           | a  | b    | d2  | d4  | c1    | c2   | l  |                       |                  |
| 0.75                                  | M3                | 91C3     | 1.3          | 6  | 6.0  | 3.2 | 2.8 | 3.25  | 4.0  | 12 | 0.06                  | 100              |
|                                       | M4                | 91C4     | 1.3          | 6  | 6.5  | 4.3 | 2.8 | 4.00  | 5.0  | 13 | 0.05                  | 100              |
|                                       | M5                | 91C5     | 1.3          | 6  | 7.5  | 5.3 | 2.8 | 4.75  | 5.5  | 14 | 0.06                  | 100              |
| 1.5                                   | M3                | 92C3     | 1.8          | 6  | 6.5  | 3.2 | 3.3 | 3.25  | 4.0  | 12 | 0.07                  | 100              |
|                                       | M4                | 92C4     | 1.8          | 6  | 6.5  | 4.3 | 3.3 | 4.00  | 5.0  | 13 | 0.07                  | 100              |
|                                       | M5                | 92C5     | 1.8          | 6  | 7.5  | 5.3 | 3.3 | 4.75  | 5.5  | 14 | 0.07                  | 100              |
| 2.5                                   | M6                | 92C6     | 1.8          | 6  | 9.0  | 6.5 | 3.3 | 6.50  | 6.5  | 16 | 0.08                  | 100              |
|                                       | M3                | 93C3     | 2.3          | 6  | 7.5  | 3.2 | 4.2 | 3.25  | 4.0  | 12 | 0.12                  | 100              |
|                                       | M4                | 93C4     | 2.3          | 6  | 7.5  | 4.3 | 4.2 | 4.00  | 5.0  | 13 | 0.11                  | 100              |
| 4                                     | M5                | 93C5     | 2.3          | 6  | 8.5  | 5.3 | 4.2 | 4.75  | 5.5  | 14 | 0.12                  | 100              |
|                                       | M6                | 93C6     | 2.3          | 6  | 9.5  | 6.5 | 4.2 | 6.50  | 6.5  | 16 | 0.10                  | 100              |
|                                       | M4                | 94C4     | 3.0          | 8  | 8.5  | 4.3 | 5.0 | 4.75  | 5.5  | 17 | 0.19                  | 100              |
| 6                                     | M5                | 94C5     | 3.0          | 8  | 9.0  | 5.3 | 5.0 | 4.75  | 6.0  | 17 | 0.19                  | 100              |
|                                       | M6                | 94C6     | 3.0          | 8  | 10.0 | 6.5 | 5.0 | 6.50  | 6.5  | 19 | 0.21                  | 100              |
|                                       | M8                | 94C8     | 3.0          | 8  | 13.0 | 8.5 | 5.0 | 8.50  | 9.5  | 22 | 0.24                  | 100              |
| 10                                    | M4                | 95C4     | 4.0          | 9  | 9.5  | 4.3 | 6.0 | 5.00  | 5.5  | 18 | 0.27                  | 100              |
|                                       | M5                | 95C5     | 4.0          | 9  | 9.5  | 5.3 | 6.0 | 6.00  | 6.0  | 19 | 0.32                  | 100              |
|                                       | M6                | 95C6     | 4.0          | 9  | 10.0 | 6.5 | 6.0 | 7.00  | 6.5  | 19 | 0.27                  | 100              |
| 16                                    | M8                | 95C8     | 4.0          | 9  | 14.0 | 8.5 | 6.0 | 8.50  | 9.0  | 22 | 0.31                  | 100              |
|                                       | M5                | 96C5     | 4.5          | 10 | 12.0 | 5.5 | 7.0 | 6.50  | 7.5  | 22 | 0.45                  | 100              |
|                                       | M6                | 96C6     | 4.5          | 10 | 12.0 | 6.5 | 7.0 | 6.50  | 7.5  | 22 | 0.41                  | 100              |
|                                       | M8                | 96C8     | 4.5          | 10 | 15.0 | 8.5 | 7.0 | 10.00 | 10.0 | 25 | 0.52                  | 100              |
|                                       | M5                | 97C5     | 5.5          | 13 | 12.0 | 5.5 | 8.5 | 5.50  | 6.5  | 26 | 0.81                  | 100              |
|                                       | M6                | 97C6     | 5.5          | 13 | 12.0 | 6.5 | 8.5 | 6.25  | 7.5  | 27 | 0.81                  | 100              |
|                                       | M8                | 97C8     | 5.5          | 13 | 15.0 | 8.5 | 8.5 | 8.50  | 9.5  | 29 | 0.90                  | 100              |



### Tubular cable lugs, Cu, standard type



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ Ideal cable lug for control cabinet construction
- ▶ In combination with EKM 60 ID suitable for fine-stranded conductors

#### Characteristics

- Annealed material optimises material and crimping properties
- To DIN EN 61373 class 1B vibration-tested
- Simple and safe connection due to flat contact surfaces and internal chamfer
- Item identification on cable lug

#### Material

- Copper (EN13600)

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 38
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“

#### Additional information

- Also available as featured article with inspection hole, part number appendix „MS“

| Nominal cross section mm² | Size of bolt dia. | Part No. | Dimension mm |    |    |      |      |       |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------|-------------------|----------|--------------|----|----|------|------|-------|------|----|-----------------------|------------------|
|                           |                   |          | d1           | a  | b  | d2   | d4   | c1    | c2   | l  |                       |                  |
| 6                         | M5                | 1R5      | 3.5          | 9  | 10 | 5.5  | 6.5  | 6.50  | 7.5  | 21 | 0.50                  | 100              |
|                           | M6                | 1R6      | 3.5          | 9  | 12 | 6.5  | 6.5  | 6.50  | 7.5  | 21 | 0.47                  | 100              |
|                           | M8                | 1R8      | 3.5          | 9  | 15 | 8.5  | 6.5  | 10.00 | 10.0 | 23 | 0.54                  | 100              |
|                           | M10               | 1R10     | 3.5          | 9  | 17 | 10.5 | 6.5  | 12.00 | 12.0 | 25 | 0.59                  | 100              |
|                           | M12               | 1R12     | 3.5          | 9  | 19 | 13.0 | 6.5  | 13.00 | 13.0 | 28 | 0.63                  | 100              |
| 10                        | M5                | 2R5      | 4.5          | 10 | 12 | 5.5  | 7.0  | 6.50  | 7.5  | 22 | 0.50                  | 100              |
|                           | M6                | 2R6      | 4.5          | 10 | 12 | 6.5  | 7.0  | 6.50  | 7.5  | 22 | 0.49                  | 100              |
|                           | M8                | 2R8      | 4.5          | 10 | 15 | 8.5  | 7.0  | 10.00 | 10.0 | 25 | 0.58                  | 100              |
|                           | M10               | 2R10     | 4.5          | 10 | 17 | 10.5 | 7.0  | 12.00 | 12.0 | 27 | 0.62                  | 100              |
|                           | M12               | 2R12     | 4.5          | 10 | 19 | 13.0 | 7.0  | 13.00 | 13.0 | 29 | 0.64                  | 100              |
| 16                        | M5                | 3R5      | 5.5          | 13 | 12 | 5.5  | 8.5  | 5.50  | 6.5  | 26 | 0.84                  | 100              |
|                           | M6                | 3R6      | 5.5          | 13 | 12 | 6.5  | 8.5  | 6.25  | 7.5  | 27 | 0.86                  | 100              |
|                           | M8                | 3R8      | 5.5          | 13 | 15 | 8.5  | 8.5  | 8.50  | 9.5  | 29 | 0.93                  | 100              |
|                           | M10               | 3R10     | 5.5          | 13 | 17 | 10.5 | 8.5  | 10.50 | 11.5 | 31 | 0.99                  | 100              |
|                           | M12               | 3R12     | 5.5          | 13 | 19 | 13.0 | 8.5  | 12.00 | 13.0 | 33 | 1.02                  | 100              |
| 25                        | M5                | 4R5      | 7.0          | 15 | 14 | 5.5  | 10.0 | 7.50  | 7.5  | 30 | 1.22                  | 25               |
|                           | M6                | 4R6      | 7.0          | 15 | 14 | 6.5  | 10.0 | 7.50  | 7.5  | 30 | 1.20                  | 100              |
|                           | M8                | 4R8      | 7.0          | 15 | 16 | 8.5  | 10.0 | 10.00 | 10.0 | 32 | 1.31                  | 100              |
|                           | M10               | 4R10     | 7.0          | 15 | 18 | 10.5 | 10.0 | 12.00 | 12.0 | 34 | 1.57                  | 100              |
|                           | M12               | 4R12     | 7.0          | 15 | 19 | 13.0 | 10.0 | 13.00 | 13.0 | 35 | 1.39                  | 25               |
|                           | M14               | 4R14     | 7.0          | 15 | 21 | 15.0 | 10.0 | 14.50 | 14.5 | 38 | 1.49                  | 25               |
| 35                        | M6                | 5R6      | 8.5          | 17 | 17 | 6.5  | 12.0 | 7.50  | 7.5  | 32 | 1.85                  | 100              |
|                           | M8                | 5R8      | 8.5          | 17 | 17 | 8.5  | 12.0 | 10.00 | 10.0 | 34 | 2.00                  | 100              |
|                           | M10               | 5R10     | 8.5          | 17 | 19 | 10.5 | 12.0 | 12.00 | 12.0 | 37 | 2.13                  | 100              |
|                           | M12               | 5R12     | 8.5          | 17 | 21 | 13.0 | 12.0 | 13.00 | 13.0 | 38 | 2.12                  | 100              |
|                           | M14               | 5R14     | 8.5          | 17 | 21 | 15.0 | 12.0 | 14.50 | 14.5 | 40 | 2.18                  | 25               |
|                           | M16               | 5R16     | 8.5          | 17 | 26 | 17.0 | 12.0 | 16.00 | 16.0 | 42 | 2.24                  | 25               |

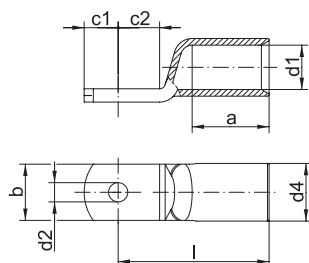
See next page

# Tubular cable lugs, Cu, standard type

| Nominal<br>cross section<br>mm² | Size of<br>bolt dia. | Part<br>No. | Dimension mm |    |    |      |      |       |      |    | Weight/<br>100 pcs.<br>~ kg | Packing<br>unit/pcs |
|---------------------------------|----------------------|-------------|--------------|----|----|------|------|-------|------|----|-----------------------------|---------------------|
|                                 |                      |             | d1           | a  | b  | d2   | d4   | c1    | c2   | l  |                             |                     |
| 50                              | M6                   | 6R6         | 10.0         | 19 | 20 | 6.5  | 14.0 | 10.00 | 10.0 | 37 | 3.00                        | 25                  |
|                                 | M8                   | 6R8         | 10.0         | 19 | 20 | 8.5  | 14.0 | 10.00 | 10.0 | 37 | 2.93                        | 50                  |
|                                 | M10                  | 6R10        | 10.0         | 19 | 20 | 10.5 | 14.0 | 12.00 | 12.0 | 39 | 3.08                        | 50                  |
|                                 | M12                  | 6R12        | 10.0         | 19 | 23 | 13.0 | 14.0 | 13.00 | 13.0 | 43 | 3.23                        | 50                  |
|                                 | M14                  | 6R14        | 10.0         | 19 | 23 | 15.0 | 14.0 | 14.50 | 14.5 | 45 | 3.32                        | 25                  |
|                                 | M16                  | 6R16        | 10.0         | 19 | 28 | 17.0 | 14.0 | 16.00 | 16.0 | 46 | 3.38                        | 25                  |
|                                 | M20                  | 6R20        | 10.0         | 19 | 30 | 21.0 | 14.0 | 19.00 | 19.0 | 48 | 3.46                        | 25                  |
| 70                              | M6                   | 7R6         | 12.0         | 21 | 23 | 6.5  | 16.5 | 10.00 | 10.0 | 43 | 4.49                        | 25                  |
|                                 | M8                   | 7R8         | 12.0         | 21 | 23 | 8.5  | 16.5 | 10.00 | 10.0 | 43 | 4.38                        | 50                  |
|                                 | M10                  | 7R10        | 12.0         | 21 | 23 | 10.5 | 16.5 | 12.00 | 12.0 | 44 | 4.54                        | 50                  |
|                                 | M12                  | 7R12        | 12.0         | 21 | 23 | 13.0 | 16.5 | 13.00 | 13.0 | 46 | 4.63                        | 50                  |
|                                 | M14                  | 7R14        | 12.0         | 21 | 23 | 15.0 | 16.5 | 14.50 | 14.5 | 48 | 4.76                        | 25                  |
|                                 | M16                  | 7R16        | 12.0         | 21 | 28 | 17.0 | 16.5 | 16.00 | 16.0 | 50 | 4.24                        | 25                  |
|                                 | M20                  | 7R20        | 12.0         | 21 | 30 | 21.0 | 16.5 | 19.00 | 19.0 | 53 | 5.09                        | 25                  |
| 95                              | M8                   | 8R8         | 13.5         | 25 | 26 | 8.5  | 18.0 | 12.00 | 12.0 | 48 | 5.44                        | 25                  |
|                                 | M10                  | 8R10        | 13.5         | 25 | 26 | 10.5 | 18.0 | 12.00 | 12.0 | 48 | 5.40                        | 50                  |
|                                 | M12                  | 8R12        | 13.5         | 25 | 26 | 13.0 | 18.0 | 13.00 | 13.0 | 49 | 5.56                        | 50                  |
|                                 | M14                  | 8R14        | 13.5         | 25 | 26 | 15.0 | 18.0 | 14.50 | 14.5 | 51 | 5.62                        | 25                  |
|                                 | M16                  | 8R16        | 13.5         | 25 | 28 | 17.0 | 18.0 | 16.00 | 16.0 | 54 | 5.82                        | 50                  |
|                                 | M20                  | 8R20        | 13.5         | 25 | 36 | 21.0 | 18.0 | 22.00 | 22.0 | 60 | 6.71                        | 25                  |
|                                 | M8                   | 9R8         | 15.0         | 26 | 28 | 8.5  | 19.5 | 14.00 | 14.0 | 51 | 6.72                        | 25                  |
| 120                             | M10                  | 9R10        | 15.0         | 26 | 28 | 10.5 | 19.5 | 14.00 | 14.0 | 51 | 6.57                        | 50                  |
|                                 | M12                  | 9R12        | 15.0         | 26 | 28 | 13.0 | 19.5 | 14.00 | 14.0 | 51 | 6.38                        | 50                  |
|                                 | M14                  | 9R14        | 15.0         | 26 | 28 | 15.0 | 19.5 | 15.00 | 15.0 | 52 | 6.45                        | 25                  |
|                                 | M16                  | 9R16        | 15.0         | 26 | 30 | 17.0 | 19.5 | 16.00 | 16.0 | 54 | 6.51                        | 50                  |
|                                 | M20                  | 9R20        | 15.0         | 26 | 36 | 21.0 | 19.5 | 22.00 | 22.0 | 63 | 7.74                        | 25                  |
|                                 | M8                   | 10R8        | 16.5         | 30 | 31 | 8.5  | 21.0 | 14.00 | 14.0 | 56 | 7.78                        | 10                  |
|                                 | M10                  | 10R10       | 16.5         | 30 | 31 | 10.5 | 21.0 | 14.00 | 14.0 | 56 | 7.62                        | 10                  |
| 150                             | M12                  | 10R12       | 16.5         | 30 | 31 | 13.0 | 21.0 | 15.00 | 15.0 | 57 | 7.73                        | 25                  |
|                                 | M14                  | 10R14       | 16.5         | 30 | 31 | 15.0 | 21.0 | 15.00 | 15.0 | 57 | 7.64                        | 10                  |
|                                 | M16                  | 10R16       | 16.5         | 30 | 31 | 17.0 | 21.0 | 16.00 | 16.0 | 58 | 7.53                        | 10                  |
|                                 | M20                  | 10R20       | 16.5         | 30 | 36 | 21.0 | 21.0 | 22.00 | 22.0 | 66 | 8.80                        | 10                  |
|                                 | M10                  | 11R10       | 19.0         | 30 | 35 | 10.5 | 24.0 | 18.00 | 18.0 | 65 | 11.75                       | 10                  |
|                                 | M12                  | 11R12       | 19.0         | 30 | 35 | 13.0 | 24.0 | 18.00 | 18.0 | 65 | 11.82                       | 10                  |
|                                 | M14                  | 11R14       | 19.0         | 30 | 35 | 15.0 | 24.0 | 18.00 | 18.0 | 65 | 11.39                       | 10                  |
| 185                             | M16                  | 11R16       | 19.0         | 30 | 35 | 17.0 | 24.0 | 18.00 | 18.0 | 65 | 11.24                       | 25                  |
|                                 | M20                  | 11R20       | 19.0         | 30 | 39 | 21.0 | 24.0 | 22.00 | 22.0 | 69 | 12.00                       | 10                  |
|                                 | M10                  | 12R10       | 21.0         | 35 | 39 | 10.5 | 26.0 | 21.50 | 19.0 | 72 | 14.72                       | 10                  |
|                                 | M12                  | 12R12       | 21.0         | 35 | 39 | 13.0 | 26.0 | 21.50 | 19.0 | 72 | 14.55                       | 10                  |
|                                 | M14                  | 12R14       | 21.0         | 35 | 39 | 15.0 | 26.0 | 21.50 | 19.0 | 72 | 14.24                       | 10                  |
|                                 | M16                  | 12R16       | 21.0         | 35 | 39 | 17.0 | 26.0 | 21.50 | 19.0 | 72 | 14.09                       | 25                  |
|                                 | M20                  | 12R20       | 21.0         | 35 | 39 | 21.0 | 26.0 | 21.50 | 19.0 | 72 | 13.60                       | 10                  |
| 300                             | M12                  | 13R12       | 23.5         | 44 | 43 | 13.0 | 29.5 | 24.00 | 24.0 | 87 | 23.33                       | 5                   |
|                                 | M14                  | 13R14       | 23.5         | 44 | 43 | 15.0 | 29.5 | 24.00 | 24.0 | 87 | 23.14                       | 5                   |
|                                 | M16                  | 13R16       | 23.5         | 44 | 43 | 17.0 | 29.5 | 24.00 | 24.0 | 87 | 22.74                       | 5                   |
|                                 | M20                  | 13R20       | 23.5         | 44 | 43 | 21.0 | 29.5 | 24.00 | 24.0 | 87 | 22.19                       | 5                   |
|                                 | M12                  | 14R12       | 27.0         | 44 | 49 | 13.0 | 34.0 | 24.00 | 24.0 | 90 | 32.41                       | 5                   |
|                                 | M14                  | 14R14       | 27.0         | 44 | 49 | 15.0 | 34.0 | 24.00 | 24.0 | 90 | 32.24                       | 5                   |
|                                 | M16                  | 14R16       | 27.0         | 44 | 49 | 17.0 | 34.0 | 24.00 | 24.0 | 90 | 31.98                       | 5                   |
| 400                             | M20                  | 14R20       | 27.0         | 44 | 49 | 21.0 | 34.0 | 24.00 | 24.0 | 90 | 31.41                       | 5                   |



## Tubular cable lugs for switchgear connections, standard type



- ▶ For multi-stranded, round conductors e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ For connecting in switch cabinets with reduced connecting space
- ▶ Narrow palm version manufactured without material loss
- ▶ In combination with EKM 60 ID suitable for fine-stranded conductors

### Characteristics

- Annealed material optimises material and crimping properties
- Simple and safe connection due to flat contact surfaces and internal chamfer

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 38
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“

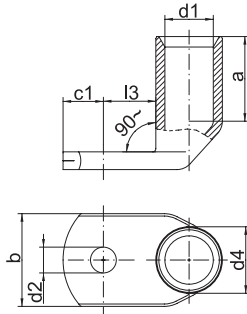
### Additional information

- Also available as featured article with inspection hole, part number appendix „MS“

| Nominal cross section mm² | Size of bolt dia. | Part No. | Dimension mm |    |      |      |      |      |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------|-------------------|----------|--------------|----|------|------|------|------|------|----|-----------------------|------------------|
|                           |                   |          | d1           | a  | b    | d2   | d4   | c1   | c2   | l  |                       |                  |
| 35                        | M6                | 5SG6     | 8.5          | 17 | 15.0 | 6.5  | 12.0 | 7.5  | 7.5  | 32 | 1.78                  | 25               |
|                           |                   | 6SG6     | 10.0         | 19 | 15.0 | 6.5  | 14.0 | 10.0 | 10.0 | 37 | 2.95                  | 25               |
| 50                        | M8                | 6SG8     | 10.0         | 19 | 17.0 | 8.5  | 14.0 | 10.0 | 10.0 | 37 | 2.82                  | 25               |
|                           | M10               | 6SG10    | 10.0         | 19 | 19.0 | 10.5 | 14.0 | 11.5 | 12.0 | 39 | 3.08                  | 25               |
| 70                        | M6                | 7SG6     | 12.0         | 21 | 17.0 | 6.5  | 16.5 | 10.0 | 10.0 | 43 | 4.22                  | 25               |
|                           | M8                | 7SG8     | 12.0         | 21 | 17.0 | 8.5  | 16.5 | 10.0 | 10.0 | 43 | 4.10                  | 25               |
|                           | M10               | 7SG10    | 12.0         | 21 | 19.0 | 10.5 | 16.5 | 11.5 | 12.0 | 44 | 4.45                  | 25               |
|                           | M12               | 7SG12    | 12.0         | 21 | 19.0 | 13.0 | 16.5 | 13.0 | 13.0 | 46 | 4.22                  | 25               |
| 95                        | M6                | 8SG6     | 13.5         | 25 | 19.0 | 6.5  | 18.0 | 11.5 | 12.0 | 48 | 5.49                  | 25               |
|                           | M8                | 8SG8     | 13.5         | 25 | 19.0 | 8.5  | 18.0 | 11.5 | 12.0 | 48 | 5.46                  | 25               |
|                           | M10               | 8SG10    | 13.5         | 25 | 19.0 | 10.5 | 18.0 | 11.5 | 12.0 | 48 | 5.13                  | 25               |
|                           | M12               | 8SG12    | 13.5         | 25 | 19.0 | 13.0 | 18.0 | 13.0 | 13.0 | 49 | 5.15                  | 25               |
| 120                       | M6                | 9SG6     | 15.0         | 26 | 19.0 | 6.5  | 19.5 | 11.5 | 14.0 | 51 | 6.16                  | 10               |
|                           | M8                | 9SG8     | 15.0         | 26 | 19.0 | 8.5  | 19.5 | 11.5 | 14.0 | 51 | 5.94                  | 10               |
|                           | M10               | 9SG10    | 15.0         | 26 | 19.0 | 10.5 | 19.5 | 11.5 | 14.0 | 51 | 5.81                  | 10               |
|                           | M12               | 9SG12    | 15.0         | 26 | 19.0 | 13.0 | 19.5 | 14.0 | 14.0 | 51 | 5.92                  | 10               |
| 150                       | M6                | 10SG6    | 16.5         | 30 | 19.0 | 6.5  | 21.0 | 11.5 | 14.0 | 56 | 6.85                  | 10               |
|                           | M8                | 10SG8    | 16.5         | 30 | 19.0 | 8.5  | 21.0 | 11.5 | 14.0 | 56 | 6.80                  | 10               |
|                           | M10               | 10SG10   | 16.5         | 30 | 19.0 | 10.5 | 21.0 | 11.5 | 14.0 | 56 | 6.75                  | 10               |
|                           | M12               | 10SG12   | 16.5         | 30 | 19.0 | 13.0 | 21.0 | 15.0 | 15.0 | 57 | 7.15                  | 10               |
| 185                       | M10               | 11SG10   | 19.0         | 30 | 24.5 | 10.5 | 24.0 | 11.5 | 18.0 | 65 | 10.59                 | 10               |
|                           | M12               | 11SG12   | 19.0         | 30 | 31.0 | 13.0 | 24.0 | 18.0 | 18.0 | 65 | 11.09                 | 10               |
|                           | M16               | 11SG16   | 19.0         | 30 | 31.0 | 17.0 | 24.0 | 18.0 | 18.0 | 65 | 9.76                  | 10               |
| 240                       | M10               | 12SG10   | 21.0         | 35 | 31.0 | 10.5 | 26.0 | 11.5 | 19.0 | 72 | 12.70                 | 5                |
|                           | M12               | 12SG12   | 21.0         | 35 | 31.0 | 13.0 | 26.0 | 21.5 | 19.0 | 72 | 13.72                 | 5                |
|                           | M16               | 12SG16   | 21.0         | 35 | 31.0 | 17.0 | 26.0 | 21.5 | 19.0 | 72 | 13.28                 | 5                |
| 300                       | M10               | 13SG10   | 23.5         | 44 | 31.0 | 10.5 | 30.0 | 11.5 | 24.0 | 87 | 19.70                 | 5                |
|                           | M12               | 13SG12   | 23.5         | 44 | 31.0 | 13.0 | 30.0 | 24.0 | 24.0 | 87 | 22.72                 | 5                |
|                           | M16               | 13SG16   | 23.5         | 44 | 31.0 | 17.0 | 30.0 | 24.0 | 24.0 | 87 | 22.50                 | 5                |



## Angled tubular cable lugs, Cu, 90° angled, standard type



- ▶ For multi-stranded, round conductors e.g. to DIN EN 60228
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ Flat contact surface by special angle pressing technology
- ▶ In combination with the EKM 60 ID suitable for fine stranded conductors

### Characteristics

- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer
- Item identification on cable lug

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 38
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“

### Additional information

- Also available as featured article with inspection hole, part number appendix „MS“

| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No. | Dimension mm |    |    |      |      |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------------|----------|--------------|----|----|------|------|------|----|-----------------------|------------------|
|                                       |                   |          | d1           | a  | b  | d2   | d4   | c1   | l3 |                       |                  |
| 6                                     | M5                | 41R5     | 3.5          | 9  | 10 | 5.5  | 6.5  | 7.5  | 9  | 0.59                  | 50               |
|                                       | M6                | 41R6     | 3.5          | 9  | 12 | 6.5  | 6.5  | 7.5  | 10 | 0.58                  | 50               |
|                                       | M8                | 41R8     | 3.5          | 9  | 14 | 8.5  | 6.5  | 10.0 | 13 | 0.61                  | 50               |
|                                       | M10               | 41R10    | 3.5          | 9  | 17 | 10.5 | 6.5  | 12.0 | 15 | 0.65                  | 50               |
|                                       | M12               | 41R12    | 3.5          | 9  | 19 | 13.0 | 6.5  | 13.0 | 17 | 0.62                  | 50               |
| 10                                    | M5                | 42R5     | 4.5          | 10 | 12 | 5.5  | 7.0  | 6.5  | 10 | 0.57                  | 50               |
|                                       | M6                | 42R6     | 4.5          | 10 | 12 | 6.5  | 7.0  | 6.5  | 10 | 0.57                  | 50               |
|                                       | M8                | 42R8     | 4.5          | 10 | 15 | 8.5  | 7.0  | 10.0 | 13 | 0.63                  | 50               |
|                                       | M10               | 42R10    | 4.5          | 10 | 17 | 10.5 | 7.0  | 12.0 | 15 | 0.66                  | 50               |
|                                       | M12               | 42R12    | 4.5          | 10 | 19 | 13.0 | 7.0  | 13.0 | 18 | 0.81                  | 50               |
| 16                                    | M5                | 43R5     | 5.5          | 13 | 12 | 5.5  | 8.5  | 7.5  | 10 | 1.01                  | 50               |
|                                       | M6                | 43R6     | 5.5          | 13 | 12 | 6.5  | 8.5  | 7.5  | 11 | 1.01                  | 50               |
|                                       | M8                | 43R8     | 5.5          | 13 | 15 | 8.5  | 8.5  | 10.0 | 13 | 1.08                  | 50               |
|                                       | M10               | 43R10    | 5.5          | 13 | 17 | 10.5 | 8.5  | 12.0 | 15 | 1.09                  | 50               |
|                                       | M12               | 43R12    | 5.5          | 13 | 19 | 13.0 | 8.5  | 13.0 | 18 | 1.15                  | 50               |
| 25                                    | M5                | 44R5     | 7.0          | 15 | 14 | 5.5  | 10.0 | 7.5  | 11 | 1.40                  | 25               |
|                                       | M6                | 44R6     | 7.0          | 15 | 14 | 6.5  | 10.0 | 7.5  | 11 | 1.32                  | 25               |
|                                       | M8                | 44R8     | 7.0          | 15 | 16 | 8.5  | 10.0 | 10.0 | 13 | 1.44                  | 25               |
|                                       | M10               | 44R10    | 7.0          | 15 | 18 | 10.5 | 10.0 | 12.0 | 15 | 1.49                  | 25               |
|                                       | M12               | 44R12    | 7.0          | 15 | 19 | 13.0 | 10.0 | 13.0 | 18 | 1.44                  | 25               |
|                                       | M14               | 44R14    | 7.0          | 15 | 21 | 15.0 | 10.0 | 14.5 | 20 | 1.55                  | 25               |
| 35                                    | M6                | 45R6     | 8.5          | 17 | 17 | 6.5  | 12.0 | 7.5  | 11 | 2.05                  | 25               |
|                                       | M8                | 45R8     | 8.5          | 17 | 17 | 8.5  | 12.0 | 10.0 | 13 | 2.20                  | 25               |
|                                       | M10               | 45R10    | 8.5          | 17 | 19 | 10.5 | 12.0 | 12.0 | 15 | 2.28                  | 25               |
|                                       | M12               | 45R12    | 8.5          | 17 | 21 | 13.0 | 12.0 | 13.0 | 18 | 2.38                  | 25               |
|                                       | M14               | 45R14    | 8.5          | 17 | 21 | 15.0 | 12.0 | 14.5 | 20 | 2.41                  | 25               |
|                                       | M16               | 45R16    | 8.5          | 17 | 26 | 17.0 | 12.0 | 16.0 | 22 | 2.40                  | 25               |

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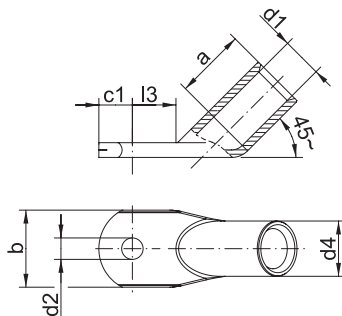




## Angled tubular cable lugs, Cu, 90° angled, standard type

| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No.     | Dimension mm |    |    |      |      |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------------|--------------|--------------|----|----|------|------|------|----|-----------------------|------------------|
|                                       |                   |              | d1           | a  | b  | d2   | d4   | c1   | l3 |                       |                  |
| 50                                    | M6                | <b>46R6</b>  | 10.0         | 19 | 20 | 6.5  | 14.0 | 10.0 | 13 | 3.34                  | 25               |
|                                       | M8                | <b>46R8</b>  | 10.0         | 19 | 20 | 8.5  | 14.0 | 10.0 | 13 | 3.28                  | 25               |
|                                       | M10               | <b>46R10</b> | 10.0         | 19 | 20 | 10.5 | 14.0 | 12.0 | 16 | 3.47                  | 25               |
|                                       | M12               | <b>46R12</b> | 10.0         | 19 | 23 | 13.0 | 14.0 | 13.0 | 18 | 3.42                  | 25               |
|                                       | M14               | <b>46R14</b> | 10.0         | 19 | 23 | 15.0 | 14.0 | 14.5 | 20 | 3.55                  | 25               |
|                                       | M16               | <b>46R16</b> | 10.0         | 19 | 28 | 17.0 | 14.0 | 16.0 | 22 | 3.58                  | 25               |
| 70                                    | M20               | <b>46R20</b> | 10.0         | 19 | 30 | 21.0 | 14.0 | 19.0 | 24 | 3.15                  | 25               |
|                                       | M6                | <b>47R6</b>  | 12.0         | 21 | 23 | 6.5  | 16.5 | 10.0 | 13 | 4.90                  | 25               |
|                                       | M8                | <b>47R8</b>  | 12.0         | 21 | 23 | 8.5  | 16.5 | 10.0 | 14 | 4.80                  | 25               |
|                                       | M10               | <b>47R10</b> | 12.0         | 21 | 23 | 10.5 | 16.5 | 12.0 | 16 | 4.88                  | 25               |
|                                       | M12               | <b>47R12</b> | 12.0         | 21 | 23 | 13.0 | 16.5 | 13.0 | 18 | 4.99                  | 25               |
|                                       | M14               | <b>47R14</b> | 12.0         | 21 | 23 | 15.0 | 16.5 | 14.5 | 20 | 5.38                  | 25               |
| 95                                    | M16               | <b>47R16</b> | 12.0         | 21 | 28 | 17.0 | 16.5 | 16.0 | 22 | 5.35                  | 25               |
|                                       | M20               | <b>47R20</b> | 12.0         | 21 | 30 | 21.0 | 16.5 | 19.0 | 24 | 5.30                  | 25               |
|                                       | M8                | <b>48R8</b>  | 13.5         | 25 | 26 | 8.5  | 18.0 | 12.0 | 14 | 5.89                  | 25               |
|                                       | M10               | <b>48R10</b> | 13.5         | 25 | 26 | 10.5 | 18.0 | 12.0 | 17 | 5.88                  | 25               |
|                                       | M12               | <b>48R12</b> | 13.5         | 25 | 26 | 13.0 | 18.0 | 13.0 | 18 | 5.93                  | 25               |
|                                       | M14               | <b>48R14</b> | 13.5         | 25 | 26 | 15.0 | 18.0 | 14.5 | 20 | 6.03                  | 25               |
| 120                                   | M16               | <b>48R16</b> | 13.5         | 25 | 28 | 17.0 | 18.0 | 16.0 | 22 | 6.17                  | 25               |
|                                       | M20               | <b>48R20</b> | 13.5         | 25 | 36 | 21.0 | 18.0 | 22.0 | 24 | 6.42                  | 25               |
|                                       | M8                | <b>49R8</b>  | 15.0         | 26 | 28 | 8.5  | 19.5 | 14.0 | 16 | 7.26                  | 10               |
|                                       | M10               | <b>49R10</b> | 15.0         | 26 | 28 | 10.5 | 19.5 | 14.0 | 17 | 7.30                  | 10               |
|                                       | M12               | <b>49R12</b> | 15.0         | 26 | 28 | 13.0 | 19.5 | 14.0 | 18 | 7.19                  | 10               |
|                                       | M14               | <b>49R14</b> | 15.0         | 26 | 28 | 15.0 | 19.5 | 15.0 | 20 | 7.30                  | 10               |
| 150                                   | M16               | <b>49R16</b> | 15.0         | 26 | 30 | 17.0 | 19.5 | 16.0 | 22 | 7.35                  | 10               |
|                                       | M20               | <b>49R20</b> | 15.0         | 26 | 36 | 21.0 | 19.5 | 22.0 | 24 | 7.60                  | 10               |
|                                       | M8                | <b>50R8</b>  | 16.5         | 30 | 31 | 8.5  | 21.0 | 14.0 | 16 | 8.41                  | 10               |
|                                       | M10               | <b>50R10</b> | 16.5         | 30 | 31 | 10.5 | 21.0 | 14.0 | 17 | 8.27                  | 10               |
|                                       | M12               | <b>50R12</b> | 16.5         | 30 | 31 | 13.0 | 21.0 | 15.0 | 18 | 8.34                  | 10               |
|                                       | M14               | <b>50R14</b> | 16.5         | 30 | 31 | 15.0 | 21.0 | 15.0 | 20 | 8.52                  | 10               |
| 185                                   | M16               | <b>50R16</b> | 16.5         | 30 | 31 | 17.0 | 21.0 | 16.0 | 22 | 8.62                  | 10               |
|                                       | M20               | <b>50R20</b> | 16.5         | 30 | 36 | 21.0 | 21.0 | 22.0 | 24 | 9.10                  | 10               |
|                                       | M10               | <b>51R10</b> | 19.0         | 30 | 35 | 10.5 | 24.0 | 18.0 | 22 | 12.17                 | 10               |
|                                       | M12               | <b>51R12</b> | 19.0         | 30 | 35 | 13.0 | 24.0 | 18.0 | 22 | 11.97                 | 10               |
|                                       | M14               | <b>51R14</b> | 19.0         | 30 | 35 | 15.0 | 24.0 | 18.0 | 22 | 11.77                 | 10               |
|                                       | M16               | <b>51R16</b> | 19.0         | 30 | 35 | 17.0 | 24.0 | 18.0 | 22 | 11.53                 | 10               |
| 240                                   | M20               | <b>51R20</b> | 19.0         | 30 | 39 | 21.0 | 24.0 | 22.0 | 24 | 12.00                 | 10               |
|                                       | M10               | <b>52R10</b> | 21.0         | 35 | 39 | 10.5 | 26.0 | 21.5 | 22 | 15.60                 | 10               |
|                                       | M12               | <b>52R12</b> | 21.0         | 35 | 39 | 13.0 | 26.0 | 21.5 | 22 | 15.60                 | 10               |
|                                       | M14               | <b>52R14</b> | 21.0         | 35 | 39 | 15.0 | 26.0 | 21.5 | 22 | 15.41                 | 10               |
|                                       | M16               | <b>52R16</b> | 21.0         | 35 | 39 | 17.0 | 26.0 | 21.5 | 22 | 15.18                 | 10               |
|                                       | M20               | <b>52R20</b> | 21.0         | 35 | 39 | 21.0 | 26.0 | 21.5 | 24 | 14.80                 | 10               |
| 300                                   | M12               | <b>53R12</b> | 23.5         | 44 | 43 | 13.0 | 29.5 | 24.0 | 24 | 23.60                 | 5                |
|                                       | M14               | <b>53R14</b> | 23.5         | 44 | 43 | 15.0 | 29.5 | 24.0 | 24 | 23.40                 | 5                |
|                                       | M16               | <b>53R16</b> | 23.5         | 44 | 43 | 17.0 | 29.5 | 24.0 | 24 | 20.99                 | 5                |
|                                       | M20               | <b>53R20</b> | 23.5         | 44 | 43 | 21.0 | 29.5 | 24.0 | 24 | 22.70                 | 5                |
| 400                                   | M12               | <b>54R12</b> | 27.0         | 44 | 49 | 13.0 | 34.0 | 24.0 | 24 | 32.53                 | 5                |
|                                       | M14               | <b>54R14</b> | 27.0         | 44 | 49 | 15.0 | 34.0 | 24.0 | 24 | 33.40                 | 5                |
|                                       | M16               | <b>54R16</b> | 27.0         | 44 | 49 | 17.0 | 34.0 | 24.0 | 24 | 32.60                 | 5                |
|                                       | M20               | <b>54R20</b> | 27.0         | 44 | 49 | 21.0 | 34.0 | 24.0 | 24 | 31.80                 | 5                |

## Angled tubular cable lugs, Cu, 45° angled, standard type



- ▶ For multi-stranded, round conductors e.g. to DIN EN 60228
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ Flat contact surface by special angle pressing technology
- ▶ In combination with EKM 60 ID suitable for fine-stranded conductors

### Characteristics

- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer
- Item identification on cable lug

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 38
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“

### Additional information

- Also available as featured article with inspection hole, part number appendix „MS“

| Nominal cross section mm² | Size of bolt dia. | Part No. | Dimension mm |    |    |      |      |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------|-------------------|----------|--------------|----|----|------|------|------|----|-----------------------|------------------|
|                           |                   |          | d1           | a  | b  | d2   | d4   | c1   | l3 |                       |                  |
| 6                         | M5                | 41R545   | 3.5          | 9  | 10 | 5.5  | 6.5  | 7.5  | 9  | 0.60                  | 50               |
|                           | M6                | 41R645   | 3.5          | 9  | 12 | 6.5  | 6.5  | 7.5  | 10 | 0.58                  | 50               |
|                           | M8                | 41R845   | 3.5          | 9  | 14 | 8.5  | 6.5  | 10.0 | 13 | 0.68                  | 50               |
|                           | M10               | 41R1045  | 3.5          | 9  | 17 | 10.5 | 6.5  | 12.0 | 15 | 0.70                  | 50               |
|                           | M12               | 41R1245  | 3.5          | 9  | 19 | 13.0 | 6.5  | 13.0 | 17 | 0.70                  | 50               |
| 10                        | M5                | 42R545   | 4.5          | 10 | 12 | 5.5  | 7.0  | 6.5  | 10 | 0.57                  | 50               |
|                           | M6                | 42R645   | 4.5          | 10 | 12 | 6.5  | 7.0  | 6.5  | 10 | 0.57                  | 50               |
|                           | M8                | 42R845   | 4.5          | 10 | 15 | 8.5  | 7.0  | 10.0 | 13 | 0.63                  | 50               |
|                           | M10               | 42R1045  | 4.5          | 10 | 17 | 10.5 | 7.0  | 12.0 | 15 | 0.68                  | 50               |
|                           | M12               | 42R1245  | 4.5          | 10 | 19 | 13.0 | 7.0  | 13.0 | 18 | 0.68                  | 50               |
| 16                        | M5                | 43R545   | 5.5          | 13 | 12 | 5.5  | 8.5  | 7.5  | 10 | 1.01                  | 50               |
|                           | M6                | 43R645   | 5.5          | 13 | 12 | 6.5  | 8.5  | 7.5  | 11 | 1.06                  | 50               |
|                           | M8                | 43R845   | 5.5          | 13 | 15 | 8.5  | 8.5  | 10.0 | 13 | 1.15                  | 50               |
|                           | M10               | 43R1045  | 5.5          | 13 | 17 | 10.5 | 8.5  | 12.0 | 15 | 1.09                  | 50               |
|                           | M12               | 43R1245  | 5.5          | 13 | 19 | 13.0 | 8.5  | 13.0 | 18 | 1.15                  | 50               |
| 25                        | M5                | 44R545   | 7.0          | 15 | 14 | 5.5  | 10.0 | 7.5  | 11 | 1.40                  | 25               |
|                           | M6                | 44R645   | 7.0          | 15 | 14 | 6.5  | 10.0 | 7.5  | 11 | 1.32                  | 25               |
|                           | M8                | 44R845   | 7.0          | 15 | 16 | 8.5  | 10.0 | 10.0 | 13 | 1.44                  | 25               |
|                           | M10               | 44R1045  | 7.0          | 15 | 18 | 10.5 | 10.0 | 12.0 | 15 | 1.49                  | 25               |
|                           | M12               | 44R1245  | 7.0          | 15 | 19 | 13.0 | 10.0 | 13.0 | 18 | 1.44                  | 25               |
|                           | M14               | 44R1445  | 7.0          | 15 | 21 | 15.0 | 10.0 | 14.5 | 20 | 1.55                  | 25               |
| 35                        | M6                | 45R645   | 8.5          | 17 | 17 | 6.5  | 12.0 | 7.5  | 11 | 2.05                  | 25               |
|                           | M8                | 45R845   | 8.5          | 17 | 17 | 8.5  | 12.0 | 10.0 | 13 | 2.20                  | 25               |
|                           | M10               | 45R1045  | 8.5          | 17 | 19 | 10.5 | 12.0 | 12.0 | 15 | 2.28                  | 25               |
|                           | M12               | 45R1245  | 8.5          | 17 | 21 | 13.0 | 12.0 | 13.0 | 18 | 2.38                  | 25               |
|                           | M14               | 45R1445  | 8.5          | 17 | 21 | 15.0 | 12.0 | 14.5 | 20 | 2.41                  | 25               |
|                           | M16               | 45R1645  | 8.5          | 17 | 26 | 17.0 | 12.0 | 16.0 | 22 | 2.40                  | 25               |

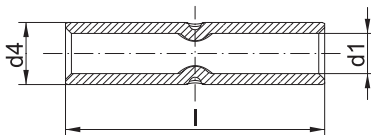
See next page



## Angled tubular cable lugs, Cu, 45° angled, standard type

| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No.       | Dimension mm |    |    |      |      |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------------|----------------|--------------|----|----|------|------|------|----|-----------------------|------------------|
|                                       |                   |                | d1           | a  | b  | d2   | d4   | c1   | l3 |                       |                  |
| 50                                    | M6                | <b>46R645</b>  | 10.0         | 19 | 20 | 6.5  | 14.0 | 10.0 | 13 | 3.43                  | 25               |
|                                       | M8                | <b>46R845</b>  | 10.0         | 19 | 20 | 8.5  | 14.0 | 10.0 | 13 | 3.28                  | 25               |
|                                       | M10               | <b>46R1045</b> | 10.0         | 19 | 20 | 10.5 | 14.0 | 12.0 | 16 | 3.47                  | 25               |
|                                       | M12               | <b>46R1245</b> | 10.0         | 19 | 23 | 13.0 | 14.0 | 13.0 | 18 | 3.42                  | 25               |
|                                       | M14               | <b>46R1445</b> | 10.0         | 19 | 23 | 15.0 | 14.0 | 14.5 | 20 | 3.65                  | 25               |
|                                       | M16               | <b>46R1645</b> | 10.0         | 19 | 28 | 17.0 | 14.0 | 16.0 | 22 | 3.76                  | 25               |
|                                       | M20               | <b>46R2045</b> | 10.0         | 19 | 30 | 21.0 | 14.0 | 19.0 | 24 | 3.30                  | 25               |
| 70                                    | M6                | <b>47R645</b>  | 12.0         | 21 | 23 | 6.5  | 16.5 | 10.0 | 13 | 5.06                  | 25               |
|                                       | M8                | <b>47R845</b>  | 12.0         | 21 | 23 | 8.5  | 16.5 | 10.0 | 14 | 5.06                  | 25               |
|                                       | M10               | <b>47R1045</b> | 12.0         | 21 | 23 | 10.5 | 16.5 | 12.0 | 16 | 5.25                  | 25               |
|                                       | M12               | <b>47R1245</b> | 12.0         | 21 | 23 | 13.0 | 16.5 | 13.0 | 18 | 5.30                  | 25               |
|                                       | M14               | <b>47R1445</b> | 12.0         | 21 | 23 | 15.0 | 16.5 | 14.5 | 20 | 5.60                  | 25               |
|                                       | M16               | <b>47R1645</b> | 12.0         | 21 | 28 | 17.0 | 16.5 | 16.0 | 22 | 5.61                  | 25               |
|                                       | M20               | <b>47R2045</b> | 12.0         | 21 | 30 | 21.0 | 16.5 | 19.0 | 24 | 5.60                  | 25               |
| 95                                    | M8                | <b>48R845</b>  | 13.5         | 25 | 26 | 8.5  | 18.0 | 12.0 | 14 | 6.19                  | 25               |
|                                       | M10               | <b>48R1045</b> | 13.5         | 25 | 26 | 10.5 | 18.0 | 12.0 | 17 | 5.70                  | 25               |
|                                       | M12               | <b>48R1245</b> | 13.5         | 25 | 26 | 13.0 | 18.0 | 13.0 | 18 | 6.67                  | 25               |
|                                       | M14               | <b>48R1445</b> | 13.5         | 25 | 26 | 15.0 | 18.0 | 14.5 | 20 | 6.60                  | 25               |
|                                       | M16               | <b>48R1645</b> | 13.5         | 25 | 28 | 17.0 | 18.0 | 16.0 | 22 | 6.78                  | 25               |
|                                       | M20               | <b>48R2045</b> | 13.5         | 25 | 36 | 21.0 | 18.0 | 22.0 | 24 | 6.80                  | 25               |
| 120                                   | M8                | <b>49R845</b>  | 15.0         | 26 | 28 | 8.5  | 19.5 | 14.0 | 16 | 7.92                  | 10               |
|                                       | M10               | <b>49R1045</b> | 15.0         | 26 | 28 | 10.5 | 19.5 | 14.0 | 17 | 7.99                  | 10               |
|                                       | M12               | <b>49R1245</b> | 15.0         | 26 | 28 | 13.0 | 19.5 | 14.0 | 18 | 7.96                  | 10               |
|                                       | M14               | <b>49R1445</b> | 15.0         | 26 | 28 | 15.0 | 19.5 | 15.0 | 20 | 7.94                  | 10               |
|                                       | M16               | <b>49R1645</b> | 15.0         | 26 | 30 | 17.0 | 19.5 | 16.0 | 22 | 8.26                  | 10               |
|                                       | M20               | <b>49R2045</b> | 15.0         | 26 | 36 | 21.0 | 19.5 | 22.0 | 24 | 8.20                  | 10               |
| 150                                   | M8                | <b>50R845</b>  | 16.5         | 30 | 31 | 8.5  | 21.0 | 14.0 | 16 | 9.00                  | 10               |
|                                       | M10               | <b>50R1045</b> | 16.5         | 30 | 31 | 10.5 | 21.0 | 14.0 | 17 | 9.15                  | 10               |
|                                       | M12               | <b>50R1245</b> | 16.5         | 30 | 31 | 13.0 | 21.0 | 15.0 | 18 | 8.75                  | 10               |
|                                       | M14               | <b>50R1445</b> | 16.5         | 30 | 31 | 15.0 | 21.0 | 15.0 | 20 | 9.20                  | 10               |
|                                       | M16               | <b>50R1645</b> | 16.5         | 30 | 31 | 17.0 | 21.0 | 16.0 | 22 | 9.22                  | 10               |
|                                       | M20               | <b>50R2045</b> | 16.5         | 30 | 36 | 21.0 | 21.0 | 22.0 | 24 | 9.26                  | 10               |
| 185                                   | M10               | <b>51R1045</b> | 19.0         | 30 | 35 | 10.5 | 24.0 | 18.0 | 22 | 13.30                 | 10               |
|                                       | M12               | <b>51R1245</b> | 19.0         | 30 | 35 | 13.0 | 24.0 | 18.0 | 22 | 13.32                 | 10               |
|                                       | M14               | <b>51R1445</b> | 19.0         | 30 | 35 | 15.0 | 24.0 | 18.0 | 22 | 13.40                 | 10               |
|                                       | M16               | <b>51R1645</b> | 19.0         | 30 | 35 | 17.0 | 24.0 | 18.0 | 22 | 12.80                 | 10               |
|                                       | M20               | <b>51R2045</b> | 19.0         | 30 | 39 | 21.0 | 24.0 | 22.0 | 24 | 13.10                 | 10               |
| 240                                   | M10               | <b>52R1045</b> | 21.0         | 35 | 39 | 10.5 | 26.0 | 21.5 | 22 | 16.28                 | 10               |
|                                       | M12               | <b>52R1245</b> | 21.0         | 35 | 39 | 13.0 | 26.0 | 21.5 | 22 | 16.80                 | 10               |
|                                       | M14               | <b>52R1445</b> | 21.0         | 35 | 39 | 15.0 | 26.0 | 21.5 | 22 | 16.40                 | 10               |
|                                       | M16               | <b>52R1645</b> | 21.0         | 35 | 39 | 17.0 | 26.0 | 21.5 | 22 | 16.10                 | 10               |
|                                       | M20               | <b>52R2045</b> | 21.0         | 35 | 39 | 21.0 | 26.0 | 21.5 | 24 | 16.10                 | 10               |
| 300                                   | M12               | <b>53R1245</b> | 23.5         | 44 | 43 | 13.0 | 29.5 | 24.0 | 24 | 24.08                 | 5                |
|                                       | M14               | <b>53R1445</b> | 23.5         | 44 | 43 | 15.0 | 29.5 | 24.0 | 24 | 24.20                 | 5                |
|                                       | M16               | <b>53R1645</b> | 23.5         | 44 | 43 | 17.0 | 29.5 | 24.0 | 24 | 23.23                 | 5                |
|                                       | M20               | <b>53R2045</b> | 23.5         | 44 | 43 | 21.0 | 29.5 | 24.0 | 24 | 23.50                 | 5                |
| 400                                   | M12               | <b>54R1245</b> | 27.0         | 44 | 49 | 13.0 | 34.0 | 24.0 | 24 | 34.00                 | 5                |
|                                       | M14               | <b>54R1445</b> | 27.0         | 44 | 49 | 15.0 | 34.0 | 24.0 | 24 | 33.40                 | 5                |
|                                       | M16               | <b>54R1645</b> | 27.0         | 44 | 49 | 17.0 | 34.0 | 24.0 | 24 | 34.28                 | 5                |
|                                       | M20               | <b>54R2045</b> | 27.0         | 44 | 49 | 21.0 | 34.0 | 24.0 | 24 | 31.80                 | 5                |

## Butt connectors, Cu, standard type



- ▶ For multi-stranded, round conductors e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ Simple cable entry for internal chamfer
- ▶ In combination with EKM 60 ID suitable for fine-stranded conductors

### Characteristics

- Simple and safe processing due to butt mark
- Annealed material optimises material and crimping properties
- Item identification on cable lug

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 38
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“

### Additional information

- Also available as featured article without buttmark, part number appendix „OM“

| Nominal cross section<br>mm <sup>2</sup> | Part<br>No. | Dimension mm |      |     | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|------------------------------------------|-------------|--------------|------|-----|-----------------------------|------------------|
|                                          |             | d1           | d4   | l   |                             |                  |
| 0.75                                     | <b>17R</b>  | 1.3          | 2.8  | 20  | 0.09                        | 100              |
| 1.5                                      | <b>18R</b>  | 1.8          | 3.3  | 25  | 0.12                        | 100              |
| 2.5                                      | <b>19R</b>  | 2.3          | 4.2  | 25  | 0.20                        | 100              |
| 4                                        | <b>20R</b>  | 3.0          | 5.0  | 25  | 0.26                        | 100              |
| 6                                        | <b>21R</b>  | 3.5          | 6.5  | 25  | 0.50                        | 100              |
| 10                                       | <b>22R</b>  | 4.5          | 7.0  | 30  | 0.72                        | 100              |
| 16                                       | <b>23R</b>  | 5.5          | 8.5  | 35  | 1.00                        | 100              |
| 25                                       | <b>24R</b>  | 7.0          | 10.0 | 40  | 1.41                        | 50               |
| 35                                       | <b>25R</b>  | 8.5          | 12.0 | 45  | 2.24                        | 50               |
| 50                                       | <b>26R</b>  | 10.0         | 14.0 | 50  | 3.36                        | 50               |
| 70                                       | <b>27R</b>  | 12.0         | 16.5 | 55  | 4.87                        | 50               |
| 95                                       | <b>28R</b>  | 13.5         | 18.0 | 60  | 5.91                        | 25               |
| 120                                      | <b>29R</b>  | 15.0         | 19.5 | 65  | 7.00                        | 25               |
| 150                                      | <b>30R</b>  | 16.5         | 21.0 | 70  | 8.12                        | 10               |
| 185                                      | <b>31R</b>  | 19.0         | 24.0 | 75  | 10.06                       | 10               |
| 240                                      | <b>32R</b>  | 21.0         | 26.0 | 85  | 13.82                       | 10               |
| 300                                      | <b>33R</b>  | 23.5         | 29.5 | 100 | 21.94                       | 5                |
| 400                                      | <b>34R</b>  | 27.0         | 34.0 | 100 | 29.65                       | 5                |



## Parallel connectors, Cu, standard type



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ Ideal for connecting differing cable cross-sections
- ▶ Simple cable entry due to internal chamfer

### Characteristics

- Annealed material optimises material and crimping properties

### Material

- Copper (EN13600)

### Surface

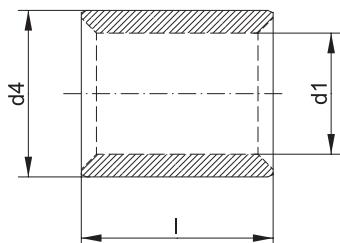
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 38

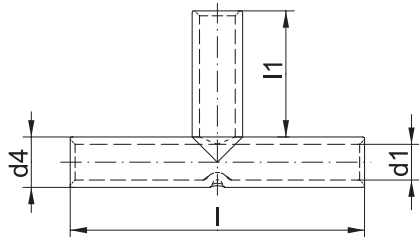
### Additional information

- The stated nominal cross-section corresponds to the total cross-section of the cable
- Additional conductor types and combinations on request



| Nominal cross section<br>mm <sup>2</sup> | Part<br>No. | Dimension mm |      |    | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|------------------------------------------|-------------|--------------|------|----|-----------------------------|------------------|
|                                          |             | d1           | d4   | l  |                             |                  |
| 1.5                                      | <b>148R</b> | 1.8          | 3.3  | 5  | 0.03                        | 100              |
| 2.5                                      | <b>149R</b> | 2.3          | 4.2  | 5  | 0.04                        | 100              |
| 4                                        | <b>150R</b> | 3.0          | 5.0  | 7  | 0.08                        | 100              |
| 6                                        | <b>151R</b> | 4.0          | 6.0  | 7  | 0.09                        | 100              |
| 10                                       | <b>152R</b> | 4.5          | 7.0  | 9  | 0.17                        | 100              |
| 16                                       | <b>153R</b> | 5.5          | 8.5  | 10 | 0.28                        | 100              |
| 25                                       | <b>154R</b> | 7.0          | 10.0 | 13 | 0.44                        | 100              |
| 35                                       | <b>155R</b> | 8.5          | 12.0 | 16 | 0.78                        | 100              |
| 50                                       | <b>156R</b> | 10.0         | 14.0 | 19 | 1.22                        | 100              |
| 70                                       | <b>157R</b> | 12.0         | 16.5 | 19 | 1.62                        | 50               |
| 95                                       | <b>158R</b> | 13.5         | 18.0 | 20 | 1.90                        | 50               |
| 120                                      | <b>159R</b> | 15.0         | 19.5 | 22 | 2.28                        | 50               |
| 150                                      | <b>160R</b> | 16.5         | 21.0 | 26 | 3.00                        | 50               |
| 185                                      | <b>161R</b> | 19.0         | 24.0 | 30 | 4.37                        | 50               |
| 240                                      | <b>162R</b> | 21.0         | 26.0 | 32 | 5.30                        | 25               |
| 300                                      | <b>163R</b> | 23.5         | 29.5 | 36 | 8.05                        | 25               |

## T-connectors, Cu, standard type



- ▶ For multi-stranded, round conductors e.g. to DIN EN 60228
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ Special version for cable tap conductors



### Characteristics

- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer



### Material

- Copper (EN13600)



### Surface

- Tin-plated to protect against corrosion



### Technical instructions

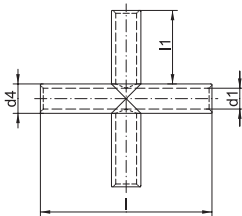
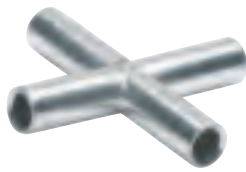
- Tool: see page 38
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“



| Nominal cross section mm <sup>2</sup> | Part No. | Dimension mm |      |     |    | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|---------------------------------------|----------|--------------|------|-----|----|-----------------------------|------------------|
|                                       |          | d1           | d4   | l   | l1 |                             |                  |
| 1.5                                   | TV15     | 1.8          | 3.3  | 30  | 12 | 0.23                        | 50               |
| 2.5                                   | TV2.5    | 2.3          | 4.2  | 30  | 12 | 0.37                        | 50               |
| 4                                     | TV4      | 3.0          | 5.0  | 30  | 12 | 0.45                        | 50               |
| 6                                     | TV6      | 4.0          | 6.0  | 35  | 14 | 0.73                        | 50               |
| 10                                    | TV10     | 4.5          | 7.0  | 35  | 14 | 1.05                        | 50               |
| 16                                    | TV16     | 5.5          | 8.5  | 50  | 21 | 2.20                        | 50               |
| 25                                    | TV25     | 7.0          | 10.0 | 55  | 23 | 2.90                        | 25               |
| 35                                    | TV35     | 8.5          | 12.0 | 70  | 30 | 5.20                        | 25               |
| 50                                    | TV50     | 10.0         | 14.0 | 80  | 34 | 7.90                        | 25               |
| 70                                    | TV70     | 12.0         | 16.5 | 85  | 35 | 11.20                       | 10               |
| 95                                    | TV95     | 13.5         | 18.0 | 90  | 36 | 13.00                       | 10               |
| 120                                   | TV120    | 15.0         | 19.5 | 95  | 38 | 14.70                       | 10               |
| 150                                   | TV150    | 16.5         | 21.0 | 110 | 44 | 18.90                       | 10               |
| 185                                   | TV185    | 19.0         | 24.0 | 115 | 45 | 25.00                       | 5                |
| 240                                   | TV240    | 21.0         | 26.0 | 130 | 52 | 31.10                       | 5                |



## Cross-connectors, Cu, standard type



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ Version for double cable tap conductors

### Characteristics

- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 38
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“

| Nominal cross section mm <sup>2</sup> | Part No.     | Dimension mm |      |     |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|--------------|--------------|------|-----|----|-----------------------|------------------|
|                                       |              | d1           | d4   | l   | l1 |                       |                  |
| 1.5                                   | <b>KV15</b>  | 1.8          | 3.3  | 30  | 12 | 0.320                 | 25               |
| 2.5                                   | <b>KV2.5</b> | 2.3          | 4.2  | 30  | 12 | 0.490                 | 25               |
| 4                                     | <b>KV4</b>   | 3.0          | 5.0  | 30  | 12 | 0.650                 | 25               |
| 6                                     | <b>KV6</b>   | 4.0          | 6.0  | 35  | 14 | 0.950                 | 25               |
| 10                                    | <b>KV10</b>  | 4.5          | 7.0  | 35  | 14 | 1.350                 | 25               |
| 16                                    | <b>KV16</b>  | 5.5          | 8.5  | 50  | 21 | 2.950                 | 25               |
| 25                                    | <b>KV25</b>  | 7.0          | 10.0 | 55  | 23 | 4.000                 | 15               |
| 35                                    | <b>KV35</b>  | 8.5          | 12.0 | 70  | 30 | 6.900                 | 15               |
| 50                                    | <b>KV50</b>  | 10.0         | 14.0 | 80  | 34 | 10.400                | 15               |
| 70                                    | <b>KV70</b>  | 12.0         | 16.5 | 85  | 35 | 14.600                | 15               |
| 95                                    | <b>KV95</b>  | 13.5         | 18.0 | 90  | 36 | 17.100                | 15               |
| 120                                   | <b>KV120</b> | 15.0         | 19.5 | 95  | 38 | 19.400                | 5                |
| 150                                   | <b>KV150</b> | 16.5         | 21.0 | 110 | 44 | 24.100                | 5                |
| 185                                   | <b>KV185</b> | 19.0         | 24.0 | 115 | 45 | 32.100                | 5                |
| 240                                   | <b>KV240</b> | 21.0         | 26.0 | 130 | 52 | 41.100                | 5                |



## Insulated tubular cable lugs, Cu, standard type



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ No additional insulation of the crimped connection required
- ▶ Is directly crimped with the insulation

### Characteristics

- Annealed material optimises material and crimping properties
- Simple and safe connection due to flat contact surfaces and internal chamfer
- Heat resistant to 105° C

### Material

- Cable lug: Copper to EN 13600
- Insulation sleeve: PA, halogen-free

### Surface

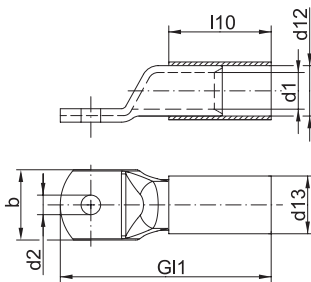
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 40
- Dimensions of tubular cable lugs can be found from page 14
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“

### Additional information

- Also available as featured article with inspection hole, part number appendix „MS“



| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No. | Colour | Dimension mm |      |      |      |      | weight 100 pcs. ~kg Cu | weight 100 pcs. ~kg Total | Packing unit/ pcs |
|---------------------------------------|-------------------|----------|--------|--------------|------|------|------|------|------------------------|---------------------------|-------------------|
|                                       |                   |          |        | d12          | d13  | d2   | Gl1  | l10  |                        |                           |                   |
| 10                                    | M5                | 602R5    | Red    | 7.0          | 9.0  | 5.5  | 35.5 | 17.0 | 0.50                   | 0.548                     | 25                |
|                                       | M6                | 602R6    | Red    | 7.0          | 9.0  | 6.5  | 35.5 | 17.0 | 0.49                   | 0.538                     | 25                |
|                                       | M8                | 602R8    | Red    | 7.0          | 9.0  | 8.5  | 42.0 | 17.0 | 0.58                   | 0.628                     | 25                |
|                                       | M10               | 602R10   | Red    | 7.0          | 9.0  | 10.5 | 46.0 | 17.0 | 0.62                   | 0.668                     | 25                |
|                                       | M12               | 602R12   | Red    | 7.0          | 9.0  | 13.0 | 49.0 | 17.0 | 0.64                   | 0.688                     | 25                |
|                                       | M14               | 602R14   | Red    | 7.0          | 9.0  | 15.0 | 51.0 | 17.0 | 0.66                   | 0.708                     | 25                |
| 16                                    | M5                | 603R5    | Blue   | 8.5          | 10.5 | 5.5  | 39.5 | 21.0 | 0.84                   | 0.907                     | 25                |
|                                       | M6                | 603R6    | Blue   | 8.5          | 10.5 | 6.5  | 41.3 | 21.0 | 0.86                   | 0.927                     | 25                |
|                                       | M8                | 603R8    | Blue   | 8.5          | 10.5 | 8.5  | 45.5 | 21.0 | 0.93                   | 0.997                     | 25                |
|                                       | M10               | 603R10   | Blue   | 8.5          | 10.5 | 10.5 | 49.5 | 21.0 | 0.99                   | 1.057                     | 25                |
|                                       | M12               | 603R12   | Blue   | 8.5          | 10.5 | 13.0 | 54.0 | 21.0 | 1.02                   | 1.087                     | 25                |
|                                       | M14               | 603R14   | Blue   | 8.5          | 10.5 | 15.0 | 56.0 | 21.0 | 1.04                   | 1.107                     | 25                |
| 25                                    | M5                | 604R5    | Yellow | 10.0         | 12.0 | 5.5  | 45.0 | 24.0 | 1.22                   | 1.312                     | 25                |
|                                       | M6                | 604R6    | Yellow | 10.0         | 12.0 | 6.5  | 46.5 | 24.0 | 1.20                   | 1.292                     | 25                |
|                                       | M8                | 604R8    | Yellow | 10.0         | 12.0 | 8.5  | 51.0 | 24.0 | 1.31                   | 1.402                     | 25                |
|                                       | M10               | 604R10   | Yellow | 10.0         | 12.0 | 10.5 | 55.0 | 24.0 | 1.57                   | 1.662                     | 25                |
|                                       | M12               | 604R12   | Yellow | 10.0         | 12.0 | 13.0 | 57.0 | 24.0 | 1.39                   | 1.482                     | 25                |
|                                       | M14               | 604R14   | Yellow | 10.0         | 12.0 | 15.0 | 61.5 | 24.0 | 1.49                   | 1.582                     | 25                |
| 35                                    | M6                | 605R6    | Red    | 12.0         | 14.5 | 6.5  | 49.5 | 27.0 | 1.85                   | 2.010                     | 25                |
|                                       | M8                | 605R8    | Red    | 12.0         | 14.5 | 8.5  | 54.0 | 27.0 | 2.00                   | 2.160                     | 25                |
|                                       | M10               | 605R10   | Red    | 12.0         | 14.5 | 10.5 | 59.0 | 27.0 | 2.13                   | 2.290                     | 25                |
|                                       | M12               | 605R12   | Red    | 12.0         | 14.5 | 13.0 | 61.0 | 27.0 | 2.12                   | 2.280                     | 25                |
|                                       | M14               | 605R14   | Red    | 12.0         | 14.5 | 15.0 | 64.5 | 27.0 | 2.18                   | 2.340                     | 25                |
|                                       | M16               | 605R16   | Red    | 12.0         | 14.5 | 17.0 | 68.0 | 27.0 | 2.24                   | 2.400                     | 25                |

See next page



## Insulated tubular cable lugs, Cu, standard type

| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No.      | Colour                                                                              | Dimension mm |      |      |      |      | Gewicht 100 St. ~kg Cu | Gewicht 100 St. ~kg Ges. | Packing unit/ pcs |
|---------------------------------------|-------------------|---------------|-------------------------------------------------------------------------------------|--------------|------|------|------|------|------------------------|--------------------------|-------------------|
|                                       |                   |               |                                                                                     | d12          | d13  | d2   | Gl1  | l10  |                        |                          |                   |
| 50                                    | M6                | <b>606R6</b>  |    | 14.0         | 16.5 | 6.5  | 59.0 | 32.0 | 3.00                   | 3.220                    | 25                |
|                                       | M8                | <b>606R8</b>  |    | 14.0         | 16.5 | 8.5  | 59.0 | 32.0 | 2.93                   | 3.150                    | 25                |
|                                       | M10               | <b>606R10</b> |    | 14.0         | 16.5 | 10.5 | 63.0 | 32.0 | 3.08                   | 3.300                    | 25                |
|                                       | M12               | <b>606R12</b> |    | 14.0         | 16.5 | 13.0 | 68.0 | 32.0 | 3.23                   | 3.450                    | 25                |
|                                       | M14               | <b>606R14</b> |    | 14.0         | 16.5 | 15.0 | 71.5 | 32.0 | 3.32                   | 3.540                    | 25                |
|                                       | M16               | <b>606R16</b> |    | 14.0         | 16.5 | 17.0 | 77.0 | 32.0 | 3.38                   | 3.600                    | 25                |
|                                       | M20               | <b>606R20</b> |    | 14.0         | 16.5 | 21.0 | 83.5 | 32.0 | 3.46                   | 3.680                    | 25                |
| 70                                    | M6                | <b>607R6</b>  |    | 16.4         | 18.9 | 6.5  | 65.5 | 33.5 | 4.49                   | 4.760                    | 25                |
|                                       | M8                | <b>607R8</b>  |    | 16.4         | 18.9 | 8.5  | 65.5 | 33.5 | 4.38                   | 4.650                    | 25                |
|                                       | M10               | <b>607R10</b> |    | 16.4         | 18.9 | 10.5 | 66.5 | 33.5 | 4.54                   | 4.810                    | 25                |
|                                       | M12               | <b>607R12</b> |    | 16.4         | 18.9 | 13.0 | 70.5 | 33.5 | 4.63                   | 4.900                    | 25                |
|                                       | M14               | <b>607R14</b> |    | 16.4         | 18.9 | 15.0 | 73.5 | 33.5 | 4.76                   | 5.030                    | 25                |
|                                       | M16               | <b>607R16</b> |    | 16.4         | 18.9 | 17.0 | 78.5 | 33.5 | 4.24                   | 4.510                    | 25                |
|                                       | M20               | <b>607R20</b> |    | 16.4         | 18.9 | 21.0 | 84.5 | 33.5 | 5.09                   | 5.360                    | 25                |
| 95                                    | M8                | <b>608R8</b>  |    | 17.8         | 20.8 | 8.5  | 74.0 | 40.0 | 5.44                   | 5.85                     | 25                |
|                                       | M10               | <b>608R10</b> |  | 17.8         | 20.8 | 10.5 | 74.0 | 40.0 | 5.40                   | 5.81                     | 25                |
|                                       | M12               | <b>608R12</b> |  | 17.8         | 20.8 | 13.0 | 76.0 | 40.0 | 5.56                   | 5.97                     | 25                |
|                                       | M14               | <b>608R14</b> |  | 17.8         | 20.8 | 15.0 | 79.5 | 40.0 | 5.62                   | 6.03                     | 25                |
|                                       | M16               | <b>608R16</b> |  | 17.8         | 20.8 | 17.0 | 84.0 | 40.0 | 5.82                   | 6.23                     | 25                |
|                                       | M20               | <b>608R20</b> |  | 17.8         | 20.8 | 21.0 | 96.0 | 40.0 | 6.71                   | 7.12                     | 25                |
| 120                                   | M8                | <b>609R8</b>  |  | 19.3         | 22.3 | 8.5  | 80.5 | 41.5 | 6.72                   | 7.18                     | 10                |
|                                       | M10               | <b>609R10</b> |  | 19.3         | 22.3 | 10.5 | 80.5 | 41.5 | 6.57                   | 7.03                     | 10                |
|                                       | M12               | <b>609R12</b> |  | 19.3         | 22.3 | 13.0 | 80.5 | 41.5 | 6.38                   | 6.84                     | 10                |
|                                       | M16               | <b>609R16</b> |  | 19.3         | 22.3 | 17.0 | 85.5 | 41.5 | 6.51                   | 6.97                     | 10                |

## Insulated butt connectors, Cu, standard type



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ No additional insulation of the crimped connection required
- ▶ Is directly crimped with the insulation

### Characteristics

- With buttmarks for precise cable insertion
- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer
- Heat resistant to 105° C

### Material

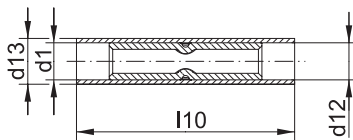
- Connector: Copper (EN 13600)
- Insulation sleeve: PA, halogen-free

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 40
- Dimensions of butt connectors can be found on page 21
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“



| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Dimension mm |      |      |     | Gewicht 100 St. ~kg Cu | Gewicht 100 St. ~kg Ges. | Packing unit/pcs |
|---------------------------------------|----------|--------|--------------|------|------|-----|------------------------|--------------------------|------------------|
|                                       |          |        | d1           | d12  | d13  | l10 |                        |                          |                  |
| 10                                    | 622R     | Red    | 4,5          | 7,0  | 9,0  | 42  | 0.72                   | 0.84                     | 25               |
| 16                                    | 623R     | Blue   | 5,5          | 8,5  | 10,5 | 50  | 1.00                   | 1.16                     | 25               |
| 25                                    | 624R     | Yellow | 7,0          | 10,0 | 12,0 | 57  | 1.41                   | 1.63                     | 25               |
| 35                                    | 625R     | Red    | 8,5          | 12,0 | 14,4 | 65  | 2.24                   | 2.60                     | 25               |
| 50                                    | 626R     | Blue   | 10,0         | 14,0 | 16,4 | 72  | 3.36                   | 3.81                     | 25               |
| 70                                    | 627R     | Yellow | 12,0         | 16,4 | 19,0 | 80  | 4.87                   | 5.46                     | 25               |
| 95                                    | 628R     | Red    | 13,5         | 17,8 | 20,8 | 87  | 5.91                   | 6.74                     | 25               |



## Tubular cable lugs, blue connection®, Cu



- ▶ For compacted multi-stranded round conductors to DIN EN 60228 Cl. 2
- ▶ Accurate assignment of crimping tool/crimping die through colour-coding system
- ▶ Fewer crimps due to max. crimping width
- ▶ Reduced costs due to compact dimensions

### Characteristics

- Rigid design thanks to special shaped radius
- Processing takes place without the use of additional sleeves
- Annealed material optimises material and crimping properties
- Simple and safe connection due to flat contact surfaces and internal chamfer

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 41

### Additional information

- 10-300 mm² IEC-tested

| Nominal cross section mm² | Size of bolt dia. | Part No.     | Dimension mm |       |       |       |       |       |       |       | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------|-------------------|--------------|--------------|-------|-------|-------|-------|-------|-------|-------|-----------------------|------------------|
|                           |                   |              | d1           | a     | b     | d2    | d4    | c1    | c2    | l     |                       |                  |
| 6                         | M5                | <b>6B5</b>   | 3.20         | 9.0   | 10.50 | 5.30  | 5.00  | 5.00  | 6.50  | 20.50 | 0.24                  | 50               |
|                           | M6                | <b>6B6</b>   | 3.20         | 9.0   | 11.00 | 6.40  | 5.00  | 6.00  | 8.00  | 22.00 | 0.26                  | 50               |
|                           | M8                | <b>6B8</b>   | 3.20         | 9.0   | 12.50 | 8.40  | 5.00  | 8.00  | 10.00 | 24.00 | 0.29                  | 50               |
|                           | M10               | <b>6B10</b>  | 3.20         | 9.00  | 14.00 | 10.50 | 5.00  | 10.00 | 11.50 | 25.50 | 0.30                  | 50               |
| 10                        | M5                | <b>10B5</b>  | 4.10         | 9.00  | 11.50 | 5.30  | 6.50  | 5.00  | 6.50  | 21.00 | 0.35                  | 50               |
|                           | M6                | <b>10B6</b>  | 4.10         | 9.00  | 12.00 | 6.40  | 6.50  | 6.00  | 8.00  | 22.50 | 0.39                  | 50               |
|                           | M8                | <b>10B8</b>  | 4.10         | 9.00  | 14.00 | 8.40  | 6.50  | 8.00  | 10.00 | 24.50 | 0.43                  | 50               |
|                           | M10               | <b>10B10</b> | 4.10         | 9.00  | 15.00 | 10.50 | 6.50  | 10.00 | 11.50 | 26.00 | 0.44                  | 50               |
| 16                        | M6                | <b>16B6</b>  | 5.50         | 10.0  | 13.50 | 6.40  | 7.70  | 6.00  | 8.00  | 25.00 | 0.61                  | 50               |
|                           | M8                | <b>16B8</b>  | 5.50         | 10.0  | 15.00 | 8.40  | 7.70  | 8.00  | 10.00 | 27.00 | 0.65                  | 50               |
|                           | M10               | <b>16B10</b> | 5.50         | 10.00 | 16.50 | 10.50 | 7.70  | 10.00 | 11.50 | 28.00 | 0.69                  | 50               |
|                           | M12               | <b>16B12</b> | 5.50         | 10.00 | 18.50 | 13.00 | 7.70  | 12.00 | 13.00 | 29.50 | 0.72                  | 50               |
| 25                        | M6                | <b>25B6</b>  | 6.60         | 10.0  | 15.00 | 6.40  | 9.00  | 6.00  | 8.00  | 25.50 | 0.81                  | 25               |
|                           | M8                | <b>25B8</b>  | 6.60         | 10.0  | 16.00 | 8.40  | 9.00  | 8.00  | 10.00 | 27.50 | 0.88                  | 50               |
|                           | M10               | <b>25B10</b> | 6.60         | 10.0  | 18.00 | 10.50 | 9.00  | 10.00 | 11.50 | 29.00 | 0.93                  | 50               |
|                           | M12               | <b>25B12</b> | 6.60         | 10.0  | 19.50 | 13.00 | 9.00  | 12.00 | 13.00 | 30.50 | 0.97                  | 25               |
| 35                        | M8                | <b>35B8</b>  | 7.70         | 11.0  | 18.00 | 8.40  | 10.60 | 8.00  | 10.00 | 29.50 | 1.34                  | 50               |
|                           | M10               | <b>35B10</b> | 7.70         | 11.0  | 19.50 | 10.50 | 10.60 | 10.00 | 11.50 | 31.00 | 1.42                  | 50               |
|                           | M12               | <b>35B12</b> | 7.70         | 11.0  | 21.00 | 13.00 | 10.60 | 12.00 | 13.00 | 32.50 | 1.48                  | 25               |
| 50                        | M8                | <b>50B8</b>  | 9.20         | 11.0  | 19.00 | 8.40  | 12.40 | 8.00  | 10.00 | 31.00 | 1.87                  | 25               |
|                           | M10               | <b>50B10</b> | 9.20         | 11.0  | 21.00 | 10.50 | 12.40 | 10.00 | 11.50 | 32.50 | 1.95                  | 25               |
|                           | M12               | <b>50B12</b> | 9.20         | 11.0  | 23.00 | 13.00 | 12.40 | 12.00 | 13.00 | 34.00 | 2.05                  | 25               |
| 70                        | M8                | <b>70B8</b>  | 11.00        | 21.0  | 22.00 | 8.40  | 14.60 | 8.00  | 10.00 | 41.50 | 3.17                  | 25               |
|                           | M10               | <b>70B10</b> | 11.00        | 21.0  | 24.00 | 10.50 | 14.60 | 10.00 | 11.50 | 43.00 | 3.33                  | 25               |
|                           | M12               | <b>70B12</b> | 11.00        | 21.0  | 25.00 | 13.00 | 14.60 | 12.00 | 13.00 | 44.50 | 3.46                  | 25               |
|                           | M16               | <b>70B16</b> | 11.00        | 21.0  | 28.00 | 17.00 | 14.60 | 15.00 | 17.00 | 48.50 | 3.73                  | 10               |
| 95                        | M10               | <b>95B10</b> | 13.00        | 21.0  | 26.00 | 10.50 | 17.00 | 10.00 | 11.50 | 44.50 | 4.55                  | 25               |
|                           | M12               | <b>95B12</b> | 13.00        | 21.0  | 28.00 | 13.00 | 17.00 | 12.00 | 13.00 | 46.00 | 4.75                  | 25               |
|                           | M16               | <b>95B16</b> | 13.00        | 21.0  | 30.00 | 17.00 | 17.00 | 15.00 | 17.00 | 50.00 | 5.01                  | 10               |

See next page

## Rohrkabelschuhe, blue connection®, Cu

| Nominal cross section<br>mm <sup>2</sup> | Size of<br>bolt dia. | Part<br>No.   | Dimension mm |      |       |       |       |       |       |       | Weight/<br>100 pcs.<br>~ kg | Packing<br>unit/pcs |
|------------------------------------------|----------------------|---------------|--------------|------|-------|-------|-------|-------|-------|-------|-----------------------------|---------------------|
|                                          |                      |               | d1           | a    | b     | d2    | d4    | c1    | c2    | l     |                             |                     |
| 120                                      | M10                  | <b>120B10</b> | 14.50        | 22.0 | 28.00 | 10.50 | 19.00 | 10.00 | 11.50 | 47.00 | 6.02                        | 25                  |
|                                          | M12                  | <b>120B12</b> | 14.50        | 22.0 | 29.50 | 13.00 | 19.00 | 12.00 | 13.00 | 48.50 | 6.26                        | 25                  |
|                                          | M16                  | <b>120B16</b> | 14.50        | 22.0 | 32.00 | 17.00 | 19.00 | 15.00 | 17.00 | 52.50 | 6.73                        | 10                  |
| 150                                      | M10                  | <b>150B10</b> | 16.20        | 22.0 | 30.00 | 10.50 | 21.00 | 10.00 | 11.50 | 48.50 | 7.41                        | 10                  |
|                                          | M12                  | <b>150B12</b> | 16.20        | 22.0 | 32.00 | 13.00 | 21.00 | 12.00 | 13.00 | 50.00 | 7.71                        | 10                  |
| 185                                      | M10                  | <b>185B10</b> | 18.00        | 24.0 | 33.00 | 10.50 | 23.00 | 10.00 | 11.50 | 52.00 | 9.21                        | 10                  |
|                                          | M12                  | <b>185B12</b> | 18.00        | 24.0 | 33.00 | 13.00 | 23.00 | 12.00 | 13.00 | 53.50 | 9.43                        | 10                  |
|                                          | M16                  | <b>185B16</b> | 18.00        | 24.0 | 36.00 | 17.00 | 23.00 | 15.00 | 17.00 | 57.70 | 10.14                       | 10                  |
| 240                                      | M12                  | <b>240B12</b> | 20.60        | 24.0 | 38.00 | 13.00 | 26.00 | 12.00 | 13.00 | 56.00 | 12.46                       | 10                  |
|                                          | M16                  | <b>240B16</b> | 20.60        | 24.0 | 38.00 | 17.00 | 26.00 | 15.00 | 17.00 | 60.00 | 13.24                       | 10                  |
| 300                                      | M12                  | <b>300B12</b> | 23.10        | 33.0 | 41.00 | 13.00 | 28.00 | 12.00 | 13.00 | 67.00 | 14.39                       | 5                   |
|                                          | M16                  | <b>300B16</b> | 23.10        | 33.0 | 41.00 | 17.00 | 28.00 | 15.00 | 17.00 | 71.00 | 15.27                       | 5                   |

## Butt connectors, blue connection®, Cu



- ▶ For compacted multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ Accurate assignment of crimping tool/crimping die through colour-coding system
- ▶ Fewer crimps due to max. crimping width
- ▶ Reduced costs due to compact dimensions

### Characteristics

- Processing takes place without the use of additional sleeves
- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 41

### Additional information

- 10-300 mm<sup>2</sup> IEC-tested

| Nominal cross section<br>mm <sup>2</sup> | Part<br>No. | Dimension mm |       |       | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|------------------------------------------|-------------|--------------|-------|-------|-----------------------------|------------------|
|                                          |             | d1           | d4    | l     |                             |                  |
| 6                                        | <b>6B</b>   | 3.20         | 5.00  | 25.00 | 0.255                       | 50               |
| 10                                       | <b>10B</b>  | 4.10         | 6.50  | 25.00 | 0.360                       | 50               |
| 16                                       | <b>16B</b>  | 5.50         | 7.70  | 27.00 | 0.543                       | 50               |
| 25                                       | <b>25B</b>  | 6.60         | 9.00  | 27.00 | 0.699                       | 50               |
| 35                                       | <b>35B</b>  | 7.70         | 10.60 | 28.00 | 1.026                       | 50               |
| 50                                       | <b>50B</b>  | 9.20         | 12.40 | 28.00 | 1.334                       | 25               |
| 70                                       | <b>70B</b>  | 11.00        | 14.60 | 48.00 | 3.065                       | 25               |
| 95                                       | <b>95B</b>  | 13.00        | 17.00 | 48.00 | 3.987                       | 25               |
| 120                                      | <b>120B</b> | 14.50        | 19.00 | 50.00 | 5.157                       | 25               |
| 150                                      | <b>150B</b> | 16.20        | 21.00 | 52.00 | 6.379                       | 10               |
| 185                                      | <b>185B</b> | 18.00        | 23.00 | 56.00 | 7.889                       | 10               |
| 240                                      | <b>240B</b> | 20.60        | 26.00 | 58.00 | 10.000                      | 10               |
| 300                                      | <b>300B</b> | 23.10        | 28.00 | 76.00 | 13.079                      | 5                |



## Tubular cable lugs, Cu, solid conductor type



- ▶ For single-stranded round conductors, e.g. to DIN EN 60228 Cl. 1
- ▶ For pre-rounded sector shaped conductors
- ▶ Safe and secure connecting of solid conductors

### Characteristics

- Annealed material optimises material and crimping properties
- Simple and safe connection due to flat contact surfaces and internal chamfer

### Material

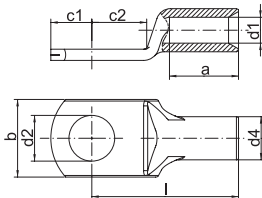
- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

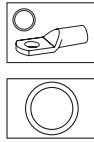
### Technical instructions

- Tool: see page 44



| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No.      | Dimension mm |    |      |      |    |       |      |      | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------------|---------------|--------------|----|------|------|----|-------|------|------|-----------------------|------------------|
|                                       |                   |               | d1           | a  | b    | d2   | d4 | c1    | c2   | l    |                       |                  |
| 6                                     | M5                | <b>SR65</b>   | 3.0          | 8  | 9.0  | 5.3  | 5  | 4.75  | 6.0  | 17.0 | 0.213                 | 25               |
|                                       |                   | <b>SR66</b>   | 3.0          | 8  | 10.0 | 6.5  | 5  | 6.50  | 6.5  | 19.0 | 0.220                 | 25               |
| 10                                    | M6                | <b>SR106</b>  | 4.0          | 9  | 10.0 | 6.5  | 6  | 7.00  | 6.5  | 19.0 | 0.300                 | 25               |
|                                       | M8                | <b>SR108</b>  | 4.0          | 9  | 14.0 | 8.5  | 6  | 8.50  | 9.5  | 22.0 | 0.320                 | 25               |
| 16                                    | M6                | <b>SR166</b>  | 5.0          | 12 | 12.5 | 6.5  | 8  | 6.50  | 7.0  | 23.5 | 0.800                 | 25               |
|                                       | M8                | <b>SR168</b>  | 5.0          | 12 | 15.0 | 8.5  | 8  | 9.00  | 9.0  | 26.0 | 0.900                 | 25               |
| 25                                    | M6                | <b>SR256</b>  | 6.2          | 15 | 14.0 | 6.5  | 10 | 7.50  | 7.5  | 30.0 | 1.560                 | 25               |
|                                       | M8                | <b>SR258</b>  | 6.2          | 15 | 16.0 | 8.5  | 10 | 10.00 | 10.0 | 32.0 | 1.700                 | 25               |
| 35                                    | M6                | <b>SR356</b>  | 7.0          | 15 | 14.0 | 6.5  | 10 | 7.50  | 7.5  | 30.0 | 1.200                 | 25               |
|                                       | M8                | <b>SR358</b>  | 7.0          | 15 | 16.0 | 8.5  | 10 | 10.00 | 10.0 | 32.0 | 1.310                 | 25               |
|                                       | M10               | <b>SR3510</b> | 7.0          | 15 | 18.0 | 10.5 | 10 | 12.00 | 12.0 | 34.0 | 1.570                 | 25               |
| 50                                    | M6                | <b>SR506</b>  | 8.5          | 17 | 17.0 | 6.5  | 12 | 7.50  | 7.5  | 32.0 | 1.850                 | 25               |
|                                       | M8                | <b>SR508</b>  | 8.5          | 17 | 17.0 | 8.5  | 12 | 10.00 | 10.0 | 34.0 | 2.000                 | 25               |
|                                       | M10               | <b>SR5010</b> | 8.5          | 17 | 19.0 | 10.5 | 12 | 12.00 | 12.0 | 37.0 | 2.130                 | 25               |

## Butt connectors, Cu, solid conductor type



- ▶ For single-stranded round conductors, e.g. to DIN EN 60228 Cl. 1
- ▶ Also pre-rounded sector shaped conductors
- ▶ Safe and secure connecting of solid conductors

### Characteristics

- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

### Material

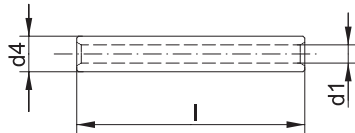
- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

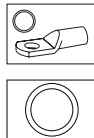
### Technical instructions

- Tool: see page 44



| Nominal cross section<br>mm <sup>2</sup> | Part No.      | Dimension mm |      |    | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|------------------------------------------|---------------|--------------|------|----|-----------------------------|------------------|
|                                          |               | d1           | d4   | l  |                             |                  |
| 1.5-2.5                                  | <b>SV1525</b> | 1.9          | 3.9  | 25 | 0.210                       | 100              |
| 4                                        | <b>SV4</b>    | 2.4          | 4.4  | 25 | 0.240                       | 100              |
| 6                                        | <b>SV6</b>    | 3.0          | 5.0  | 25 | 0.275                       | 100              |
| 10                                       | <b>SV10</b>   | 4.0          | 6.0  | 25 | 0.350                       | 100              |
| 16                                       | <b>SV16</b>   | 5.0          | 8.0  | 35 | 0.960                       | 100              |
| 25                                       | <b>SV25</b>   | 6.2          | 10.0 | 40 | 1.700                       | 50               |
| 35                                       | <b>SV35</b>   | 7.0          | 10.0 | 40 | 1.420                       | 50               |
| 50                                       | <b>SV50</b>   | 8.5          | 12.0 | 70 | 3.550                       | 50               |

## T-connectors, Cu, solid conductor type



- ▶ For single-stranded round conductors, e.g. to DIN EN 60228 Cl. 1
- ▶ Also pre-rounded sector shaped conductors
- ▶ Safe and secure connecting of solid conductors
- ▶ Special version for cable tap conductors

### Characteristics

- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

### Material

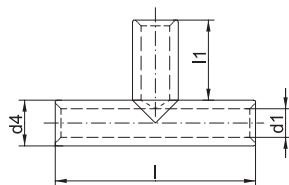
- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

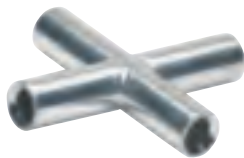
- Tool: see page 44



| Nominal cross section<br>mm <sup>2</sup> | Part No.       | Dimension mm |      |    |    | Draht-Ø mm | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|------------------------------------------|----------------|--------------|------|----|----|------------|-----------------------------|------------------|
|                                          |                | d1           | d4   | l  | l1 |            |                             |                  |
| 1.5-2.5                                  | <b>STV1525</b> | 1.9          | 3.9  | 30 | 12 | 1.38/1.78  | 0.34                        | 50               |
| 4                                        | <b>STV4</b>    | 2.4          | 4.4  | 30 | 12 | 2.25       | 0.40                        | 50               |
| 6                                        | <b>STV6</b>    | 3.0          | 5.0  | 30 | 12 | 2.75       | 0.48                        | 50               |
| 10                                       | <b>STV10</b>   | 4.0          | 6.0  | 35 | 14 | 3.55       | 0.72                        | 50               |
| 16                                       | <b>STV16</b>   | 5.0          | 8.0  | 35 | 14 | 4.5        | 1.40                        | 50               |
| 25                                       | <b>STV25</b>   | 6.2          | 10.0 | 50 | 21 | 5.65       | 3.20                        | 25               |
| 35                                       | <b>STV35</b>   | 7.0          | 10.0 | 55 | 23 | 6.7        | 2.95                        | 25               |
| 50                                       | <b>STV50</b>   | 8.5          | 12.0 | 76 | 32 | 8          | 5.60                        | 25               |



### Cross-connectors, Cu, solid conductor type



- ▶ For single-stranded round conductors, e.g. to DIN EN 60228 Cl. 1
- ▶ Also pre-rounded sector shaped conductors
- ▶ Safe and secure connecting of solid conductors
- ▶ Special version for double cable tap conductors

#### Characteristics

- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

#### Material

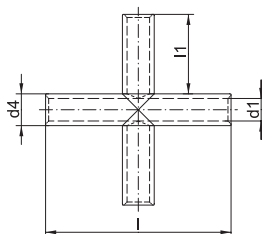
- Copper (EN13600)

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 44



| Nominal cross section mm <sup>2</sup> | Part No.       | Dimension mm |      |    |    | Draht-Ø mm | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|----------------|--------------|------|----|----|------------|-----------------------|------------------|
|                                       |                | d1           | d4   | l  | l1 |            |                       |                  |
| 1.5-2.5                               | <b>SKV1525</b> | 1.9          | 3.9  | 30 | 12 | 1.38/1.78  | 0.47                  | 25               |
| 4                                     | <b>SKV4</b>    | 2.4          | 4.4  | 30 | 12 | 2.25       | 0.56                  | 25               |
| 6                                     | <b>SKV6</b>    | 3.0          | 5.0  | 30 | 12 | 2.75       | 0.67                  | 25               |
| 10                                    | <b>SKV10</b>   | 4.0          | 6.0  | 35 | 14 | 3.55       | 0.92                  | 25               |
| 16                                    | <b>SKV16</b>   | 5.0          | 8.0  | 35 | 14 | 4.5        | 1.86                  | 25               |
| 25                                    | <b>SKV25</b>   | 6.2          | 10.0 | 50 | 21 | 5.65       | 4.20                  | 15               |
| 35                                    | <b>SKV35</b>   | 7.0          | 10.0 | 55 | 23 | 6.7        | 3.80                  | 15               |
| 50                                    | <b>SKV50</b>   | 8.5          | 12.0 | 76 | 32 | 8          | 7.35                  | 15               |



## Tubular cable lugs, Cu, F-series



- ▶ For fine and superfine stranded round conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Pipe dimension adjusted for fine and superfine stranded conductors
- ▶ Special wide opening for the easy entry of fine conductors

### Characteristics

- Annealed material optimises material and crimping properties
- To DIN EN 61373 class 1B vibration-tested
- Simple and safe connection due to flat contact surfaces and internal chamfer
- Reliable assignment owed to item designation on the cable lug

### Material

- Copper (EN13600)

### Surface

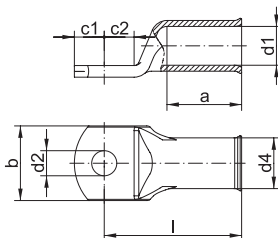
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 42

### Additional information

- Also available as featured article with inspection hole, part number appendix „MS“
- 10 - 240 mm<sup>2</sup> UL-tested



| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No. | Dimension mm |    |    |      |      |       |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------------|----------|--------------|----|----|------|------|-------|------|----|-----------------------|------------------|
|                                       |                   |          | d1           | a  | b  | d2   | d4   | c1    | c2   | l  |                       |                  |
| 10                                    | M5                | 702F5    | 5.5          | 14 | 12 | 5.3  | 8.0  | 6.25  | 7.5  | 27 | 0.72                  | 100              |
|                                       | M6                | 702F6    | 5.5          | 14 | 12 | 6.5  | 8.0  | 6.25  | 7.5  | 27 | 0.71                  | 100              |
|                                       | M8                | 702F8    | 5.5          | 14 | 16 | 8.5  | 8.0  | 8.50  | 9.5  | 29 | 0.77                  | 100              |
|                                       | M10               | 702F10   | 5.5          | 14 | 16 | 10.5 | 8.0  | 10.50 | 11.5 | 31 | 0.82                  | 100              |
|                                       | M12               | 702F12   | 5.5          | 14 | 19 | 13.0 | 8.0  | 12.00 | 13.0 | 32 | 0.82                  | 100              |
| 16                                    | M5                | 703F5    | 6.6          | 15 | 13 | 5.3  | 9.5  | 6.25  | 7.5  | 30 | 1.10                  | 100              |
|                                       | M6                | 703F6    | 6.6          | 15 | 13 | 6.5  | 9.5  | 6.25  | 7.5  | 30 | 1.07                  | 100              |
|                                       | M8                | 703F8    | 6.6          | 15 | 16 | 8.5  | 9.5  | 10.00 | 10.0 | 32 | 1.21                  | 100              |
|                                       | M10               | 703F10   | 6.6          | 15 | 17 | 10.5 | 9.5  | 12.00 | 12.0 | 34 | 1.28                  | 100              |
|                                       | M12               | 703F12   | 6.6          | 15 | 19 | 13.0 | 9.5  | 13.00 | 13.0 | 35 | 1.28                  | 100              |
| 25                                    | M5                | 704F5    | 7.9          | 17 | 15 | 5.3  | 11.0 | 7.50  | 7.5  | 32 | 1.52                  | 25               |
|                                       | M6                | 704F6    | 7.9          | 17 | 15 | 6.5  | 11.0 | 7.50  | 7.5  | 32 | 1.50                  | 100              |
|                                       | M8                | 704F8    | 7.9          | 17 | 17 | 8.5  | 11.0 | 10.00 | 10.0 | 34 | 1.61                  | 100              |
|                                       | M10               | 704F10   | 7.9          | 17 | 17 | 10.5 | 11.0 | 12.00 | 12.0 | 37 | 1.71                  | 100              |
|                                       | M12               | 704F12   | 7.9          | 17 | 19 | 13.0 | 11.0 | 13.00 | 13.0 | 38 | 1.74                  | 25               |
| 35                                    | M6                | 705F6    | 9.2          | 19 | 17 | 6.5  | 12.5 | 7.50  | 7.5  | 35 | 1.91                  | 100              |
|                                       | M8                | 705F8    | 9.2          | 19 | 18 | 8.5  | 12.5 | 10.00 | 10.0 | 37 | 2.08                  | 100              |
|                                       | M10               | 705F10   | 9.2          | 19 | 18 | 10.5 | 12.5 | 12.00 | 12.0 | 40 | 2.24                  | 100              |
|                                       | M12               | 705F12   | 9.2          | 19 | 19 | 13.0 | 12.5 | 13.00 | 13.0 | 41 | 2.22                  | 25               |
|                                       | M14               | 705F14   | 9.2          | 19 | 21 | 15.0 | 12.5 | 14.50 | 14.5 | 43 | 2.41                  | 25               |
| 50                                    | M6                | 706F6    | 11.0         | 21 | 21 | 6.5  | 15.0 | 10.00 | 10.0 | 41 | 3.54                  | 25               |
|                                       | M8                | 706F8    | 11.0         | 21 | 21 | 8.5  | 15.0 | 10.00 | 10.0 | 41 | 3.44                  | 50               |
|                                       | M10               | 706F10   | 11.0         | 21 | 21 | 10.5 | 15.0 | 12.00 | 12.0 | 43 | 3.64                  | 50               |
|                                       | M12               | 706F12   | 11.0         | 21 | 21 | 13.0 | 15.0 | 13.00 | 13.0 | 46 | 3.73                  | 50               |
|                                       | M14               | 706F14   | 11.0         | 21 | 23 | 15.0 | 15.0 | 14.50 | 14.5 | 48 | 3.89                  | 25               |
|                                       | M16               | 706F16   | 11.0         | 21 | 28 | 17.0 | 15.0 | 16.00 | 16.0 | 50 | 4.02                  | 25               |

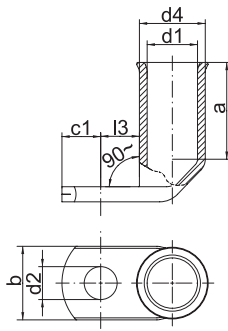
See next page



## Tubular cable lugs, Cu, F-series

| Nominal cross section mm² | Size of bolt dia. | Part No.      | Dimension mm |    |    |      |      |       |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------|-------------------|---------------|--------------|----|----|------|------|-------|------|----|-----------------------|------------------|
|                           |                   |               | d1           | a  | b  | d2   | d4   | c1    | c2   | l  |                       |                  |
| 70                        | M8                | <b>707F8</b>  | 13.0         | 25 | 25 | 8.5  | 17.0 | 10.00 | 10.0 | 46 | 4.46                  | 50               |
|                           | M10               | <b>707F10</b> | 13.0         | 25 | 25 | 10.5 | 17.0 | 12.00 | 12.0 | 48 | 4.62                  | 50               |
|                           | M12               | <b>707F12</b> | 13.0         | 25 | 25 | 13.0 | 17.0 | 13.00 | 13.0 | 50 | 4.71                  | 50               |
|                           | M14               | <b>707F14</b> | 13.0         | 25 | 25 | 15.0 | 17.0 | 14.50 | 14.5 | 52 | 4.87                  | 25               |
|                           | M16               | <b>707F16</b> | 13.0         | 25 | 25 | 17.0 | 17.0 | 16.00 | 16.0 | 54 | 5.85                  | 25               |
| 95                        | M8                | <b>708F8</b>  | 14.5         | 26 | 28 | 8.5  | 19.0 | 12.00 | 12.0 | 52 | 6.35                  | 25               |
|                           | M10               | <b>708F10</b> | 14.5         | 26 | 28 | 10.5 | 19.0 | 12.00 | 12.0 | 52 | 6.23                  | 50               |
|                           | M12               | <b>708F12</b> | 14.5         | 26 | 28 | 13.0 | 19.0 | 13.00 | 13.0 | 53 | 6.31                  | 50               |
|                           | M14               | <b>708F14</b> | 14.5         | 26 | 28 | 15.0 | 19.0 | 14.50 | 14.5 | 55 | 6.46                  | 25               |
|                           | M16               | <b>708F16</b> | 14.5         | 26 | 28 | 17.0 | 19.0 | 16.00 | 16.0 | 56 | 6.56                  | 50               |
| 120                       | M10               | <b>709F10</b> | 16.2         | 30 | 30 | 10.5 | 21.0 | 14.00 | 14.0 | 57 | 8.31                  | 50               |
|                           | M12               | <b>709F12</b> | 16.2         | 30 | 30 | 13.0 | 21.0 | 15.00 | 15.0 | 58 | 8.39                  | 50               |
|                           | M14               | <b>709F14</b> | 16.2         | 30 | 30 | 15.0 | 21.0 | 15.00 | 15.0 | 58 | 8.06                  | 25               |
|                           | M16               | <b>709F16</b> | 16.2         | 30 | 30 | 17.0 | 21.0 | 16.00 | 16.0 | 59 | 8.17                  | 50               |
|                           | M20               | <b>709F20</b> | 16.2         | 30 | 36 | 21.0 | 21.0 | 22.00 | 22.0 | 66 | 9.56                  | 25               |
| 150                       | M10               | <b>710F10</b> | 18.0         | 32 | 34 | 10.5 | 23.0 | 15.00 | 16.0 | 64 | 10.91                 | 10               |
|                           | M12               | <b>710F12</b> | 18.0         | 32 | 34 | 13.0 | 23.0 | 16.00 | 17.0 | 65 | 10.89                 | 25               |
|                           | M14               | <b>710F14</b> | 18.0         | 32 | 34 | 15.0 | 23.0 | 18.00 | 19.0 | 67 | 11.42                 | 10               |
|                           | M16               | <b>710F16</b> | 18.0         | 32 | 34 | 17.0 | 23.0 | 19.00 | 20.0 | 68 | 11.30                 | 10               |
|                           | M20               | <b>710F20</b> | 18.0         | 32 | 40 | 21.0 | 23.0 | 21.00 | 22.0 | 70 | 11.36                 | 10               |
| 185                       | M12               | <b>711F12</b> | 20.6         | 35 | 39 | 13.0 | 26.0 | 21.50 | 19.0 | 72 | 15.40                 | 10               |
|                           | M14               | <b>711F14</b> | 20.6         | 35 | 39 | 15.0 | 26.0 | 21.50 | 19.0 | 72 | 15.20                 | 10               |
|                           | M16               | <b>711F16</b> | 20.6         | 35 | 39 | 17.0 | 26.0 | 21.50 | 19.0 | 72 | 15.00                 | 25               |
|                           | M20               | <b>711F20</b> | 20.6         | 35 | 39 | 21.0 | 26.0 | 21.50 | 19.0 | 72 | 14.20                 | 10               |
| 240                       | M10               | <b>712F10</b> | 23.1         | 44 | 41 | 10.5 | 28.0 | 16.00 | 17.0 | 80 | 16.50                 | 10               |
|                           | M12               | <b>712F12</b> | 23.1         | 44 | 41 | 13.0 | 28.0 | 16.00 | 17.0 | 80 | 16.30                 | 10               |
|                           | M14               | <b>712F14</b> | 23.1         | 44 | 41 | 15.0 | 28.0 | 19.00 | 20.0 | 83 | 16.80                 | 10               |
|                           | M16               | <b>712F16</b> | 23.1         | 44 | 41 | 17.0 | 28.0 | 19.00 | 20.0 | 83 | 16.71                 | 25               |
|                           | M20               | <b>712F20</b> | 23.1         | 44 | 41 | 21.0 | 28.0 | 21.00 | 22.0 | 85 | 17.12                 | 10               |
| 300                       | M12               | <b>713F12</b> | 26.1         | 44 | 47 | 13.0 | 32.0 | 19.00 | 22.0 | 96 | 25.60                 | 5                |
|                           | M14               | <b>713F14</b> | 26.1         | 44 | 47 | 15.0 | 32.0 | 19.00 | 22.0 | 96 | 26.56                 | 5                |
|                           | M16               | <b>713F16</b> | 26.1         | 44 | 47 | 17.0 | 32.0 | 19.00 | 22.0 | 96 | 25.60                 | 5                |
|                           | M20               | <b>713F20</b> | 26.1         | 44 | 47 | 21.0 | 32.0 | 22.00 | 22.0 | 96 | 26.24                 | 5                |

## Angled tubular cable lugs, Cu, 90° angled, F-series



- ▶ For fine and superfine stranded round conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Tube dimension adjusted for fine and superfine stranded conductors
- ▶ Special wide opening for the easy entry of fine conductors
- ▶ Flat contact surface by special angle pressing technology

### Characteristics

- Annealed material optimises material and crimping properties
- Tube dimensions suitable for fine stranded conductors
- Flat contact surface and internal chamfer for simple cable insertion

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 42

### Additional information

- Also available as featured article 45° angled, part number appendix „45“
- Also available as featured article with inspection hole, part number appendix „MS“
- 90° angled version: 10 - 240 mm<sup>2</sup> UL-tested

| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No. | Dimension mm |    |    |      |      |       |      | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------------|----------|--------------|----|----|------|------|-------|------|-----------------------|------------------|
|                                       |                   |          | d1           | a  | b  | d2   | d4   | c1    | l3   |                       |                  |
| 10                                    | M5                | 742F5    | 5.5          | 14 | 12 | 5.3  | 8.0  | 6.25  | 7.5  | 0.80                  | 50               |
|                                       | M6                | 742F6    | 5.5          | 14 | 12 | 6.5  | 8.0  | 6.25  | 7.5  | 0.78                  | 50               |
|                                       | M8                | 742F8    | 5.5          | 14 | 16 | 8.5  | 8.0  | 9.00  | 9.5  | 0.84                  | 50               |
|                                       | M10               | 742F10   | 5.5          | 14 | 16 | 10.5 | 8.0  | 10.50 | 12.0 | 0.88                  | 50               |
|                                       | M12               | 742F12   | 5.5          | 14 | 19 | 13.0 | 8.0  | 12.00 | 13.0 | 0.90                  | 50               |
| 16                                    | M5                | 743F5    | 6.6          | 15 | 13 | 5.3  | 9.5  | 6.25  | 7.5  | 1.12                  | 50               |
|                                       | M6                | 743F6    | 6.6          | 15 | 13 | 6.5  | 9.5  | 6.25  | 7.5  | 1.12                  | 50               |
|                                       | M8                | 743F8    | 6.6          | 15 | 16 | 8.5  | 9.5  | 10.00 | 10.0 | 1.30                  | 50               |
|                                       | M10               | 743F10   | 6.6          | 15 | 17 | 10.5 | 9.5  | 12.00 | 12.0 | 1.38                  | 50               |
|                                       | M12               | 743F12   | 6.6          | 15 | 19 | 13.0 | 9.5  | 13.00 | 13.0 | 1.34                  | 50               |
| 25                                    | M5                | 744F5    | 7.9          | 17 | 15 | 5.3  | 11.0 | 7.50  | 7.5  | 1.52                  | 25               |
|                                       | M6                | 744F6    | 7.9          | 17 | 15 | 6.5  | 11.0 | 7.50  | 7.5  | 1.54                  | 25               |
|                                       | M8                | 744F8    | 7.9          | 17 | 17 | 8.5  | 11.0 | 10.00 | 10.0 | 1.80                  | 25               |
|                                       | M10               | 744F10   | 7.9          | 17 | 17 | 10.5 | 11.0 | 12.00 | 12.0 | 1.79                  | 25               |
|                                       | M12               | 744F12   | 7.9          | 17 | 19 | 13.0 | 11.0 | 13.00 | 13.0 | 1.76                  | 25               |
| 35                                    | M6                | 745F6    | 9.2          | 19 | 17 | 6.5  | 12.5 | 7.50  | 7.5  | 2.02                  | 25               |
|                                       | M8                | 745F8    | 9.2          | 19 | 18 | 8.5  | 12.5 | 10.00 | 10.0 | 2.18                  | 25               |
|                                       | M10               | 745F10   | 9.2          | 19 | 18 | 10.5 | 12.5 | 12.00 | 12.0 | 2.30                  | 25               |
|                                       | M12               | 745F12   | 9.2          | 19 | 19 | 13.0 | 12.5 | 13.00 | 13.0 | 2.26                  | 25               |
|                                       | M14               | 745F14   | 9.2          | 19 | 21 | 15.0 | 12.5 | 14.50 | 14.5 | 2.65                  | 25               |
| 50                                    | M6                | 746F6    | 11.0         | 21 | 21 | 6.5  | 15.0 | 10.00 | 10.0 | 3.75                  | 25               |
|                                       | M8                | 746F8    | 11.0         | 21 | 21 | 8.5  | 15.0 | 10.00 | 10.0 | 3.57                  | 25               |
|                                       | M10               | 746F10   | 11.0         | 21 | 21 | 10.5 | 15.0 | 12.00 | 12.0 | 3.83                  | 25               |
|                                       | M12               | 746F12   | 11.0         | 21 | 21 | 13.0 | 15.0 | 13.00 | 13.0 | 3.74                  | 25               |
|                                       | M14               | 746F14   | 11.0         | 21 | 23 | 15.0 | 15.0 | 14.50 | 14.5 | 4.20                  | 25               |
|                                       | M16               | 746F16   | 11.0         | 21 | 28 | 17.0 | 15.0 | 16.00 | 16.0 | 4.35                  | 25               |

See next page



## Angled tubular cable lugs, Cu, 90° angled, F-series

| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No.      | Dimension mm |    |    |      |      |       |      | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------------|---------------|--------------|----|----|------|------|-------|------|-----------------------|------------------|
|                                       |                   |               | d1           | a  | b  | d2   | d4   | c1    | l3   |                       |                  |
| 70                                    | M8                | <b>747F8</b>  | 13.0         | 25 | 25 | 8.5  | 17.0 | 10.00 | 10.0 | 4.83                  | 25               |
|                                       | M10               | <b>747F10</b> | 13.0         | 25 | 25 | 11.0 | 17.0 | 12.00 | 12.0 | 5.18                  | 25               |
|                                       | M12               | <b>747F12</b> | 13.0         | 25 | 25 | 13.0 | 17.0 | 13.00 | 13.0 | 5.16                  | 25               |
|                                       | M14               | <b>747F14</b> | 13.0         | 25 | 25 | 15.0 | 17.0 | 14.50 | 14.5 | 5.38                  | 25               |
|                                       | M16               | <b>747F16</b> | 13.0         | 25 | 25 | 17.0 | 17.0 | 16.00 | 16.0 | 6.50                  | 25               |
| 95                                    | M8                | <b>748F8</b>  | 14.5         | 26 | 28 | 8.5  | 19.0 | 12.00 | 12.0 | 6.66                  | 25               |
|                                       | M10               | <b>748F10</b> | 14.5         | 26 | 28 | 11.0 | 19.0 | 12.00 | 12.0 | 6.04                  | 25               |
|                                       | M12               | <b>748F12</b> | 14.5         | 26 | 28 | 13.0 | 19.0 | 13.00 | 13.0 | 6.58                  | 25               |
|                                       | M14               | <b>748F14</b> | 14.5         | 26 | 28 | 15.0 | 19.0 | 14.50 | 14.5 | 7.24                  | 25               |
|                                       | M16               | <b>748F16</b> | 14.5         | 26 | 28 | 17.0 | 19.0 | 16.00 | 16.0 | 7.34                  | 25               |
| 120                                   | M10               | <b>749F10</b> | 16.2         | 30 | 30 | 11.0 | 21.0 | 14.00 | 14.0 | 8.76                  | 10               |
|                                       | M12               | <b>749F12</b> | 16.2         | 30 | 30 | 13.0 | 21.0 | 15.00 | 15.0 | 8.76                  | 10               |
|                                       | M14               | <b>749F14</b> | 16.2         | 30 | 30 | 15.0 | 21.0 | 15.00 | 15.0 | 9.15                  | 10               |
|                                       | M16               | <b>749F16</b> | 16.2         | 30 | 30 | 17.0 | 21.0 | 16.00 | 16.0 | 8.54                  | 10               |
|                                       | M20               | <b>749F20</b> | 16.2         | 30 | 36 | 21.0 | 21.0 | 22.00 | 22.0 | 9.60                  | 10               |
| 150                                   | M10               | <b>750F10</b> | 18.0         | 32 | 34 | 11.0 | 23.0 | 15.00 | 16.0 | 11.54                 | 10               |
|                                       | M12               | <b>750F12</b> | 18.0         | 32 | 34 | 13.0 | 23.0 | 16.00 | 18.0 | 11.58                 | 10               |
|                                       | M14               | <b>750F14</b> | 18.0         | 32 | 34 | 15.0 | 23.0 | 18.00 | 19.0 | 11.90                 | 10               |
|                                       | M16               | <b>750F16</b> | 18.0         | 32 | 34 | 17.0 | 23.0 | 19.00 | 20.0 | 11.80                 | 10               |
|                                       | M20               | <b>750F20</b> | 18.0         | 32 | 40 | 21.0 | 23.0 | 21.00 | 22.0 | 12.00                 | 10               |
| 185                                   | M12               | <b>751F12</b> | 20.6         | 35 | 39 | 13.0 | 26.0 | 21.50 | 19.0 | 16.36                 | 10               |
|                                       | M14               | <b>751F14</b> | 20.6         | 35 | 39 | 15.0 | 26.0 | 21.50 | 19.0 | 16.20                 | 10               |
|                                       | M16               | <b>751F16</b> | 20.6         | 35 | 39 | 17.0 | 26.0 | 21.50 | 19.0 | 15.36                 | 10               |
|                                       | M20               | <b>751F20</b> | 20.6         | 35 | 39 | 21.0 | 26.0 | 21.50 | 19.0 | 15.80                 | 10               |
| 240                                   | M16               | <b>752F16</b> | 23.1         | 44 | 41 | 17.0 | 28.0 | 19.00 | 20.0 | 17.80                 | 5                |

## Butt connectors, Cu, F-series



- ▶ For fine and superfine stranded round conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Pipe dimension adjusted for fine and superfine stranded conductors
- ▶ Special wide opening for the easy entry of fine conductors

### Characteristics

- Simple and safe processing due to butt mark
- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

### Material

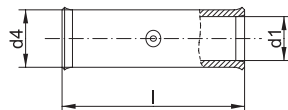
- Copper (EN13600)

### Surface

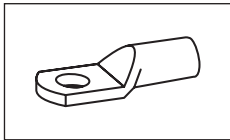
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 42



| Nominal cross section<br>mm <sup>2</sup> | Part<br>No. | Dimension mm |      |    | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|------------------------------------------|-------------|--------------|------|----|-----------------------------|------------------|
|                                          |             | d1           | d4   | l  |                             |                  |
| 10                                       | <b>722F</b> | 5.5          | 8.0  | 38 | 0.90                        | 100              |
| 16                                       | <b>723F</b> | 6.6          | 9.5  | 38 | 1.25                        | 100              |
| 25                                       | <b>724F</b> | 7.9          | 11.0 | 38 | 1.56                        | 50               |
| 35                                       | <b>725F</b> | 9.2          | 12.5 | 45 | 2.19                        | 50               |
| 50                                       | <b>726F</b> | 11.0         | 15.0 | 45 | 3.37                        | 50               |
| 70                                       | <b>727F</b> | 13.0         | 17.0 | 54 | 4.65                        | 50               |
| 95                                       | <b>728F</b> | 14.5         | 19.0 | 56 | 6.05                        | 25               |
| 120                                      | <b>729F</b> | 16.2         | 21.0 | 60 | 7.58                        | 25               |
| 150                                      | <b>730F</b> | 18.0         | 23.0 | 68 | 9.83                        | 10               |
| 185                                      | <b>731F</b> | 20.6         | 26.0 | 75 | 13.30                       | 10               |

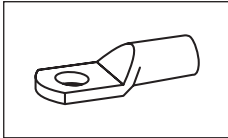


## Tool application chart

**Tubular cable lugs, butt connectors, parallel connectors and T-connectors „standard type“ and tubular cable lugs for switchgear connections made from Cu**  
Part 1 of 2

| Tool type                                                                          | Crimping range corresponds to nominal cross-section mm <sup>2</sup> | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                    |                                                                     | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical crimping tools                                                          | 0.75 - 16                                                           | K2            |                         | 229            |              |               |
|                                                                                    | 1 - 4                                                               | K511          |                         | 239            |              |               |
|                                                                                    | 6 - 50                                                              | K5            |                         | 231            |              |               |
|                                                                                    |                                                                     | K05           |                         | 235            |              |               |
|                                                                                    | 6 + 10                                                              | K512          |                         | 239            |              |               |
|                                                                                    | 10 - 25                                                             | K04           |                         | 234            |              |               |
|                                                                                    | 10 - 120                                                            | K06           |                         | 236            |              |               |
|                                                                                    |                                                                     | K95           |                         | 230            |              |               |
|                                                                                    | 16 - 95                                                             | TK95          |                         | 231            |              |               |
|                                                                                    | 25 - 150                                                            | K09           |                         | 238            |              |               |
|                                                                                    | 50 - 120                                                            | K6            |                         | 232            |              |               |
|                                                                                    | 120 - 240                                                           | K7            |                         | 233            |              |               |
|                                                                                    | 185 - 400                                                           | K07           |                         | 232            |              |               |
| Mechanical, electrical, pneumatic crimping tools with interchangeable dies / heads | 0.75 - 2.5                                                          | KP1           | +KP232                  | 240            |              |               |
|                                                                                    |                                                                     | KP1L          | +KP232                  | 240            |              |               |
|                                                                                    | 0.75 - 10                                                           | K50           |                         | 244            | 326          |               |
|                                                                                    |                                                                     | EK50ML        |                         | 254            | 326          |               |
|                                                                                    | 4 - 10                                                              | KP1           | +KP242                  | 240            |              |               |
|                                                                                    |                                                                     | KP1L          | +KP242                  | 240            |              |               |
|                                                                                    | 6 - 150                                                             | K354          |                         | 246            | 328          |               |
|                                                                                    | 6 - 185                                                             | K18           |                         | 248            | 337          |               |
|                                                                                    | 6 - 300                                                             | K22           |                         | 250            | 341          |               |
| Hand hydraulic crimping tools                                                      | 6 - 185                                                             | HK6018        |                         | 292            | 337          |               |
|                                                                                    |                                                                     | HK60UNV       | +UA18                   | 473            | 337          |               |
|                                                                                    | 6 - 300                                                             | HK6022        |                         | 294            | 341          |               |
|                                                                                    |                                                                     | HK60UNV       | +UA22                   | 473            | 341          |               |
|                                                                                    | 10 - 240                                                            | HK60VP        |                         | 296            |              |               |
|                                                                                    | 16 - 300                                                            | HK60VPFT      |                         | 297            |              |               |
|                                                                                    | 16 - 400                                                            | HK12030       |                         | 298            | 347          |               |
|                                                                                    |                                                                     | HK12042       |                         | 300            | 347          |               |
|                                                                                    |                                                                     | HK120U        |                         | 302            | 347          |               |
| Battery powered crimping tools                                                     | 0.75 - 10                                                           | EK1550ML      |                         | 258            | 326          |               |
|                                                                                    | 6 - 150                                                             | EK354ML       |                         | 262            | 328          |               |
|                                                                                    |                                                                     | EK354         |                         | 266            | 328          |               |
|                                                                                    | 6 - 185                                                             | EK5018        |                         | 270            | 337          |               |
|                                                                                    |                                                                     | EK60UNV       | +UA18                   | 476            | 337          |               |
|                                                                                    |                                                                     | EKM60UNV      | +UA18                   | 475            | 337          |               |
|                                                                                    | 6 - 240                                                             | EK505         |                         | 268            | 333          |               |
|                                                                                    |                                                                     |               |                         |                |              |               |

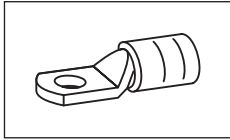
See next page



## Tool application chart

**Tubular cable lugs, butt connectors, parallel connectors and T-connectors „standard type“ and tubular cable lugs for switchgear connections made from Cu**  
Part 2 of 2

| Tool type                      | Crimping range corresponds to nominal cross-section mm² | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|--------------------------------|---------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                |                                                         | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Battery powered crimping tools | 6 - 300                                                 | EK6022        |                         | 274            | 341          | ⬡             |
|                                |                                                         | EKM6022       |                         | 272            | 341          | ⬡             |
|                                |                                                         | EK60UNV       | +UA22                   | 476            | 341          | ⬡             |
|                                |                                                         | EKM60UNV      | +UA22                   | 475            | 341          | ⬡             |
|                                | 10 - 240                                                | EK60VP        |                         | 276            |              | ⬢             |
|                                |                                                         | EKM60ID       |                         | 278            |              | ⬢             |
|                                | 16 - 300                                                | EK60VPFT      |                         | 277            |              | ⬢             |
|                                | 16 - 400                                                | EK12032       |                         | 280            | 347          | ⬡             |
|                                |                                                         | EK12042       |                         | 282            | 347          | ⬡             |
|                                |                                                         | EK120U        |                         | 284            | 347          | ⬡             |
|                                |                                                         | EK135FT       | +UA12T                  | 286            | 347          | ⬡             |
|                                |                                                         | EK120UNV      | +UA15T                  | 477            | 347          | ⬡             |
|                                | 35 - 500                                                | EK120ID       |                         | 279            |              | ⬢             |
|                                | 500 - 630                                               | EK135FT       |                         | 286            | 352          | ⬡             |
| Hydraulic crimping systems     | 6 - 185                                                 | THK18         |                         | 306            | 337          | ⬡             |
|                                | 6 - 300                                                 | THK22         |                         | 308            | 341          | ⬡             |
|                                | 16 - 400                                                | HK122EL380    |                         | 322            | 347          | ⬡             |
|                                |                                                         | HK252         |                         | 320            | 353          | ⬡             |
|                                |                                                         | HK252EL380    |                         | 322            | 353          | ⬡             |
| Hydraulic crimping heads       | 6 - 185                                                 | PK18          |                         | 306            | 337          | ⬡             |
|                                |                                                         | PK60UNV       | +UA18                   | 474            | 337          | ⬡             |
|                                | 6 - 300                                                 | PK22          |                         | 308            | 341          | ⬡             |
|                                |                                                         | PK60UNV       | +UA22                   | 474            | 341          | ⬡             |
|                                | 10 - 240                                                | PK60VP        |                         | 310            |              | ⬢             |
|                                |                                                         | PK60ID        |                         | 311            |              | ⬢             |
|                                | 16 - 300                                                | PK60VPFT      |                         | 310            |              | ⬢             |
|                                | 16 - 400                                                | PK12042       |                         | 312            | 347          | ⬡             |
|                                |                                                         | PK120U        |                         | 314            | 347          | ⬡             |
|                                |                                                         | PK252         |                         | 316            | 353          | ⬡             |

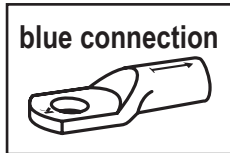


## Tool application chart

### Insulated tubular cable lugs and butt connectors „standard type“

| Tool type                                                                                   | Crimping range<br>corresponds to nominal<br>cross-section mm² | Crimping Tool |                            | Catalogue page |              | Crimp profile |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------|
|                                                                                             |                                                               | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |               |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>dies / heads | 10 - 70                                                       | K354          |                            | 246            | 328          | ○             |
|                                                                                             | 10 - 95                                                       | K18           |                            | 248            | 337          | ○             |
|                                                                                             | 10 - 150                                                      | K22           |                            | 250            | 341          | ○             |
| Hand hydraulic<br>crimping tools                                                            | 10 - 95                                                       | HK6018        |                            | 292            | 337          | ○             |
|                                                                                             |                                                               | HK60UNV       | +UA18                      | 473            | 337          | ○             |
|                                                                                             | 10 - 150                                                      | HK6022        |                            | 294            | 341          | ○             |
|                                                                                             |                                                               | HK60UNV       | +UA22                      | 473            | 341          | ○             |
|                                                                                             |                                                               | HK12030       |                            | 298            | 347          | ○             |
|                                                                                             |                                                               | HK12042       |                            | 300            | 347          | ○             |
|                                                                                             |                                                               | HK120U        |                            | 302            | 347          | ○             |
| Battery powered<br>crimping tools                                                           | 10 - 70                                                       | EK354ML       |                            | 262            | 328          | ○             |
|                                                                                             |                                                               | EK354         |                            | 266            | 328          | ○             |
|                                                                                             | 10 - 95                                                       | EK5018        |                            | 270            | 337          | ○             |
|                                                                                             |                                                               | EK505         |                            | 268            | 333          | ○             |
|                                                                                             |                                                               | EK60UNV       | +UA18                      | 476            | 337          | ○             |
|                                                                                             |                                                               | EKM60UNV      | +UA18                      | 475            | 337          | ○             |
|                                                                                             | 10 - 150                                                      | EK6022        |                            | 274            | 341          | ○             |
|                                                                                             |                                                               | EKM6022       |                            | 272            | 341          | ○             |
|                                                                                             |                                                               | EK60UNV       | +UA22                      | 476            | 341          | ○             |
|                                                                                             |                                                               | EKM60UNV      | +UA22                      | 475            | 341          | ○             |
|                                                                                             |                                                               | EK12032       |                            | 280            | 347          | ○             |
|                                                                                             |                                                               | EK12042       |                            | 282            | 347          | ○             |
|                                                                                             |                                                               | EK120U        |                            | 284            | 347          | ○             |
|                                                                                             |                                                               | EK135FT       | +UA15T                     | 286            | 347          | ○             |
|                                                                                             |                                                               | EK120UNV      | +UA12T                     | 477            | 347          | ○             |
| Hydraulic<br>crimping systems                                                               | 10 - 95                                                       | THK18         |                            | 306            | 337          | ○             |
|                                                                                             | 10 - 150                                                      | THK22         |                            | 308            | 341          | ○             |
|                                                                                             |                                                               | HK122EL380    |                            | 322            | 347          | ○             |
|                                                                                             |                                                               | HK252EL380    |                            | 323            | 353          | ○             |
|                                                                                             |                                                               | HK252         |                            | 320            | 353          | ○             |
| Hydraulic<br>crimping heads                                                                 | 10 - 95                                                       | PK18          |                            | 306            | 337          | ○             |
|                                                                                             |                                                               | PK60UNV       | +UA18                      | 474            | 337          | ○             |
|                                                                                             | 10 - 150                                                      | PK22          |                            | 308            | 341          | ○             |
|                                                                                             |                                                               | PK60UNV       | +UA22                      | 474            | 341          | ○             |
|                                                                                             |                                                               | PK12042       |                            | 312            | 347          | ○             |
|                                                                                             |                                                               | PK120U        |                            | 314            | 347          | ○             |
|                                                                                             |                                                               | PK252         |                            | 316            | 353          | ○             |

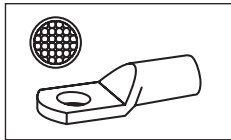




## Tool application chart

### Tubular cable lugs and butt connectors blue connection®

| Tool type                                                                                   | Crimping range<br>corresponds to nominal<br>cross-section mm² | Crimping Tool |                            | Catalogue page |              | Crimp profile |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------|
|                                                                                             |                                                               | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |               |
| Mechanical<br>crimping tools                                                                | 6 - 50                                                        | K05BC         |                            | 234            |              | ⬡             |
|                                                                                             | 6 - 300                                                       | K22           |                            | 250            | 342          | ⬡             |
|                                                                                             | 10 - 120                                                      | K06BC         |                            | 236            |              | ⬡             |
|                                                                                             | 25 - 150                                                      | K09BC         |                            | 237            |              | ⬡             |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>dies / heads | 6 - 150                                                       | K354          |                            | 246            | 329          | ⬡             |
| Hand hydraulic<br>crimping tools                                                            | 6 - 240                                                       | HK60UNV       | +UA5                       | 473            | 333          | ⬡             |
|                                                                                             | 6 - 300                                                       | HK6022        |                            | 294            | 342          | ⬡             |
|                                                                                             |                                                               | HK60UNV       | +UA22                      | 473            | 342          | ⬡             |
| Battery powered<br>crimping tools                                                           | 6 - 150                                                       | EK354ML       |                            | 262            | 329          | ⬡             |
|                                                                                             |                                                               | EK354         |                            | 266            | 329          | ⬡             |
|                                                                                             | 6 - 240                                                       | EK505         |                            | 268            | 333          | ⬡             |
|                                                                                             |                                                               | EKM60UNV      | +UA5                       | 475            | 333          | ⬡             |
|                                                                                             |                                                               | EK60UNV       | +UA5                       | 475            | 333          | ⬡             |
|                                                                                             | 6 - 300                                                       | EK6022        |                            | 274            | 342          | ⬡             |
|                                                                                             |                                                               | EKM6022       |                            | 272            | 342          | ⬡             |
|                                                                                             |                                                               | EKM60UNV      | +UA22                      | 475            | 342          | ⬡             |
|                                                                                             |                                                               | EK60UNV       | +UA22                      | 476            | 342          | ⬡             |
| Hydraulic<br>crimping systems                                                               | 6 - 300                                                       | THK22         |                            | 308            | 342          | ⬡             |
|                                                                                             | 16 - 400                                                      | HK122EL380    |                            | 322            |              | ⬡             |
| Hydraulic<br>crimping heads                                                                 | 6 - 300                                                       | PK22          |                            | 308            | 342          | ⬡             |
|                                                                                             |                                                               | PK60UNV       | +UA22                      | 474            | 342          | ⬡             |



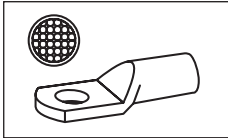
## Tool application chart

### Tubular cable lugs and butt connectors for fine stranded conductors

#### Part 1 of 2

| Tool type                                                                                   | Crimping range<br>corresponds to nominal<br>cross-section mm² | Crimping Tool |                            | Catalogue page |              | Crimp profile                                                                         |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------------------------------------------------------------------------------|
|                                                                                             |                                                               | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |                                                                                       |
| Mechanical<br>crimping tools                                                                | 6 - 50                                                        | K5            |                            | 231            |              |    |
|                                                                                             | 16 - 95                                                       | K95           |                            | 230            |              |    |
|                                                                                             |                                                               | TK95          |                            | 231            |              |    |
|                                                                                             | 50 - 120                                                      | K6            |                            | 232            |              |    |
|                                                                                             | 120 - 240                                                     | K7            |                            | 233            |              |    |
|                                                                                             | 185 - 400                                                     | K07           |                            | 232            |              |    |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>dies / heads | 10 - 35                                                       | K354          |                            | 246            | 329          |    |
|                                                                                             | 10 - 50                                                       | K18           |                            | 248            | 337          |    |
|                                                                                             | 10 - 70                                                       | K22           |                            | 250            | 342          |    |
| Hand hydraulic<br>crimping tools                                                            | 10 - 50                                                       | HK6018        |                            | 292            | 337          |    |
|                                                                                             |                                                               | HK60UNV       | +UA18                      | 473            | 337          |    |
|                                                                                             | 10 - 70                                                       | HK6022        |                            | 294            | 342          |    |
|                                                                                             |                                                               | HK60UNV       | +UA22                      | 473            | 342          |    |
|                                                                                             | 10 - 240                                                      | HK60VP        |                            | 296            |              |   |
|                                                                                             | 16 - 150                                                      | HK12030       |                            | 298            | 348          |  |
|                                                                                             |                                                               | HK12042       |                            | 300            | 348          |  |
|                                                                                             |                                                               | HK120U        |                            | 302            | 348          |  |
|                                                                                             | 16 - 300                                                      | HK60VPFT      |                            | 297            |              |  |
|                                                                                             | Battery powered<br>crimping tools                             | 10 - 35       | EK354ML                    |                | 262          | 329                                                                                   |
| EK354                                                                                       |                                                               |               |                            | 266            | 329          |  |
| 10 - 50                                                                                     |                                                               | EK505         |                            | 268            | 334          |  |
|                                                                                             |                                                               | EK5018        |                            | 270            | 337          |  |
|                                                                                             |                                                               | EK60UNV       | +UA18                      | 476            | 337          |  |
|                                                                                             |                                                               | EKM60UNV      | +UA18                      | 475            | 337          |  |
| 10 - 70                                                                                     |                                                               | EK6022        |                            | 274            | 342          |  |
|                                                                                             |                                                               | EKM6022       |                            | 272            | 342          |  |
|                                                                                             |                                                               | EK60UNV       | +UA22                      | 476            | 342          |  |
|                                                                                             |                                                               | EKM60UNV      | +UA22                      | 475            | 342          |  |
| 10 - 240                                                                                    |                                                               | EK60VP        |                            | 276            |              |  |
|                                                                                             |                                                               | EKM60ID       |                            | 278            |              |  |
| 16 - 150                                                                                    |                                                               | EK12032       |                            | 280            | 348          |  |
|                                                                                             |                                                               | EK12042       |                            | 282            | 348          |  |
|                                                                                             |                                                               | EK120U        |                            | 284            | 348          |  |
|                                                                                             |                                                               | EK135FT       | +UA15T                     | 286            | 348          |  |
|                                                                                             |                                                               | EK120UNV      | +UA12T                     | 322            | 348          |  |
| 16 - 300                                                                                    |                                                               | EK60VPFT      |                            | 277            |              |  |
| 35 - 500                                                                                    |                                                               | EK120ID       |                            | 279            |              |  |
| Hydraulic<br>crimping systems                                                               |                                                               | 10 - 50       | THK18                      |                | 306          | 337                                                                                   |
|                                                                                             | 10 - 70                                                       | THK22         |                            | 308            | 342          |  |
|                                                                                             | 16 - 300                                                      | HK252         |                            | 320            | 354          |  |
|                                                                                             |                                                               | HK252EL380    |                            | 323            | 354          |  |

See next page

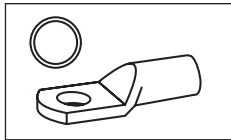


## Tool application chart

### Tubular cable lugs and butt connectors for fine stranded conductors

#### Part 2 of 2

| Tool type                   | Crimping range<br>corresponds to nominal<br>cross-section mm <sup>2</sup> | Crimping Tool |                            | Catalogue page |              | Crimp profile |
|-----------------------------|---------------------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------|
|                             |                                                                           | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |               |
| Hydraulic<br>crimping heads | 10 - 50                                                                   | PK18          |                            | 306            | 337          |               |
|                             |                                                                           | PK60UNV       | +UA18                      | 474            | 337          |               |
|                             | 10 - 70                                                                   | PK22          |                            | 308            | 342          |               |
|                             |                                                                           | PK60UNV       | +UA22                      | 474            | 342          |               |
|                             | 10 - 240                                                                  | PK60VP        |                            | 310            |              |               |
|                             |                                                                           | PK60ID        |                            | 311            |              |               |
|                             | 16 - 150                                                                  | PK12042       |                            | 312            | 348          |               |
|                             |                                                                           | PK120U        |                            | 314            | 348          |               |
|                             | 16 - 300                                                                  | PK60VPFT      |                            | 310            |              |               |
|                             |                                                                           | PK252         |                            | 316            | 354          |               |



## Tool application chart

### Tubular cable lugs and butt connectors for solid conductors

| Tool type                                                                          | Crimping range corresponds to nominal cross-section mm <sup>2</sup> | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                    |                                                                     | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical crimping tools                                                          | 0.75-16                                                             | K02           |                         | 229            |              |               |
|                                                                                    | 1.5-4                                                               | K93           |                         | 228            |              |               |
|                                                                                    | 6-10                                                                | K94           |                         | 228            |              |               |
|                                                                                    | 25-50*                                                              | K05           |                         | 235            |              |               |
| Mechanical, electrical, pneumatic crimping tools with interchangeable dies / heads | 1.5-10                                                              | K50           |                         | 244            | 326          |               |
|                                                                                    |                                                                     | EK50ML        |                         | 254            | 326          |               |
|                                                                                    | 1.5-16                                                              | K354          |                         | 246            | 329          |               |
|                                                                                    |                                                                     | K18           |                         | 248            | 338          |               |
|                                                                                    |                                                                     | K22           |                         | 250            | 342          |               |
| Hand hydraulic crimping tools                                                      | 1.5-16                                                              | HK6018        |                         | 292            | 338          |               |
|                                                                                    |                                                                     | HK60UNV       | +UA18                   | 473            | 338          |               |
|                                                                                    |                                                                     | HK6022        |                         | 294            | 342          |               |
|                                                                                    |                                                                     | HK60UNV       | +UA22                   | 473            | 342          |               |
| Battery powered crimping tools                                                     | 1.5-10                                                              | EK1550ML      |                         | 258            | 326          |               |
|                                                                                    | 1.5-16                                                              | EK354ML       |                         | 262            | 329          |               |
|                                                                                    |                                                                     | EK354         |                         | 266            | 329          |               |
|                                                                                    |                                                                     | EK5018        |                         | 270            | 338          |               |
|                                                                                    |                                                                     | EK60UNV       | +UA18                   | 476            | 338          |               |
|                                                                                    |                                                                     | EKM60UNV      | +UA18                   | 475            | 338          |               |
|                                                                                    |                                                                     | EK6022        |                         | 274            | 342          |               |
|                                                                                    |                                                                     | EKM6022       |                         | 272            | 342          |               |
|                                                                                    |                                                                     | EK60UNV       | +UA22                   | 476            | 342          |               |
|                                                                                    |                                                                     | EKM60UNV      | +UA22                   | 475            | 342          |               |
| Hydraulic crimping systems                                                         | 1.5-16                                                              | THK18         |                         | 306            | 338          |               |
|                                                                                    |                                                                     | THK22         |                         | 308            | 342          |               |
| Hydraulic crimping heads                                                           | 1.5-16                                                              | PK18          |                         | 306            | 338          |               |
|                                                                                    |                                                                     | PK60UNV       | +UA18                   | 474            | 338          |               |
|                                                                                    |                                                                     | PK22          |                         | 308            | 342          |               |
|                                                                                    |                                                                     | PK60UNV       | +UA22                   | 474            | 342          |               |

\*For cross-sections 25 + 35 mm<sup>2</sup> use the die size 25 mm<sup>2</sup>.  
 For cross-section 50 mm<sup>2</sup> use the die size 35 mm<sup>2</sup>.  
 We recommend 2 crimps on each side





# THE RESISTANT – TUBULAR CABLE LUGS AND CONNECTORS, NICKEL OR STAINLESS STEEL

We also develop for use in tough conditions. Our tubular cable lugs and connectors made from nickel and stainless steel are a cut above: withstanding temperatures of up to 650 °C, our Klauke products have without doubt developed to meet the requirements of the chemical industry, the foodstuff sector and foodstuff industry. You can also rely on our high-quality products for special applications. We know what we are doing.



## In brief

- ▶ Tough to 650 °C
- ▶ Suitable for the chemical and foodstuff industry sectors, for instance
- ▶ Suitable even for aggressive environments, such as contact with salt water

### ► When things get hot: Nickel cable lugs

Nickel cable lugs are especially suitable for use in applications at high temperatures of up to 650 °C. Thanks to their high resilience they no longer need to be frequently replaced at connections exposed to heat.

- High-quality nickel
- Heat-resistant to 650 °C
- No constant replacement of the cable lug at hot locations



### ► Safe in aggressive environments with stainless steel

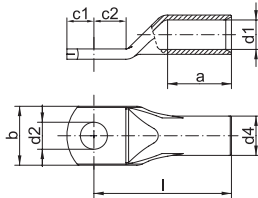
High-quality stainless steel ensures extra resilience, especially in aggressive environments. The resistance is retained.

- High-quality V2A and V4A stainless steel
- Acid resistant
- Can be used at temperatures to 400 °C
- V2A stainless steel for the chemical and foodstuff sectors and salt water applications
- V4A stainless steel in chlorinated environments such as swimming pools, for instance





### Tubular cable lugs, stainless steel



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded stranded sector shaped conductors
- ▶ Ideal for aggressive environmental conditions, acid and rust-resistant
- ▶ Heat resistant up to 400 °C

#### Characteristics

- Simple and safe connection due to flat contact surfaces and internal chamfer

#### Material

- V2A (X5CrNi18-10)

#### Technical instructions

- Tool: see page 53

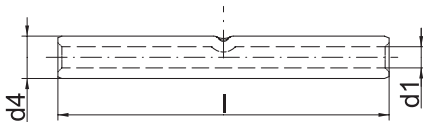
#### Additional information

- Also available as featured article in stainless steel V4A (X5CrNiMo17-12-2)

| Nominal cross section mm <sup>2</sup> | Size of bolt dia. | Part No.     | Dimension mm |    |      |     |     |      |      |    | Weight/ 100 pcs. ~ kg | Packing unit/ pcs |
|---------------------------------------|-------------------|--------------|--------------|----|------|-----|-----|------|------|----|-----------------------|-------------------|
|                                       |                   |              | d1           | a  | b    | c1  | c2  | d2   | d4   | l  |                       |                   |
| 0.5 - 1                               | M4                | <b>79V4</b>  | 1.6          | 6  | 6.5  | 4.5 | 4.5 | 4.3  | 3.2  | 13 | 0.080                 | 100               |
|                                       | M5                | <b>79V5</b>  | 1.6          | 6  | 7.5  | 5   | 5.5 | 5.3  | 3.2  | 14 | 0.080                 | 100               |
| 1.5 - 2.5                             | M4                | <b>80V4</b>  | 3.0          | 8  | 9.0  | 5   | 5.5 | 4.3  | 5.0  | 17 | 0.260                 | 100               |
|                                       | M5                | <b>80V5</b>  | 3.0          | 8  | 9.0  | 5   | 6   | 5.5  | 5.0  | 17 | 0.190                 | 100               |
|                                       | M6                | <b>80V6</b>  | 3.0          | 8  | 9.5  | 6.5 | 6.5 | 6.5  | 5.0  | 19 | 0.215                 | 100               |
| 4 - 6                                 | M4                | <b>81V4</b>  | 4.0          | 9  | 9.0  | 5   | 5.5 | 4.3  | 6.0  | 18 | 0.260                 | 100               |
|                                       | M5                | <b>81V5</b>  | 4.0          | 9  | 9.5  | 6   | 6   | 5.5  | 6.0  | 19 | 0.280                 | 100               |
|                                       | M6                | <b>81V6</b>  | 4.0          | 9  | 10.0 | 7   | 6.5 | 6.5  | 6.0  | 19 | 0.280                 | 100               |
| 10                                    | M5                | <b>82V5</b>  | 5.0          | 10 | 12.5 | 6.5 | 7.5 | 5.5  | 8.0  | 22 | 0.710                 | 100               |
|                                       | M6                | <b>82V6</b>  | 5.0          | 10 | 12.5 | 6.5 | 7.5 | 6.5  | 8.0  | 22 | 0.780                 | 100               |
|                                       | M8                | <b>82V8</b>  | 5.0          | 10 | 15.0 | 9   | 10  | 8.5  | 8.0  | 25 | 0.780                 | 100               |
| 16                                    | M5                | <b>83V5</b>  | 6.0          | 13 | 12.0 | 5.5 | 6.5 | 5.5  | 8.0  | 28 | 0.500                 | 50                |
|                                       | M6                | <b>83V6</b>  | 6.0          | 13 | 12.0 | 6   | 7.5 | 6.5  | 8.0  | 28 | 0.550                 | 50                |
|                                       | M8                | <b>83V8</b>  | 6.0          | 13 | 15.0 | 8.5 | 9.5 | 8.5  | 8.0  | 29 | 0.600                 | 50                |
| 25                                    | M6                | <b>84V6</b>  | 7.0          | 15 | 14.0 | 7.5 | 7.5 | 6.5  | 10.0 | 30 | 1.210                 | 50                |
|                                       | M8                | <b>84V8</b>  | 7.0          | 15 | 16.0 | 9   | 10  | 8.5  | 10.0 | 32 | 1.850                 | 50                |
| 35                                    | M6                | <b>85V6</b>  | 9.0          | 17 | 17.0 | 7.5 | 7.5 | 6.5  | 12.0 | 32 | 1.600                 | 50                |
|                                       | M8                | <b>85V8</b>  | 9.0          | 17 | 17.0 | 10  | 10  | 8.5  | 12.0 | 35 | 1.850                 | 50                |
| 50                                    | M6                | <b>86V6</b>  | 10.0         | 19 | 20.0 | 10  | 10  | 6.5  | 14.0 | 37 | 2.800                 | 50                |
|                                       | M8                | <b>86V8</b>  | 10.0         | 19 | 20.0 | 10  | 10  | 8.5  | 14.0 | 37 | 2.600                 | 50                |
|                                       | M10               | <b>86V10</b> | 10.0         | 19 | 20.0 | 12  | 12  | 10.5 | 14.0 | 39 | 2.800                 | 50                |
|                                       | M12               | <b>86V12</b> | 10.0         | 19 | 20.0 | 13  | 13  | 13.0 | 14.0 | 43 | 2.960                 | 50                |
| 70                                    | M8                | <b>87V8</b>  | 12.0         | 21 | 23.0 | 10  | 10  | 8.5  | 16.0 | 43 | 3.650                 | 25                |
|                                       | M10               | <b>87V10</b> | 12.0         | 21 | 23.0 | 12  | 12  | 10.5 | 16.0 | 44 | 3.930                 | 25                |
|                                       | M12               | <b>87V12</b> | 12.0         | 21 | 23.0 | 13  | 13  | 13.0 | 16.0 | 46 | 3.850                 | 25                |
|                                       | M16               | <b>87V16</b> | 12.0         | 21 | 26.0 | 16  | 16  | 17.0 | 16.0 | 46 | 3.960                 | 25                |
| 95                                    | M8                | <b>88V8</b>  | 14.0         | 25 | 26.0 | 12  | 12  | 8.5  | 18.0 | 48 | 4.650                 | 25                |
|                                       | M10               | <b>88V10</b> | 14.0         | 25 | 26.0 | 12  | 12  | 10.5 | 18.0 | 48 | 5.610                 | 25                |
|                                       | M12               | <b>88V12</b> | 14.0         | 25 | 26.0 | 13  | 13  | 13.0 | 18.0 | 49 | 5.540                 | 25                |



## Butt connectors, stainless steel



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded stranded sector shaped conductors
- ▶ Ideal for aggressive environmental conditions, acid and rust-resistant
- ▶ Heat resistant up to 400 °C

### Characteristics

- Simple and safe processing due to butt mark
- Simple cable entry due to internal chamfer

### Material

- V2A (X5CrNi18-10)

### Technical instructions

- Tool: see page 53

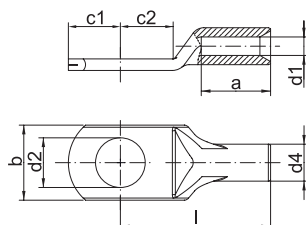
### Additional information

- Also available as featured article in stainless steel V4A (X5CrNiMo17-12-2)

| Nominal cross section<br>mm <sup>2</sup> | Part<br>No. | Dimension mm |      |    | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|------------------------------------------|-------------|--------------|------|----|-----------------------------|------------------|
|                                          |             | d1           | d4   | l  |                             |                  |
| 0.5 - 1                                  | <b>79R</b>  | 1.6          | 3.2  | 25 | 0.135                       | 50               |
| 1.5 - 2.5                                | <b>80R</b>  | 3.0          | 5.0  | 25 | 0.250                       | 50               |
| 4 - 6                                    | <b>81R</b>  | 4.0          | 6.0  | 25 | 0.325                       | 50               |
| 10                                       | <b>82R</b>  | 5.0          | 8.0  | 25 | 0.360                       | 50               |
| 16                                       | <b>83R</b>  | 6.0          | 8.0  | 30 | 0.510                       | 50               |
| 25                                       | <b>84R</b>  | 7.0          | 10.0 | 35 | 1.100                       | 25               |
| 35                                       | <b>85R</b>  | 9.0          | 12.0 | 40 | 1.560                       | 25               |
| 50                                       | <b>86R</b>  | 10.0         | 14.0 | 45 | 2.670                       | 25               |
| 70                                       | <b>87R</b>  | 12.0         | 16.0 | 50 | 3.400                       | 25               |
| 95                                       | <b>88R</b>  | 14.0         | 18.0 | 55 | 4.300                       | 25               |



### Tubular cable lug, Ni



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded stranded sector shaped conductors
- ▶ Suitable for high temperatures up to 650 °C

#### Characteristics

- Simple and safe connection due to flat contact surfaces and internal chamfer

#### Material

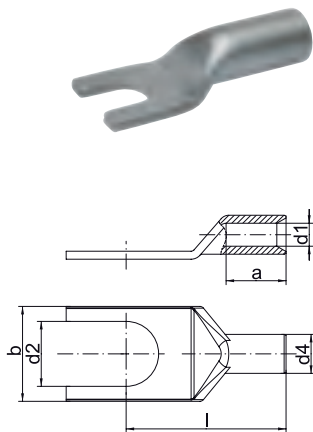
- High-grade nickel

#### Technical instructions

- Tool: see page 53

| Nominal cross section<br>mm <sup>2</sup> | Size of bolt dia. | Part No.     | Dimension mm |      |      |      |      |      |      |    | Weight/<br>100 pcs.<br>~ kg | Packing unit/<br>pcs |
|------------------------------------------|-------------------|--------------|--------------|------|------|------|------|------|------|----|-----------------------------|----------------------|
|                                          |                   |              | d1           | a    | b    | d2   | d4   | c1   | c2   | l  |                             |                      |
| 0.5 - 1                                  | M3                | <b>56N3</b>  | 1.6          | 4    | 6.5  | 3.2  | 3.2  | 3.5  | 4.5  | 13 | 0.080                       | 100                  |
|                                          | M4                | <b>56N4</b>  | 1.6          | 6    | 6.5  | 4.3  | 3.2  | 4.5  | 4.5  | 13 | 0.080                       | 100                  |
|                                          | M5                | <b>56N5</b>  | 1.6          | 6    | 7.5  | 5.3  | 3.2  | 5.0  | 5.5  | 14 | 0.080                       | 100                  |
| 1.5 - 2.5                                | M3                | <b>57N3</b>  | 2.3          | 6    | 7.0  | 3.2  | 3.9  | 3.5  | 5.0  | 13 | 0.105                       | 100                  |
|                                          | M4                | <b>57N4</b>  | 2.3          | 6    | 7.0  | 4.3  | 3.9  | 4.5  | 5.0  | 13 | 0.105                       | 100                  |
|                                          | M5                | <b>57N5</b>  | 2.3          | 6    | 7.5  | 5.3  | 3.9  | 5.0  | 5.5  | 14 | 0.105                       | 100                  |
|                                          | M6                | <b>57N6</b>  | 2.3          | 6    | 9.5  | 6.5  | 3.9  | 6.0  | 6.5  | 16 | 0.130                       | 100                  |
| 4 - 6                                    | M4                | <b>58N4</b>  | 3.6          | 9    | 9.5  | 4.3  | 5.6  | 4.5  | 5.0  | 18 | 0.275                       | 100                  |
|                                          | M5                | <b>58N5</b>  | 3.6          | 9    | 9.5  | 5.3  | 5.6  | 5.0  | 5.5  | 19 | 0.275                       | 100                  |
|                                          | M6                | <b>58N6</b>  | 3.6          | 9    | 9.5  | 6.5  | 5.6  | 6.0  | 6.5  | 19 | 0.260                       | 100                  |
|                                          | M8                | <b>58N8</b>  | 3.6          | 6    | 14   | 8.5  | 5.6  | 8.5  | 9.0  | 22 | 0.260                       | 100                  |
| 10                                       | M5                | <b>59N5</b>  | 4.5          | 10   | 12.0 | 5.5  | 6.5  | 5.5  | 6.5  | 21 | 0.340                       | 100                  |
|                                          | M6                | <b>59N6</b>  | 4.5          | 10   | 12.0 | 6.5  | 6.5  | 6.5  | 7.5  | 22 | 0.360                       | 100                  |
| 16                                       | M5                | <b>60N5</b>  | 5.5          | 13   | 12.0 | 5.5  | 7.5  | 5.5  | 6.5  | 26 | 0.470                       | 100                  |
|                                          | M6                | <b>60N6</b>  | 5.5          | 13   | 12.0 | 6.5  | 7.5  | 6.5  | 7.5  | 27 | 0.480                       | 100                  |
|                                          | M8                | <b>60N8</b>  | 5.5          | 13   | 13.5 | 8.5  | 7.5  | 8.5  | 9.5  | 29 | 0.560                       | 100                  |
|                                          | M10               | <b>60N10</b> | 5.5          | 11   | 17   | 10.5 | 7.5  | 12.0 | 12.0 | 31 | 0.560                       | 100                  |
| 25                                       | M6                | <b>61N6</b>  | 7.0          | 15   | 14.0 | 6.5  | 10.0 | 7.5  | 7.5  | 30 | 1.200                       | 50                   |
|                                          | M8                | <b>61N8</b>  | 7.0          | 15   | 16.0 | 8.5  | 10.0 | 10.0 | 10.0 | 32 | 1.320                       | 50                   |
|                                          | M10               | <b>61N10</b> | 7.0          | 13   | 17.0 | 10.5 | 10.0 | 12.0 | 12.0 | 34 | 1.320                       | 50                   |
| 35                                       | M6                | <b>62N6</b>  | 8.5          | 17   | 17.0 | 6.5  | 12.0 | 7.5  | 7.5  | 32 | 1.850                       | 50                   |
|                                          | M8                | <b>62N8</b>  | 8.5          | 17   | 17.0 | 8.5  | 12.0 | 10.0 | 10.0 | 34 | 2.000                       | 50                   |
|                                          | M10               | <b>62N10</b> | 8.5          | 14.5 | 19.0 | 10.5 | 12.0 | 12.0 | 12.0 | 36 | 2.000                       | 50                   |
| 50                                       | M8                | <b>63N8</b>  | 10.0         | 19   | 20.0 | 8.5  | 14.0 | 10.0 | 10.0 | 37 | 2.900                       | 50                   |
|                                          | M10               | <b>63N10</b> | 10.0         | 19   | 20.0 | 10.5 | 14.0 | 12.0 | 12.0 | 39 | 3.100                       | 50                   |
| 70                                       | M10               | <b>64N10</b> | 12.0         | 21   | 23.0 | 10.5 | 16.5 | 12.0 | 12.0 | 44 | 4.600                       | 25                   |
|                                          | M12               | <b>64N12</b> | 12.0         | 21   | 23.0 | 13.0 | 16.5 | 13.0 | 13.0 | 46 | 4.660                       | 25                   |
| 95                                       | M10               | <b>65N10</b> | 13.5         | 25   | 26.0 | 10.5 | 18.0 | 12.0 | 12.0 | 48 | 5.550                       | 25                   |
|                                          | M12               | <b>65N12</b> | 13.5         | 25   | 26.0 | 13.0 | 18.0 | 13.0 | 13.0 | 49 | 5.600                       | 25                   |

## Tubular cable lugs, Cu, fork type



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded stranded sector shaped conductors
- ▶ Suitable for high temperatures up to 650 °C
- ▶ Simple fork-type mounting

### Characteristics

- Simple and safe connection due to flat contact surfaces and internal chamfer

### Material

- High-grade nickel

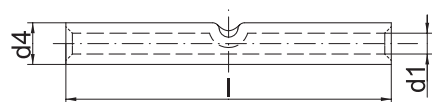
### Technical instructions

- Tool: see page 53

| Nominal cross section mm² | Size of bolt dia. | Part No.    | Dimension mm |    |      |     |     |    | Weight/ 100 pcs. ~ kg | Packing unit/ pcs |
|---------------------------|-------------------|-------------|--------------|----|------|-----|-----|----|-----------------------|-------------------|
|                           |                   |             | d1           | a  | b    | d2  | d4  | l  |                       |                   |
| 0.5 - 1                   | M4                | <b>56C4</b> | 1.6          | 6  | 6.5  | 4.3 | 3.2 | 13 | 0.070                 | 50                |
|                           | M5                | <b>56C5</b> | 1.6          | 6  | 7.5  | 5.3 | 3.2 | 14 | 0.075                 | 50                |
| 1.5 - 2.5                 | M4                | <b>57C4</b> | 2.3          | 6  | 7.0  | 4.3 | 3.9 | 13 | 0.095                 | 50                |
|                           | M5                | <b>57C5</b> | 2.3          | 6  | 7.5  | 5.3 | 3.9 | 14 | 0.095                 | 50                |
|                           | M6                | <b>57C6</b> | 2.3          | 6  | 9.5  | 6.5 | 3.9 | 16 | 0.110                 | 50                |
| 4 - 6                     | M4                | <b>58C4</b> | 3.6          | 9  | 9.5  | 4.3 | 5.6 | 18 | 0.250                 | 50                |
|                           | M5                | <b>58C5</b> | 3.6          | 9  | 9.5  | 5.3 | 5.6 | 19 | 0.255                 | 50                |
|                           | M6                | <b>58C6</b> | 3.6          | 9  | 9.5  | 6.5 | 5.6 | 19 | 0.235                 | 50                |
| 10                        | M5                | <b>59C5</b> | 4.5          | 10 | 12.0 | 5.5 | 6.5 | 21 | 0.320                 | 50                |
|                           | M6                | <b>59C6</b> | 4.5          | 10 | 12.0 | 6.5 | 6.5 | 22 | 0.340                 | 50                |
| 16                        | M5                | <b>60C5</b> | 5.5          | 13 | 12.0 | 5.5 | 7.5 | 26 | 0.440                 | 50                |
|                           | M6                | <b>60C6</b> | 5.5          | 13 | 12.0 | 6.5 | 7.5 | 27 | 0.450                 | 50                |
|                           | M8                | <b>60C8</b> | 5.5          | 13 | 13.5 | 8.5 | 7.5 | 29 | 0.520                 | 50                |



### Butt connectors, Ni



- ▶ For multi-stranded round conductors, e.g. to DIN EN 60228 Cl. 2
- ▶ For pre-rounded stranded sector shaped conductors
- ▶ Suitable for high temperatures to 650 °C

#### Characteristics

- Simple and safe processing due to butt mark
- Simple cable entry due to internal chamfer

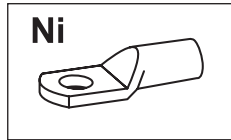
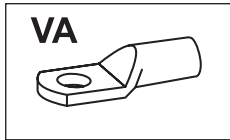
#### Material

- High-grade nickel

#### Technical instructions

- Tool: see page 53

| Nominal cross section<br>mm <sup>2</sup> | Part<br>No. | Dimension mm |     |    | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|------------------------------------------|-------------|--------------|-----|----|-----------------------------|------------------|
|                                          |             | d1           | d4  | l  |                             |                  |
| 0.5 - 1                                  | <b>62R</b>  | 1.6          | 3.2 | 25 | 0.135                       | 50               |
| 1.5 - 2.5                                | <b>63R</b>  | 2.3          | 3.9 | 25 | 0.170                       | 50               |
| 4 - 6                                    | <b>64R</b>  | 3.6          | 5.6 | 25 | 0.325                       | 50               |
| 10                                       | <b>65R</b>  | 4.5          | 6.5 | 25 | 0.360                       | 50               |
| 16                                       | <b>66R</b>  | 5.5          | 7.5 | 30 | 0.510                       | 50               |



## Tool application chart

**Tubular cable lugs and butt connectors made from stainless steel or nickel**

| Tool type                                                                          | Crimping range corresponds to nominal cross-section mm² | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|------------------------------------------------------------------------------------|---------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                    |                                                         | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical crimping tools                                                          | 0.5 - 6                                                 | K25           |                         | 230            |              |               |
| Mechanical, electrical, pneumatic crimping tools with interchangeable dies / heads | 0.5 - 16                                                | K354          |                         | 246            | 329          |               |
|                                                                                    | 10 - 50                                                 | K22           |                         | 250            | 342          |               |
| Hand hydraulic crimping tools                                                      | 10 - 50                                                 | HK6022        |                         | 294            | 342          |               |
|                                                                                    |                                                         | HK6022        | +UA22                   | 473            | 342          |               |
|                                                                                    | 70 - 95                                                 | HK12030       |                         | 298            | 348          |               |
|                                                                                    |                                                         | HK12042       |                         | 300            | 348          |               |
|                                                                                    |                                                         | HK120U        |                         | 302            | 348          |               |
| Battery powered crimping tools                                                     | 0.5 - 16                                                | EK354ML       |                         | 262            | 329          |               |
|                                                                                    |                                                         | EK354         |                         | 266            | 342          |               |
|                                                                                    | 10 - 50                                                 | EKM6022       |                         | 272            | 342          |               |
|                                                                                    |                                                         | EK6022        |                         | 274            | 342          |               |
|                                                                                    |                                                         | EK60UNV       | +UA22                   | 476            | 342          |               |
|                                                                                    |                                                         | EKM60UNV      | +UA22                   | 475            | 342          |               |
|                                                                                    | 70 - 95                                                 | EK12032       |                         | 280            | 348          |               |
|                                                                                    |                                                         | EK12042       |                         | 282            | 348          |               |
|                                                                                    |                                                         | EK120U        |                         | 284            | 348          |               |
|                                                                                    |                                                         | EK120UNV      | +UA12T                  | 477            | 348          |               |
|                                                                                    |                                                         | EK135FT       | +UA15T                  | 286            | 348          |               |
| Hydraulic crimping systems                                                         | 10 - 50                                                 | THK22         |                         | 308            | 342          |               |
| Hydraulic crimping heads                                                           | 10 - 50                                                 | PK22          |                         | 308            | 342          |               |
|                                                                                    |                                                         | PK60UNV       | +UA22                   | 474            | 342          |               |
|                                                                                    | 70 - 95                                                 | PK12042       |                         | 312            | 348          |               |
|                                                                                    |                                                         | PK120U        |                         | 314            | 348          |               |



# CONFORMITY - COPPER COMPRESSION CABLE LUGS AND CONNECTORS TO DIN

Klauke products conform not only to its own standards. But also to DIN standards with strict standardised dimensions. Our compression cable lugs and connectors range to 1000 mm<sup>2</sup> nominal cross-section, with standardised designations and markings. We have the quality certified by the IEC test, including our special versions.



### In brief

- ▶ Standardised sizes even for special versions
- ▶ Clear markings for standardised processing
- ▶ For all conductor classes to DIN EN 60228

### ► Tested and certified for safety

Our DIN cable lugs and connectors are strictly manufactured to standard. In addition, the test suggested in the standard has been passed with ease.

- Simple processing with DIN system
- Safety through standardised tests (IEC 61238-1)
- For all conductor classes to DIN EN 60228 and copper wires to DIN 46267-1



### ► Every version standardised

We offer cable lugs with tube dimension to DIN in numerous different forms and versions. If there happens to be no suitable connector for you, we will of course make you one to suit your needs.

- Flexible thanks to numerous versions
- Various surfaces available
- Many special versions based on the DIN standard available
- Manufactured to suit your particular requirements

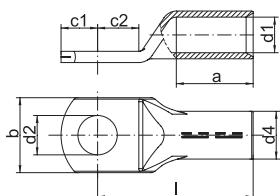
### ► Clear markings

Where simplicity and safety are key: Every cable lug to DIN comes with the appropriate crimping instruction. Readily visible markings indicate the crimping location required to work in compliance with the standard. Code numbers on the dies and cable lugs show the correct crimp at a glance.





## Compression cable lugs to DIN, Cu



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 1, 2, 5 and 6
- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ With code number for clear tool assignment
- ▶ To DIN 46235

### Characteristics

- Easy to process due to crimp markings
- Annealed material optimises material and crimping properties
- Simple and safe connection due to flat contact surfaces and internal chamfer

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 69
- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“

### Additional information

- Part Number appendix for bright version „BK“
- Item in barrier sealed design upon request
- 10 - 800 mm<sup>2</sup> IEC-tested
- \* = not standardised

| Nominal cross section mm <sup>2</sup> | Size of bolt diameter | Part No.      | Hint | Code | Dimension mm |      |     |      |      |      |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-----------------------|---------------|------|------|--------------|------|-----|------|------|------|------|----|-----------------------|------------------|
|                                       |                       |               |      |      | a            | b    | d1  | d2   | d4   | c1   | c2   | l  |                       |                  |
| 6                                     | M 5                   | <b>101R5</b>  |      | 5    | 10           | 8.5  | 3.8 | 5.3  | 5.5  | 6.5  | 7.5  | 24 | 0.24                  | 100              |
|                                       | M 6                   | <b>101R6</b>  |      | 5    | 10           | 8.5  | 3.8 | 6.4  | 5.5  | 7.5  | 8.0  | 24 | 0.30                  | 100              |
|                                       | M 8                   | <b>101R8</b>  | *    | 5    | 10           | 13.0 | 3.8 | 8.4  | 5.5  | 10.0 | 10.0 | 24 | 0.34                  | 100              |
| 10                                    | M 5                   | <b>102R5</b>  |      | 6    | 10           | 9.0  | 4.5 | 5.3  | 6.0  | 7.0  | 8.5  | 27 | 0.37                  | 100              |
|                                       | M 6                   | <b>102R6</b>  |      | 6    | 10           | 9.0  | 4.5 | 6.4  | 6.0  | 7.5  | 8.5  | 27 | 0.36                  | 100              |
|                                       | M 8                   | <b>102R8</b>  | *    | 6    | 10           | 13.0 | 4.5 | 8.4  | 6.0  | 10.0 | 10.0 | 27 | 0.38                  | 100              |
| 16                                    | M 6                   | <b>103R6</b>  |      | 8    | 20           | 13.0 | 5.5 | 6.4  | 8.5  | 7.5  | 8.0  | 36 | 1.19                  | 100              |
|                                       | M 8                   | <b>103R8</b>  |      | 8    | 20           | 13.0 | 5.5 | 8.4  | 8.5  | 10.0 | 10.0 | 36 | 1.22                  | 100              |
|                                       | M 10                  | <b>103R10</b> |      | 8    | 20           | 17.0 | 5.5 | 10.5 | 8.5  | 12.0 | 12.0 | 36 | 1.30                  | 100              |
| 25                                    | M 12                  | <b>103R12</b> | *    | 8    | 20           | 18.0 | 5.5 | 13.0 | 8.5  | 13.0 | 13.0 | 36 | 1.27                  | 100              |
|                                       | M 6                   | <b>104R6</b>  |      | 10   | 20           | 14.0 | 7.0 | 6.4  | 10.0 | 7.5  | 8.0  | 38 | 1.51                  | 50               |
|                                       | M 8                   | <b>104R8</b>  |      | 10   | 20           | 16.0 | 7.0 | 8.4  | 10.0 | 10.0 | 10.0 | 38 | 1.54                  | 50               |
| 35                                    | M 10                  | <b>104R10</b> |      | 10   | 20           | 17.0 | 7.0 | 10.5 | 10.0 | 12.0 | 12.0 | 38 | 1.62                  | 50               |
|                                       | M 12                  | <b>104R12</b> |      | 10   | 20           | 19.0 | 7.0 | 13.0 | 10.0 | 13.0 | 13.0 | 38 | 1.66                  | 25               |
|                                       | M 6                   | <b>105R6</b>  | *    | 12   | 20           | 17.0 | 8.2 | 6.4  | 12.5 | 7.5  | 8.0  | 42 | 2.77                  | 50               |
| 50                                    | M 8                   | <b>105R8</b>  |      | 12   | 20           | 17.0 | 8.2 | 8.4  | 12.5 | 10.0 | 10.0 | 42 | 2.85                  | 50               |
|                                       | M 10                  | <b>105R10</b> |      | 12   | 20           | 19.0 | 8.2 | 10.5 | 12.5 | 12.0 | 12.0 | 42 | 2.84                  | 50               |
|                                       | M 12                  | <b>105R12</b> |      | 12   | 20           | 21.0 | 8.2 | 13.0 | 12.5 | 13.0 | 13.0 | 42 | 2.79                  | 50               |
| 70                                    | M 14                  | <b>105R14</b> | *    | 12   | 20           | 21.0 | 8.2 | 15.0 | 12.5 | 14.5 | 14.5 | 42 | 2.70                  | 25               |

see next page

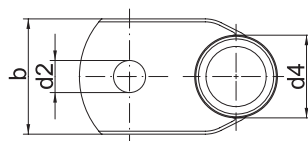
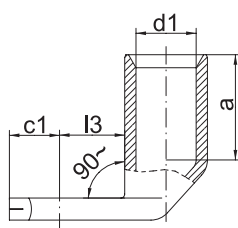


## Compression cable lugs to DIN, Cu

| Nominal cross section mm <sup>2</sup> | Size of bolt diameter | Part No.      | Hint | Code | Dimension mm |      |      |      |      |      |      |     | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-----------------------|---------------|------|------|--------------|------|------|------|------|------|------|-----|-----------------------|------------------|
|                                       |                       |               |      |      | a            | b    | d1   | d2   | d4   | c1   | c2   | l   |                       |                  |
| 50                                    | M 8                   | <b>106R8</b>  |      | 14   | 28           | 20.0 | 10.0 | 8.4  | 14.5 | 10.0 | 10.0 | 52  | 4.46                  | 50               |
|                                       | M 10                  | <b>106R10</b> |      | 14   | 28           | 22.0 | 10.0 | 10.5 | 14.5 | 12.0 | 12.0 | 52  | 4.48                  | 50               |
|                                       | M 12                  | <b>106R12</b> |      | 14   | 28           | 24.0 | 10.0 | 13.0 | 14.5 | 13.0 | 13.0 | 52  | 4.40                  | 50               |
|                                       | M 14                  | <b>106R14</b> | *    | 14   | 28           | 24.0 | 10.0 | 15.0 | 14.5 | 14.5 | 14.5 | 52  | 4.30                  | 25               |
|                                       | M 16                  | <b>106R16</b> |      | 14   | 28           | 28.0 | 10.0 | 17.0 | 14.5 | 16.0 | 16.0 | 52  | 4.57                  | 25               |
| 70                                    | M 8                   | <b>107R8</b>  |      | 16   | 28           | 24.0 | 11.5 | 8.4  | 16.5 | 10.0 | 10.0 | 55  | 5.92                  | 50               |
|                                       | M 10                  | <b>107R10</b> |      | 16   | 28           | 24.0 | 11.5 | 10.5 | 16.5 | 12.0 | 12.0 | 55  | 6.02                  | 50               |
|                                       | M 12                  | <b>107R12</b> |      | 16   | 28           | 24.0 | 11.5 | 13.0 | 16.5 | 13.0 | 13.0 | 55  | 5.89                  | 50               |
|                                       | M 14                  | <b>107R14</b> | *    | 16   | 28           | 24.0 | 11.5 | 15.0 | 16.5 | 14.5 | 14.5 | 55  | 5.80                  | 25               |
|                                       | M 16                  | <b>107R16</b> |      | 16   | 28           | 30.0 | 11.5 | 17.0 | 16.5 | 16.0 | 16.0 | 55  | 6.13                  | 25               |
| 95                                    | M 8                   | <b>108R8</b>  | *    | 18   | 35           | 28.0 | 13.5 | 8.4  | 19.0 | 12.0 | 12.0 | 65  | 9.21                  | 25               |
|                                       | M 10                  | <b>108R10</b> |      | 18   | 35           | 28.0 | 13.5 | 10.5 | 19.0 | 12.0 | 12.0 | 65  | 8.97                  | 50               |
|                                       | M 12                  | <b>108R12</b> |      | 18   | 35           | 28.0 | 13.5 | 13.0 | 19.0 | 13.0 | 13.0 | 65  | 8.62                  | 50               |
|                                       | M 14                  | <b>108R14</b> | *    | 18   | 35           | 28.0 | 13.5 | 15.0 | 19.0 | 14.5 | 14.5 | 65  | 8.78                  | 25               |
|                                       | M 16                  | <b>108R16</b> |      | 18   | 35           | 32.0 | 13.5 | 17.0 | 19.0 | 16.0 | 16.0 | 65  | 9.00                  | 50               |
| 120                                   | M 10                  | <b>109R10</b> |      | 20   | 35           | 32.0 | 15.5 | 10.5 | 21.0 | 15.0 | 16.0 | 70  | 11.40                 | 50               |
|                                       | M 12                  | <b>109R12</b> |      | 20   | 35           | 32.0 | 15.5 | 13.0 | 21.0 | 16.0 | 17.0 | 70  | 11.31                 | 50               |
|                                       | M 14                  | <b>109R14</b> | *    | 20   | 35           | 32.0 | 15.5 | 15.0 | 21.0 | 18.0 | 19.0 | 70  | 11.45                 | 25               |
|                                       | M 16                  | <b>109R16</b> |      | 20   | 35           | 32.0 | 15.5 | 17.0 | 21.0 | 19.0 | 20.0 | 70  | 11.24                 | 50               |
|                                       | M 20                  | <b>109R20</b> |      | 20   | 35           | 38.0 | 15.5 | 21.0 | 21.0 | 21.0 | 22.0 | 70  | 11.03                 | 25               |
| 150                                   | M 10                  | <b>110R10</b> |      | 22   | 35           | 34.0 | 17.0 | 10.5 | 23.5 | 15.0 | 16.0 | 78  | 16.38                 | 10               |
|                                       | M 12                  | <b>110R12</b> |      | 22   | 35           | 34.0 | 17.0 | 13.0 | 23.5 | 16.0 | 17.0 | 78  | 16.29                 | 25               |
|                                       | M 14                  | <b>110R14</b> | *    | 22   | 35           | 34.0 | 17.0 | 15.0 | 23.5 | 19.0 | 20.0 | 78  | 16.38                 | 10               |
|                                       | M 16                  | <b>110R16</b> |      | 22   | 35           | 34.0 | 17.0 | 17.0 | 23.5 | 19.0 | 20.0 | 78  | 16.17                 | 10               |
|                                       | M 20                  | <b>110R20</b> |      | 22   | 35           | 40.0 | 17.0 | 21.0 | 23.5 | 21.0 | 22.0 | 78  | 15.90                 | 10               |
| 185                                   | M 10                  | <b>111R10</b> |      | 25   | 40           | 37.0 | 19.0 | 10.5 | 25.5 | 15.0 | 16.0 | 82  | 18.96                 | 10               |
|                                       | M 12                  | <b>111R12</b> |      | 25   | 40           | 37.0 | 19.0 | 13.0 | 25.5 | 16.0 | 17.0 | 82  | 18.11                 | 10               |
|                                       | M 14                  | <b>111R14</b> | *    | 25   | 40           | 37.0 | 19.0 | 15.0 | 25.5 | 19.0 | 20.0 | 82  | 19.21                 | 10               |
|                                       | M 16                  | <b>111R16</b> |      | 25   | 40           | 37.0 | 19.0 | 17.0 | 25.5 | 19.0 | 20.0 | 82  | 18.74                 | 25               |
|                                       | M 20                  | <b>111R20</b> |      | 25   | 40           | 40.0 | 19.0 | 21.0 | 25.5 | 21.0 | 22.0 | 82  | 18.69                 | 10               |
| 240                                   | M 12                  | <b>112R12</b> |      | 28   | 40           | 42.0 | 21.5 | 13.0 | 29.0 | 16.0 | 17.0 | 92  | 27.00                 | 10               |
|                                       | M 14                  | <b>112R14</b> | *    | 28   | 40           | 42.0 | 21.5 | 15.0 | 29.0 | 19.0 | 20.0 | 92  | 27.58                 | 10               |
|                                       | M 16                  | <b>112R16</b> |      | 28   | 40           | 42.0 | 21.5 | 17.0 | 29.0 | 19.0 | 20.0 | 92  | 27.37                 | 25               |
|                                       | M 20                  | <b>112R20</b> |      | 28   | 40           | 45.0 | 21.5 | 21.0 | 29.0 | 21.0 | 22.0 | 92  | 26.88                 | 10               |
|                                       | M 12                  | <b>113R12</b> | *    | 32   | 50           | 46.0 | 24.5 | 13.0 | 32.0 | 14.0 | 22.0 | 100 | 32.89                 | 5                |
| 300                                   | M 14                  | <b>113R14</b> | *    | 32   | 50           | 46.0 | 24.5 | 15.0 | 32.0 | 19.0 | 22.0 | 100 | 33.29                 | 5                |
|                                       | M 16                  | <b>113R16</b> |      | 32   | 50           | 46.0 | 24.5 | 17.0 | 32.0 | 19.0 | 22.0 | 100 | 32.94                 | 5                |
|                                       | M 20                  | <b>113R20</b> |      | 32   | 50           | 46.0 | 24.5 | 21.0 | 32.0 | 22.0 | 22.0 | 100 | 33.24                 | 5                |
| 400                                   | M 14                  | <b>114R14</b> | *    | 38   | 70           | 54.0 | 27.5 | 15.0 | 38.5 | 25.0 | 25.0 | 115 | 69.38                 | 5                |
|                                       | M 16                  | <b>114R16</b> |      | 38   | 70           | 54.0 | 27.5 | 17.0 | 38.5 | 25.0 | 25.0 | 115 | 68.54                 | 5                |
|                                       | M 20                  | <b>114R20</b> |      | 38   | 70           | 54.0 | 27.5 | 21.0 | 38.5 | 25.0 | 25.0 | 115 | 65.40                 | 5                |
| 500                                   | M 16                  | <b>115R16</b> | *    | 42   | 70           | 60.0 | 31.0 | 17.0 | 42.0 | 25.0 | 25.0 | 125 | 83.31                 | 1                |
|                                       | M 20                  | <b>115R20</b> |      | 42   | 70           | 60.0 | 31.0 | 21.0 | 42.0 | 25.0 | 25.0 | 125 | 81.58                 | 1                |
| 625                                   | M 16                  | <b>116R16</b> | *    | 44   | 80           | 64.0 | 34.5 | 17.0 | 44.0 | 25.0 | 25.0 | 135 | 79.60                 | 1                |
|                                       | M 20                  | <b>116R20</b> |      | 44   | 80           | 64.0 | 34.5 | 21.0 | 44.0 | 25.0 | 25.0 | 135 | 79.69                 | 1                |
| 800                                   | M 16                  | <b>117R16</b> | *    | 52   | 100          | 75.0 | 40.0 | 17.0 | 52.0 | 30.0 | 30.0 | 165 | 150.00                | 1                |
|                                       | M 20                  | <b>117R20</b> |      | 52   | 100          | 75.0 | 40.0 | 21.0 | 52.0 | 30.0 | 30.0 | 165 | 149.00                | 1                |
| 1000                                  | M 16                  | <b>118R16</b> | *    | 58   | 100          | 83.0 | 44.0 | 17.0 | 58.0 | 30.0 | 30.0 | 165 | 199.00                | 1                |
|                                       | M 20                  | <b>118R20</b> |      | 58   | 100          | 83.0 | 44.0 | 21.0 | 58.0 | 30.0 | 30.0 | 165 | 195.00                | 1                |



## Angled compression cable lugs, Cu, 90° angled



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 1, 2, 5 and 6
- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ Tube dimensions according to DIN 46235
- ▶ With code number for clear tool assignment

### Characteristics

- With crimp markings for correct crimp positioning
- Simple and safe connection due to flat contact surfaces and internal chamfer
- Annealed material optimises material and crimping properties

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“
- Tool: see page 69

### Additional information

- Part Number appendix for bright version „BK“
- 10 - 240 mm<sup>2</sup> IEC-tested

| Nominal cross section mm <sup>2</sup> | Size of bolt diameter | Part No.      | Code | Dimension mm |      |      |      |      |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-----------------------|---------------|------|--------------|------|------|------|------|------|----|-----------------------|------------------|
|                                       |                       |               |      | a            | b    | d1   | d2   | d4   | c1   | l3 |                       |                  |
| 6                                     | M 5                   | <b>161R5</b>  | 5    | 10           | 8.5  | 3.8  | 5.3  | 5.5  | 6.5  | 9  | 0.28                  | 50               |
|                                       | M 6                   | <b>161R6</b>  | 5    | 10           | 8.5  | 3.8  | 6.4  | 5.5  | 7.5  | 10 | 0.32                  | 50               |
| 10                                    | M 5                   | <b>162R5</b>  | 6    | 10           | 9.0  | 4.5  | 5.3  | 6.0  | 7.0  | 10 | 0.34                  | 50               |
|                                       | M 6                   | <b>162R6</b>  | 6    | 10           | 9.0  | 4.5  | 6.4  | 6.0  | 7.5  | 10 | 0.35                  | 50               |
|                                       | M 8                   | <b>162R8</b>  | 6    | 10           | 13.0 | 4.5  | 8.4  | 6.0  | 10.0 | 13 | 0.37                  | 50               |
|                                       | M 6                   | <b>163R6</b>  | 8    | 20           | 13.0 | 5.5  | 6.4  | 8.5  | 7.5  | 11 | 1.20                  | 50               |
| 16                                    | M 8                   | <b>163R8</b>  | 8    | 20           | 13.0 | 5.5  | 8.4  | 8.5  | 10.0 | 13 | 1.30                  | 50               |
|                                       | M 10                  | <b>163R10</b> | 8    | 20           | 17.0 | 5.5  | 10.5 | 8.5  | 12.0 | 15 | 1.40                  | 50               |
|                                       | M 12                  | <b>163R12</b> | 8    | 20           | 18.0 | 5.5  | 13.0 | 8.5  | 13.0 | 18 | 1.33                  | 50               |
|                                       | M 6                   | <b>164R6</b>  | 10   | 20           | 14.0 | 7.0  | 6.4  | 10.0 | 7.5  | 11 | 1.54                  | 25               |
| 25                                    | M 8                   | <b>164R8</b>  | 10   | 20           | 16.0 | 7.0  | 8.4  | 10.0 | 10.0 | 13 | 1.60                  | 25               |
|                                       | M 10                  | <b>164R10</b> | 10   | 20           | 17.0 | 7.0  | 10.5 | 10.0 | 12.0 | 15 | 1.63                  | 25               |
|                                       | M 12                  | <b>164R12</b> | 10   | 20           | 19.0 | 7.0  | 13.0 | 10.0 | 13.0 | 18 | 1.70                  | 25               |
|                                       | M 8                   | <b>165R8</b>  | 12   | 20           | 17.0 | 8.2  | 8.4  | 12.5 | 10.0 | 13 | 2.72                  | 25               |
| 35                                    | M 10                  | <b>165R10</b> | 12   | 20           | 19.0 | 8.2  | 10.5 | 12.5 | 12.0 | 15 | 2.76                  | 25               |
|                                       | M 12                  | <b>165R12</b> | 12   | 20           | 21.0 | 8.2  | 13.0 | 12.5 | 13.0 | 18 | 2.85                  | 25               |
|                                       | M 14                  | <b>165R14</b> | 12   | 20           | 21.0 | 8.2  | 15.0 | 12.5 | 14.5 | 20 | 2.92                  | 25               |
|                                       | M 8                   | <b>166R8</b>  | 14   | 28           | 20.0 | 10.0 | 8.4  | 14.5 | 10.0 | 16 | 4.39                  | 25               |
| 50                                    | M 10                  | <b>166R10</b> | 14   | 28           | 22.0 | 10.0 | 10.5 | 14.5 | 12.0 | 16 | 4.46                  | 25               |
|                                       | M 12                  | <b>166R12</b> | 14   | 28           | 24.0 | 10.0 | 13.0 | 14.5 | 13.0 | 18 | 4.49                  | 25               |
|                                       | M 14                  | <b>166R14</b> | 14   | 28           | 24.0 | 10.0 | 15.0 | 14.5 | 14.5 | 20 | 4.73                  | 25               |
|                                       | M 16                  | <b>166R16</b> | 14   | 28           | 28.0 | 10.0 | 17.0 | 14.5 | 16.0 | 22 | 4.66                  | 25               |

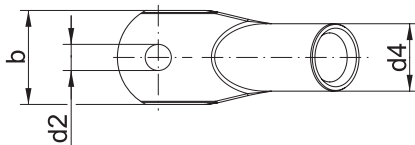
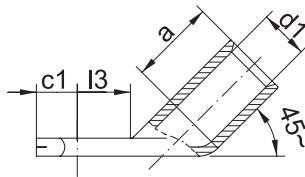
see next page

## Angled compression cable lugs, Cu, 90° angled

| Nominal<br>cross section<br>mm² | Size of<br>bolt<br>diameter | Part No. | Code | Dimension mm |      |      |      |      |      |    | Weight/<br>100 pcs.<br>~ kg | Packing<br>unit/pcs |
|---------------------------------|-----------------------------|----------|------|--------------|------|------|------|------|------|----|-----------------------------|---------------------|
|                                 |                             |          |      | a            | b    | d1   | d2   | d4   | c1   | l3 |                             |                     |
| 70                              | M 8                         | 167R8    | 16   | 28           | 24.0 | 11.5 | 8.4  | 16.5 | 10.0 | 14 | 5.92                        | 25                  |
|                                 | M 10                        | 167R10   | 16   | 28           | 24.0 | 11.5 | 10.5 | 16.5 | 12.0 | 16 | 6.31                        | 25                  |
|                                 | M 12                        | 167R12   | 16   | 28           | 24.0 | 11.5 | 13.0 | 16.5 | 13.0 | 18 | 6.34                        | 25                  |
|                                 | M 14                        | 167R14   | 16   | 28           | 24.0 | 11.5 | 15.0 | 16.5 | 14.5 | 20 | 6.50                        | 25                  |
|                                 | M 16                        | 167R16   | 16   | 28           | 30.0 | 11.5 | 17.0 | 16.5 | 16.0 | 22 | 6.63                        | 25                  |
| 95                              | M 10                        | 168R10   | 18   | 35           | 28.0 | 13.5 | 10.5 | 19.0 | 12.0 | 17 | 9.03                        | 25                  |
|                                 | M 12                        | 168R12   | 18   | 35           | 28.0 | 13.5 | 13.0 | 19.0 | 13.0 | 18 | 9.27                        | 25                  |
|                                 | M 14                        | 168R14   | 18   | 35           | 28.0 | 13.5 | 15.0 | 19.0 | 14.5 | 20 | 9.06                        | 25                  |
|                                 | M 16                        | 168R16   | 18   | 35           | 32.0 | 13.5 | 17.0 | 19.0 | 16.0 | 22 | 9.18                        | 25                  |
| 120                             | M 10                        | 169R10   | 20   | 35           | 32.0 | 15.5 | 10.5 | 21.0 | 15.0 | 17 | 10.41                       | 10                  |
|                                 | M 12                        | 169R12   | 20   | 35           | 32.0 | 15.5 | 13.0 | 21.0 | 16.0 | 18 | 10.65                       | 10                  |
|                                 | M 14                        | 169R14   | 20   | 35           | 32.0 | 15.5 | 15.0 | 21.0 | 18.0 | 20 | 10.75                       | 10                  |
|                                 | M 16                        | 169R16   | 20   | 35           | 32.0 | 15.5 | 17.0 | 21.0 | 19.0 | 22 | 10.72                       | 10                  |
|                                 | M 20                        | 169R20   | 20   | 35           | 38.0 | 15.5 | 21.0 | 21.0 | 21.0 | 24 | 11.00                       | 10                  |
| 150                             | M 10                        | 170R10   | 22   | 35           | 34.0 | 17.0 | 10.5 | 23.5 | 15.0 | 17 | 14.18                       | 10                  |
|                                 | M 12                        | 170R12   | 22   | 35           | 34.0 | 17.0 | 13.0 | 23.5 | 16.0 | 18 | 14.33                       | 10                  |
|                                 | M 14                        | 170R14   | 22   | 35           | 34.0 | 17.0 | 15.0 | 23.5 | 19.0 | 20 | 15.60                       | 10                  |
|                                 | M 16                        | 170R16   | 22   | 35           | 34.0 | 17.0 | 17.0 | 23.5 | 19.0 | 22 | 15.24                       | 10                  |
|                                 | M 20                        | 170R20   | 22   | 35           | 40.0 | 17.0 | 21.0 | 23.5 | 21.0 | 24 | 15.70                       | 10                  |
| 185                             | M 10                        | 171R10   | 25   | 40           | 37.0 | 19.0 | 10.5 | 25.5 | 15.0 | 22 | 18.60                       | 10                  |
|                                 | M 12                        | 171R12   | 25   | 40           | 37.0 | 19.0 | 13.0 | 25.5 | 16.0 | 22 | 18.69                       | 10                  |
|                                 | M 14                        | 171R14   | 25   | 40           | 37.0 | 19.0 | 15.0 | 25.5 | 19.0 | 22 | 19.10                       | 10                  |
|                                 | M 16                        | 171R16   | 25   | 40           | 37.0 | 19.0 | 17.0 | 25.5 | 19.0 | 22 | 19.00                       | 10                  |
|                                 | M 20                        | 171R20   | 25   | 40           | 40.0 | 19.0 | 21.0 | 25.5 | 21.0 | 24 | 18.72                       | 10                  |
| 240                             | M 12                        | 172R12   | 28   | 40           | 42.0 | 21.5 | 13.0 | 29.0 | 16.0 | 22 | 25.09                       | 10                  |
|                                 | M 14                        | 172R14   | 28   | 40           | 42.0 | 21.5 | 15.0 | 29.0 | 19.0 | 22 | 25.70                       | 10                  |
|                                 | M 16                        | 172R16   | 28   | 40           | 42.0 | 21.5 | 17.0 | 29.0 | 19.0 | 22 | 24.96                       | 10                  |
|                                 | M 20                        | 172R20   | 28   | 40           | 45.0 | 21.5 | 21.0 | 29.0 | 21.0 | 24 | 25.26                       | 10                  |



## Angled compression cable lugs, Cu, 45° angled



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 1, 2, 5 and 6
- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ For pre-rounded multi-stranded sector shaped conductors
- ▶ Tube dimensions according to DIN 46235
- ▶ With code number for clear tool assignment

### Characteristics

- Flat contact surface by special angle pressing process
- Easy to process due to crimp markings
- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“
- Tool: see page 69

### Additional information

- Part Number appendix for bright version „BK“
- 10 - 240 mm<sup>2</sup> IEC-tested

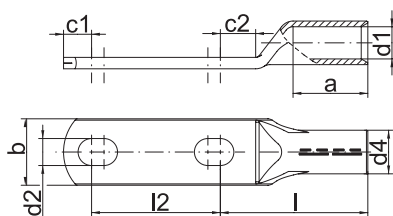
| Nominal cross section mm <sup>2</sup> | Size of bolt diameter | Part No. | Code | Dimension mm |      |      |      |      |      |    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-----------------------|----------|------|--------------|------|------|------|------|------|----|-----------------------|------------------|
|                                       |                       |          |      | a            | b    | d1   | d2   | d4   | c1   | l3 |                       |                  |
| 6                                     | M 5                   | 161R545  | 5    | 10           | 8.5  | 3.8  | 5.5  | 5.5  | 6.5  | 9  | 0.32                  | 50               |
|                                       | M 6                   | 161R645  | 5    | 10           | 8.5  | 3.8  | 6.5  | 5.5  | 7.5  | 10 | 0.34                  | 50               |
| 10                                    | M 5                   | 162R545  | 6    | 10           | 9.0  | 4.5  | 5.5  | 6.0  | 7.0  | 10 | 0.36                  | 50               |
|                                       | M 6                   | 162R645  | 6    | 10           | 9.0  | 4.5  | 6.5  | 6.0  | 7.5  | 10 | 0.35                  | 50               |
| 16                                    | M 8                   | 162R845  | 6    | 10           | 13.0 | 4.5  | 8.5  | 6.0  | 10.0 | 13 | 0.39                  | 50               |
|                                       | M 6                   | 163R645  | 8    | 20           | 13.0 | 5.5  | 6.5  | 8.5  | 7.5  | 11 | 1.20                  | 50               |
|                                       | M 8                   | 163R845  | 8    | 20           | 13.0 | 5.5  | 8.5  | 8.5  | 10.0 | 13 | 0.28                  | 50               |
|                                       | M 10                  | 163R1045 | 8    | 20           | 17.0 | 5.5  | 10.5 | 8.5  | 12.0 | 15 | 1.34                  | 50               |
| 25                                    | M 12                  | 163R1245 | 8    | 20           | 18.0 | 5.5  | 13.0 | 8.5  | 13.0 | 18 | 1.35                  | 50               |
|                                       | M 6                   | 164R645  | 10   | 20           | 14.0 | 7.0  | 6.5  | 10.0 | 7.5  | 11 | 1.49                  | 25               |
|                                       | M 8                   | 164R845  | 10   | 20           | 16.0 | 7.0  | 8.5  | 10.0 | 10.0 | 13 | 1.60                  | 25               |
|                                       | M 10                  | 164R1045 | 10   | 20           | 17.0 | 7.0  | 10.5 | 10.0 | 12.0 | 15 | 1.64                  | 25               |
| 35                                    | M 12                  | 164R1245 | 10   | 20           | 19.0 | 7.0  | 13.0 | 10.0 | 13.0 | 18 | 1.73                  | 25               |
|                                       | M 8                   | 165R845  | 12   | 20           | 17.0 | 8.2  | 8.5  | 12.5 | 10.0 | 13 | 2.72                  | 25               |
|                                       | M 10                  | 165R1045 | 12   | 20           | 19.0 | 8.2  | 10.5 | 12.5 | 12.0 | 15 | 2.92                  | 25               |
|                                       | M 12                  | 165R1245 | 12   | 20           | 21.0 | 8.2  | 13.0 | 12.5 | 13.0 | 18 | 2.98                  | 25               |
| 50                                    | M 14                  | 165R1445 | 12   | 20           | 21.0 | 8.2  | 15.0 | 12.5 | 14.5 | 20 | 3.03                  | 25               |
|                                       | M 8                   | 166R845  | 14   | 28           | 20.0 | 10.0 | 8.5  | 14.5 | 10.0 | 13 | 4.63                  | 25               |
|                                       | M 10                  | 166R1045 | 14   | 28           | 22.0 | 10.0 | 10.5 | 14.5 | 12.0 | 16 | 4.84                  | 25               |
|                                       | M 12                  | 166R1245 | 14   | 28           | 24.0 | 10.0 | 13.0 | 14.5 | 13.0 | 18 | 4.94                  | 25               |
|                                       | M 14                  | 166R1445 | 14   | 28           | 24.0 | 10.0 | 15.0 | 14.5 | 14.5 | 20 | 4.96                  | 25               |
|                                       | M 16                  | 166R1645 | 14   | 28           | 28.0 | 10.0 | 17.0 | 14.5 | 16.0 | 22 | 4.92                  | 25               |

## Angled compression cable lugs, Cu, 45° angled

| Nominal cross section mm <sup>2</sup> | Size of bolt diameter | Part No.        | Code | Dimension mm |      |      |      |      |      |    | Weight/100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-----------------------|-----------------|------|--------------|------|------|------|------|------|----|----------------------|------------------|
|                                       |                       |                 |      | a            | b    | d1   | d2   | d4   | c1   | l3 |                      |                  |
| 70                                    | M 8                   | <b>167R845</b>  | 16   | 28           | 24.0 | 11.5 | 8.5  | 16.5 | 10.0 | 14 | 6.40                 | 25               |
|                                       | M 10                  | <b>167R1045</b> | 16   | 28           | 24.0 | 11.5 | 10.5 | 16.5 | 12.0 | 16 | 6.76                 | 25               |
|                                       | M 12                  | <b>167R1245</b> | 16   | 28           | 24.0 | 11.5 | 13.0 | 16.5 | 13.0 | 18 | 6.90                 | 25               |
|                                       | M 14                  | <b>167R1445</b> | 16   | 28           | 24.0 | 11.5 | 15.0 | 16.5 | 14.5 | 20 | 6.72                 | 25               |
|                                       | M 16                  | <b>167R1645</b> | 16   | 28           | 30.0 | 11.5 | 17.0 | 16.5 | 16.0 | 22 | 6.96                 | 25               |
| 95                                    | M 10                  | <b>168R1045</b> | 18   | 35           | 28.0 | 13.5 | 10.5 | 19.0 | 12.0 | 17 | 9.64                 | 25               |
|                                       | M 12                  | <b>168R1245</b> | 18   | 35           | 28.0 | 13.5 | 13.0 | 19.0 | 13.0 | 18 | 9.21                 | 25               |
|                                       | M 14                  | <b>168R1445</b> | 18   | 35           | 28.0 | 13.5 | 15.0 | 19.0 | 14.5 | 20 | 9.51                 | 25               |
|                                       | M 16                  | <b>168R1645</b> | 18   | 35           | 32.0 | 13.5 | 17.0 | 19.0 | 16.0 | 22 | 9.40                 | 25               |
| 120                                   | M 10                  | <b>169R1045</b> | 20   | 35           | 32.0 | 15.5 | 10.5 | 21.0 | 15.0 | 17 | 11.09                | 10               |
|                                       | M 12                  | <b>169R1245</b> | 20   | 35           | 32.0 | 15.5 | 13.0 | 21.0 | 16.0 | 18 | 11.45                | 10               |
|                                       | M 14                  | <b>169R1445</b> | 20   | 35           | 32.0 | 15.5 | 15.0 | 21.0 | 18.0 | 20 | 11.55                | 10               |
|                                       | M 16                  | <b>169R1645</b> | 20   | 35           | 32.0 | 15.5 | 17.0 | 21.0 | 19.0 | 22 | 11.76                | 10               |
|                                       | M 20                  | <b>169R2045</b> | 20   | 35           | 38.0 | 15.5 | 21.0 | 21.0 | 21.0 | 24 | 11.55                | 10               |
| 150                                   | M 10                  | <b>170R1045</b> | 22   | 35           | 34.0 | 17.0 | 10.5 | 23.5 | 15.0 | 17 | 15.93                | 10               |
|                                       | M 12                  | <b>170R1245</b> | 22   | 35           | 34.0 | 17.0 | 13.0 | 23.5 | 16.0 | 18 | 16.08                | 10               |
|                                       | M 14                  | <b>170R1445</b> | 22   | 35           | 34.0 | 17.0 | 15.0 | 23.5 | 19.0 | 20 | 16.38                | 10               |
|                                       | M 16                  | <b>170R1645</b> | 22   | 35           | 34.0 | 17.0 | 17.0 | 23.5 | 19.0 | 22 | 16.90                | 10               |
|                                       | M 20                  | <b>170R2045</b> | 22   | 35           | 40.0 | 17.0 | 21.0 | 23.5 | 21.0 | 24 | 16.49                | 10               |
| 185                                   | M 10                  | <b>171R1045</b> | 25   | 40           | 37.0 | 19.0 | 10.5 | 25.5 | 15.0 | 22 | 20.16                | 10               |
|                                       | M 12                  | <b>171R1245</b> | 25   | 40           | 37.0 | 19.0 | 13.0 | 25.5 | 16.0 | 22 | 19.60                | 10               |
|                                       | M 14                  | <b>171R1445</b> | 25   | 40           | 37.0 | 19.0 | 15.0 | 25.5 | 19.0 | 22 | 20.05                | 10               |
|                                       | M 16                  | <b>171R1645</b> | 25   | 40           | 37.0 | 19.0 | 17.0 | 25.5 | 19.0 | 22 | 19.68                | 10               |
|                                       | M 20                  | <b>171R2045</b> | 25   | 40           | 40.0 | 19.0 | 21.0 | 25.5 | 21.0 | 24 | 19.95                | 10               |
| 240                                   | M 12                  | <b>172R1245</b> | 28   | 40           | 42.0 | 21.5 | 13.0 | 29.0 | 16.0 | 22 | 26.46                | 10               |
|                                       | M 14                  | <b>172R1445</b> | 28   | 40           | 42.0 | 21.5 | 15.0 | 29.0 | 19.0 | 22 | 26.99                | 10               |
|                                       | M 16                  | <b>172R1645</b> | 28   | 40           | 42.0 | 21.5 | 17.0 | 29.0 | 19.0 | 22 | 26.92                | 10               |
|                                       | M 20                  | <b>172R2045</b> | 28   | 40           | 45.0 | 21.5 | 21.0 | 29.0 | 21.0 | 24 | 26.88                | 10               |



## Compression cable lugs to DIN special type, Cu with 2 holes



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 1, 2, 5 and 6
- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ For pre-rounded sector shaped conductors
- ▶ Tube dimensions according to DIN 46235
- ▶ With code number for clear tool assignment

### Characteristics

- Easy to process due to crimp markings
- Annealed material optimises material and crimping properties
- Flat contact surface by special pressing technique
- Internal chamfer for simple cable insertion

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“
- Tool: see page 69

### Additional information

- Part Number appendix for bright version „BK“

| Nominal cross section mm² | Size of bolt diameter | Part No. | Code | Dimension mm |    |      |    |      |    |    |    |         | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------|-----------------------|----------|------|--------------|----|------|----|------|----|----|----|---------|-----------------------|------------------|
|                           |                       |          |      | a            | b  | d1   | d2 | d4   | c1 | c2 | l  | l2      |                       |                  |
| 70                        | 2 x M 12              | 147D212  | 16   | 28           | 24 | 11.5 | 13 | 16.5 | 13 | 13 | 55 | 50 - 62 | 10.82                 | 5                |
| 95                        |                       | 148D212  | 18   | 35           | 28 | 13.5 | 13 | 19.0 | 13 | 13 | 65 | 50 - 62 | 15.24                 | 5                |
| 120                       |                       | 149D212  | 20   | 35           | 32 | 15.5 | 13 | 21.0 | 16 | 17 | 70 | 50 - 62 | 18.62                 | 5                |
| 150                       |                       | 150D212  | 22   | 35           | 34 | 17.0 | 13 | 23.5 | 16 | 17 | 78 | 50 - 62 | 26.10                 | 5                |
| 185                       |                       | 151D212  | 25   | 40           | 37 | 19.0 | 13 | 25.5 | 16 | 17 | 82 | 50 - 62 | 30.48                 | 5                |
| 240                       |                       | 152D212  | 28   | 40           | 42 | 21.5 | 13 | 29.0 | 16 | 17 | 92 | 50 - 62 | 41.52                 | 5                |

## Compression cable lugs, special type, Cu with 1 hole, double crimping



- ▶ Special design for mounting of 2 multi-stranded cables, e.g. to DIN EN 60228 Cl. 2
- ▶ With crimp markings for correct crimp positioning

### Characteristics

- Annealed material optimises material and crimping properties
- Simple and safe connection due to flat contact surfaces and internal chamfer

### Material

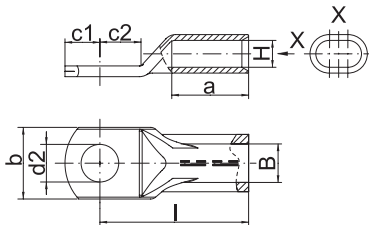
- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 70



| Nominal cross section mm <sup>2</sup> | Size of bolt diameter | Part No.       | Code  | Dimension mm |    |    |    |    |     | H    | B  | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-----------------------|----------------|-------|--------------|----|----|----|----|-----|------|----|-----------------------|------------------|
|                                       |                       |                |       | a            | b  | d2 | c1 | c2 | l   |      |    |                       |                  |
| 2 x 50                                | M 12                  | <b>136DP12</b> | 22 DP | 35           | 34 | 13 | 16 | 17 | 78  | 10.0 | 20 | 16.30                 | 5                |
| 2 x 70                                |                       | <b>137DP12</b> | 24 DP | 40           | 37 | 13 | 16 | 17 | 82  | 11.5 | 23 | 18.90                 | 5                |
| 2 x 95                                |                       | <b>138DP12</b> | 29 DP | 40           | 42 | 13 | 16 | 17 | 92  | 13.5 | 27 | 27.12                 | 5                |
| 2 x 120                               |                       | <b>139DP12</b> | 32 DP | 50           | 48 | 13 | 19 | 22 | 100 | 15.5 | 31 | 33.50                 | 5                |

## Compression cable lugs, special type, Cu with 2 long holes, double crimping



- ▶ Special design for mounting of 2 multi-stranded cables, e.g. to DIN EN 60228 Cl. 2
- ▶ With crimp markings for correct crimp positioning

### Characteristics

- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer
- Flat contact surface by special pressing technique

### Material

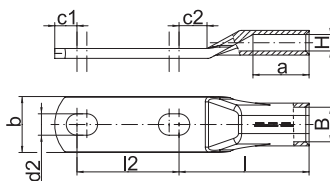
- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

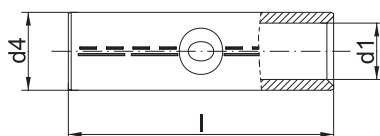
- Tool: see page 70



| Nominal cross section mm² | Size of bolt diameter | Part No. | Code  | Dimension mm |    |    |    |    |     | H       | B    | Weight/ 100 pcs. ~ kg | Packing unit/pcs |    |
|---------------------------|-----------------------|----------|-------|--------------|----|----|----|----|-----|---------|------|-----------------------|------------------|----|
|                           |                       |          |       | a            | b  | d2 | c1 | c2 | l   |         |      |                       |                  | l2 |
| 2 x 50                    | 2 x M 12              | 136DP212 | 22 DP | 35           | 34 | 13 | 16 | 17 | 78  | 50 - 62 | 10.0 | 20                    | 23.20            | 5  |
| 2 x 70                    |                       | 137DP212 | 24 DP | 40           | 37 | 13 | 16 | 17 | 82  | 50 - 62 | 11.5 | 23                    | 29.64            | 5  |
| 2 x 95                    |                       | 138DP212 | 29 DP | 40           | 42 | 13 | 16 | 17 | 92  | 50 - 62 | 13.5 | 27                    | 38.50            | 5  |
| 2 x 120                   |                       | 139DP212 | 32 DP | 50           | 48 | 13 | 19 | 22 | 100 | 50 - 62 | 15.5 | 31                    | 45.80            | 5  |



## Compression joints to DIN, Cu



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 1, 2, 5 and 6 and pre-rounded sector shaped conductors
- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ To DIN 46267, Part 1
- ▶ With code number for clear tool assignment
- ▶ With crimp markings for correct crimp positioning

### Characteristics

- Simple and safe processing due to butt mark
- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“
- Tool: see page 69
- Reduction sleeves for connecting unequal cross-sections can be found on page 68

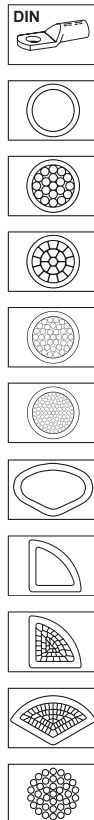
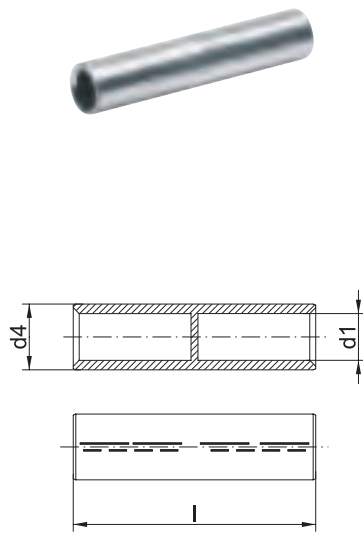
### Additional information

- Part Number appendix for bright version „BK“
- 10 - 800 mm<sup>2</sup> IEC-tested

| Nominal cross section mm <sup>2</sup> | Part No.    | Code | Dimension mm |      |     | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------|------|--------------|------|-----|-----------------------|------------------|
|                                       |             |      | d1           | d4   | l   |                       |                  |
| 6                                     | <b>121R</b> | 5    | 3.8          | 5.5  | 30  | 0.31                  | 100              |
| 10                                    | <b>122R</b> | 6    | 4.5          | 6.0  | 30  | 0.34                  | 100              |
| 16                                    | <b>123R</b> | 8    | 5.5          | 8.5  | 50  | 1.45                  | 100              |
| 25                                    | <b>124R</b> | 10   | 7.0          | 10.0 | 50  | 1.77                  | 50               |
| 35                                    | <b>125R</b> | 12   | 8.2          | 12.5 | 50  | 2.89                  | 50               |
| 50                                    | <b>126R</b> | 14   | 10.0         | 14.5 | 56  | 4.26                  | 50               |
| 70                                    | <b>127R</b> | 16   | 11.5         | 16.5 | 56  | 5.41                  | 50               |
| 95                                    | <b>128R</b> | 18   | 13.5         | 19.0 | 70  | 8.62                  | 25               |
| 120                                   | <b>129R</b> | 20   | 15.5         | 21.0 | 70  | 9.66                  | 25               |
| 150                                   | <b>130R</b> | 22   | 17.0         | 23.5 | 80  | 14.50                 | 10               |
| 185                                   | <b>131R</b> | 25   | 19.0         | 25.5 | 85  | 17.00                 | 10               |
| 240                                   | <b>132R</b> | 28   | 21.5         | 29.0 | 90  | 23.41                 | 10               |
| 300                                   | <b>133R</b> | 32   | 24.5         | 32.0 | 100 | 29.23                 | 5                |
| 400                                   | <b>134R</b> | 38   | 27.5         | 38.5 | 150 | 74.32                 | 5                |
| 500                                   | <b>135R</b> | 42   | 31.0         | 42.0 | 160 | 89.09                 | 1                |
| 625                                   | <b>136R</b> | 44   | 34.5         | 44.0 | 160 | 79.10                 | 1                |
| 800                                   | <b>137R</b> | 52   | 40.0         | 52.0 | 200 | 151.00                | 1                |
| 1000                                  | <b>138R</b> | 58   | 44.0         | 58.0 | 200 | 198.00                | 1                |



## Compression joints, Cu



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 1, 2, 5 and 6 and pre-rounded sector shaped conductors
- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ Barrier design with oil stop
- ▶ Tube dimension to DIN 46267, part 1
- ▶ With code number for clear tool assignment

### Characteristics

- Easy to process due to crimp markings
- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

### Suitable for

- Non-tension connections

### Material

- Copper (EN13600)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“
- Tool: see page 69
- Reduction sleeves for connecting unequal cross-sections can be found on page 68

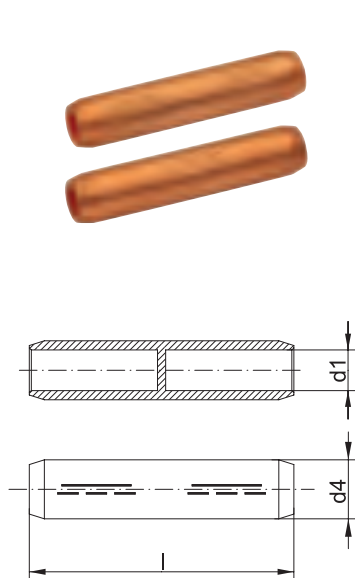
### Additional information

- Part Number appendix for bright version „BK“

| Nominal cross section mm <sup>2</sup> | Part No. | Code | Dimension mm |      |     | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|----------|------|--------------|------|-----|-----------------------|------------------|
|                                       |          |      | d1           | d4   | l   |                       |                  |
| 16                                    | 523R     | 8    | 5.5          | 8.5  | 50  | 1.54                  | 25               |
| 25                                    | 524R     | 10   | 7.0          | 10.0 | 50  | 1.84                  | 25               |
| 35                                    | 525R     | 12   | 8.2          | 12.5 | 50  | 2.99                  | 25               |
| 50                                    | 526R     | 14   | 10.0         | 14.5 | 56  | 4.46                  | 25               |
| 70                                    | 527R     | 16   | 11.5         | 16.5 | 56  | 5.61                  | 25               |
| 95                                    | 528R     | 18   | 13.5         | 19.0 | 70  | 8.88                  | 25               |
| 120                                   | 529R     | 20   | 15.5         | 21.0 | 70  | 10.06                 | 5                |
| 150                                   | 530R     | 22   | 17.0         | 23.5 | 80  | 14.89                 | 5                |
| 185                                   | 531R     | 25   | 19.0         | 25.5 | 85  | 17.57                 | 5                |
| 240                                   | 532R     | 28   | 21.5         | 29.0 | 90  | 24.23                 | 5                |
| 300                                   | 533R     | 32   | 24.5         | 32.0 | 100 | 30.15                 | 5                |
| 400                                   | 534R     | 38   | 27.5         | 38.5 | 150 | 75.60                 | 5                |
| 500                                   | 535R     | 42   | 31.0         | 42.0 | 160 | 92.00                 | 1                |



## Compression joint for cable connections 10 - 30 kV, copper



- For round conductors, e.g. to DIN EN 60228 Cl. 2 and pre-rounded sector shaped conductors
- For non-tension copper cables, e.g. to DIN 48201-1
- Tube dimension to DIN 46267, part 1
- For copper medium-voltage cable connections 10 - 30 kV
- With chamfered edges for reduced electrical stress in the assembly

### Characteristics

- Also available as barrier design with oil stop
- Easy to process due to crimp markings
- Annealed material optimises material and crimping properties
- Simple cable entry due to internal chamfer

### Suitable for

- Non-tension connections

### Material

- Copper (EN13600)

### Surface

- Bright

### Technical instructions

- Tool: see page 69
- Reduction sleeves for connecting unequal cross-sections can be found on page 68

### Additional information

- Part Number appendix for tinned version „V“

| Nominal cross<br>section mm² | Part<br>No. | Code | Dimension mm |      |     | Number of crimps |           | Weight/<br>100 pcs.<br>~ kg | Packing unit/<br>pcs |
|------------------------------|-------------|------|--------------|------|-----|------------------|-----------|-----------------------------|----------------------|
|                              |             |      | d1           | d4   | l   | Cu (5 mm)        | Cu (wide) |                             |                      |
| Normalversion                |             |      |              |      |     |                  |           |                             |                      |
| 25                           | 504R        | 12   | 7.5          | 12.5 | 60  | 2/2              | 1/1       | 4.08                        | 10                   |
| 35                           | 505R        | 12   | 8.2          | 12.5 | 60  | 2/2              | 1/1       | 3.56                        | 10                   |
| 50                           | 506R        | 14   | 10.0         | 14.5 | 65  | 3/3              | 1/1       | 4.90                        | 10                   |
| 70                           | 507R        | 16   | 11.5         | 16.5 | 65  | 3/3              | 1/1       | 6.10                        | 10                   |
| 95                           | 508R        | 18   | 13.5         | 19   | 90  | 4/4              | 2/2       | 10.98                       | 10                   |
| 120                          | 509R        | 20   | 15.5         | 21   | 90  | 4/4              | 2/2       | 12.68                       | 5                    |
| 150                          | 510R        | 22   | 17.0         | 23.5 | 105 | 4/4              | 2/2       | 18.09                       | 5                    |
| 185                          | 511R        | 25   | 19.0         | 25.5 | 105 | 4/4              | 2/2       | 20.35                       | 5                    |
| 240                          | 512R        | 28   | 21.5         | 29   | 125 |                  | 2/2       | 31.64                       | 5                    |
| 300                          | 513R        | 32   | 24.5         | 32   | 125 |                  | 2/2       | 35.40                       | 1                    |
| 400                          | 514R        | 38   | 27.5         | 38.5 | 160 |                  | 3/3       | 75.42                       | 1                    |
| Barrier version              |             |      |              |      |     |                  |           |                             |                      |
| 25                           | 504RLD      | 12   | 7.5          | 12.5 | 60  | 2/2              | 1/1       | 4.08                        | 25                   |
| 35                           | 505RLD      | 12   | 8.2          | 12.5 | 60  | 2/2              | 1/1       | 3.56                        | 10                   |
| 50                           | 506RLD      | 14   | 10.0         | 14.5 | 65  | 3/3              | 1/1       | 4.90                        | 10                   |
| 70                           | 507RLD      | 16   | 11.5         | 16.5 | 65  | 3/3              | 1/1       | 6.40                        | 10                   |
| 95                           | 508RLD      | 18   | 13.5         | 19   | 90  | 4/4              | 2/2       | 10.98                       | 10                   |
| 120                          | 509RLD      | 20   | 15.5         | 21   | 90  | 4/4              | 2/2       | 12.68                       | 5                    |
| 150                          | 510RLD      | 22   | 17.0         | 23.5 | 105 | 4/4              | 2/2       | 18.84                       | 5                    |
| 185                          | 511RLD      | 25   | 19.0         | 25.5 | 105 | 4/4              | 2/2       | 20.35                       | 5                    |
| 240                          | 512RLD      | 28   | 21.5         | 29   | 125 |                  | 2/2       | 31.64                       | 5                    |
| 300                          | 513RLD      | 32   | 24.5         | 32   | 125 |                  | 2/2       | 35.40                       | 1                    |
| 400                          | 514RLD      | 38   | 27.5         | 38.5 | 160 |                  | 3/3       | 75.42                       | 1                    |

## Compression joints to DIN, Cu



- ▶ For connecting copper cables to DIN 48201, Part 1
- ▶ For full tension cable connections
- ▶ To DIN 48085, Part 1
- ▶ With code number for clear tool assignment
- ▶ With crimp markings for correct crimping

### Characteristics

- Easy to process due to crimp markings
- Simple and safe processing due to butt mark
- Simple cable entry due to internal chamfer

### Material

- Copper (EN13600)

### Surface

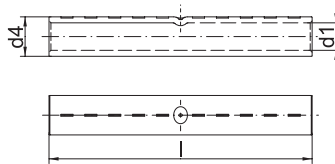
- Bright

### Technical instructions

- To process item 192R use crimping die HAD45240
- Tool: see page 69

### Additional information

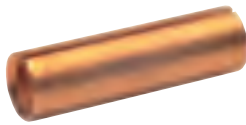
- \* = not standardised
- 16 - 70 mm<sup>2</sup> IEC-tested



| Nominal cross section mm <sup>2</sup> | Part No.    | Hint | Code | Dimension mm |      |     | Number of crimps |           | conductor dia. mm | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|-------------|------|------|--------------|------|-----|------------------|-----------|-------------------|-----------------------|------------------|
|                                       |             |      |      | d1           | d4   | l   | Cu (5 mm)        | Cu (wide) |                   |                       |                  |
| 6                                     | <b>181R</b> | *    | 6    | 3.5          | 6.5  | 65  | 4/4              |           | 3.00              | 1.4                   | 10               |
| 10                                    | <b>182R</b> |      | 8    | 4.5          | 8.5  | 80  | 5/5              |           | 4.05              | 3.0                   | 10               |
| 16                                    | <b>183R</b> |      | 8    | 5.5          | 8.5  | 95  | 5/5              |           | 5.10              | 2.8                   | 10               |
| 25                                    | <b>184R</b> |      | 10   | 7.0          | 10.0 | 95  | 5/5              |           | 6.30              | 3.4                   | 10               |
| 35                                    | <b>185R</b> |      | 12   | 8.2          | 12.5 | 95  | 5/5              |           | 7.50              | 5.6                   | 10               |
| 50                                    | <b>186R</b> |      | 14   | 10.0         | 14.5 | 110 | 5/5              |           | 9.00              | 8.6                   | 10               |
| 70                                    | <b>187R</b> |      | 16   | 11.5         | 16.5 | 110 | 5/5              |           | 10.50             | 10.8                  | 10               |
| 95                                    | <b>188R</b> |      | 20   | 13.5         | 21.0 | 145 | 8/8              | 4/4       | 12.50             | 26.2                  | 10               |
| 120                                   | <b>189R</b> |      | 22   | 15.0         | 23.5 | 160 | 8/8              | 4/4       | 14.00             | 36.8                  | 10               |
| 150                                   | <b>190R</b> |      | 25   | 16.5         | 25.5 | 180 | 8/8              | 4/4       | 15.70             | 47.5                  | 5                |
| 185                                   | <b>191R</b> | *    | 32   | 18.5         | 31.5 | 260 |                  | 5/5       | 17.50             | 118.0                 | 5                |
| 240                                   | <b>192R</b> | *    | 34   | 21.0         | 34.5 | 310 |                  | 6/6       | 20.20             | 163.0                 | 5                |
| 300                                   | <b>193R</b> | *    | 38   | 23.5         | 38.5 | 360 |                  | 7/7       | 22.50             | 235.0                 | 1                |



## Reduction sleeves, Cu



- ▶ For multi-stranded, round conductors e.g. to DIN EN 60228 Cl. 2
- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ For connecting different conductor cross-sections
- ▶ For use in DIN compression joints and connectors, standard type

### Characteristics

- Simple cable entry due to internal chamfer

### Suitable for

- For non-tension compression joints

### Material

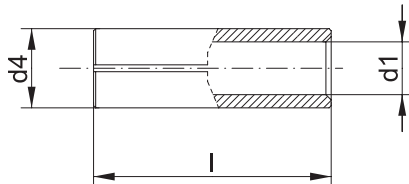
- Copper (EN13600)

### Surface

- Bright

### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-7



| Part No. | Nominal cross section mm <sup>2</sup> from | Nominal cross section mm <sup>2</sup> to | Dimension mm |      |    | Weight/<br>100 pcs.<br>~ kg | Packing unit/pcs |
|----------|--------------------------------------------|------------------------------------------|--------------|------|----|-----------------------------|------------------|
|          |                                            |                                          | d1           | d4   | l  |                             |                  |
| RH2510   | 25                                         | 10                                       | 4.6          | 6.6  | 25 | 0.358                       | 25               |
| RH2516   | 25                                         | 16                                       | 5.5          | 6.6  | 25 | 0.350                       | 25               |
| RH3510   | 35                                         | 10                                       | 4.5          | 8.0  | 25 | 0.707                       | 25               |
| RH3516   | 35                                         | 16                                       | 5.5          | 8.0  | 25 | 0.570                       | 25               |
| RH3525   | 35                                         | 25                                       | 7.0          | 8.0  | 25 | 0.253                       | 25               |
| RH5016   | 50                                         | 16                                       | 5.5          | 9.5  | 33 | 1.326                       | 25               |
| RH5025   | 50                                         | 25                                       | 7.0          | 9.5  | 33 | 0.923                       | 25               |
| RH5035   | 50                                         | 35                                       | 8.5          | 9.5  | 33 | 0.404                       | 25               |
| RH7025   | 70                                         | 25                                       | 7.0          | 11.0 | 33 | 1.580                       | 25               |
| RH7035   | 70                                         | 35                                       | 8.5          | 11.0 | 33 | 1.102                       | 25               |
| RH7050   | 70                                         | 50                                       | 10.0         | 11.0 | 33 | 0.486                       | 25               |
| RH9535   | 95                                         | 35                                       | 8.5          | 13.0 | 45 | 2.940                       | 25               |
| RH9550   | 95                                         | 50                                       | 10.0         | 13.0 | 45 | 2.136                       | 25               |
| RH9570   | 95                                         | 70                                       | 11.5         | 13.0 | 45 | 1.100                       | 25               |
| RH12050  | 120                                        | 50                                       | 10.0         | 15.0 | 45 | 3.802                       | 25               |
| RH12070  | 120                                        | 70                                       | 11.5         | 15.0 | 45 | 2.874                       | 25               |
| RH12095  | 120                                        | 95                                       | 13.5         | 15.0 | 45 | 1.340                       | 25               |
| RH15070  | 150                                        | 70                                       | 11.5         | 16.5 | 53 | 5.008                       | 5                |
| RH15095  | 150                                        | 95                                       | 13.5         | 16.5 | 53 | 3.212                       | 5                |
| RH150120 | 150                                        | 120                                      | 15.5         | 16.5 | 53 | 1.248                       | 5                |
| RH18595  | 185                                        | 95                                       | 13.5         | 18.5 | 53 | 5.824                       | 5                |
| RH185120 | 185                                        | 120                                      | 15.5         | 18.5 | 53 | 3.756                       | 5                |
| RH185150 | 185                                        | 150                                      | 17.0         | 18.5 | 53 | 1.660                       | 5                |
| RH240120 | 240                                        | 120                                      | 15.5         | 21.0 | 55 | 7.412                       | 5                |
| RH240150 | 240                                        | 150                                      | 17.0         | 21.0 | 55 | 5.740                       | 5                |
| RH240185 | 240                                        | 185                                      | 19.0         | 21.0 | 55 | 3.036                       | 5                |
| RH300150 | 300                                        | 150                                      | 17.0         | 24.0 | 58 | 11.200                      | 5                |
| RH300185 | 300                                        | 185                                      | 19.0         | 24.0 | 58 | 8.390                       | 5                |
| RH300240 | 300                                        | 240                                      | 21.5         | 24.0 | 58 | 4.526                       | 5                |
| RH400185 | 400                                        | 185                                      | 19.0         | 27.0 | 80 | 20.100                      | 5                |
| RH400240 | 400                                        | 240                                      | 21.5         | 27.0 | 80 | 14.270                      | 5                |
| RH400300 | 400                                        | 300                                      | 24.5         | 27.0 | 80 | 8.800                       | 5                |

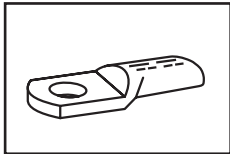
DIN



## Tool application chart

### Compression cable lugs and compression joints

| Tool type                                                                                   | Crimping range<br>corresponds to nominal<br>cross-section mm² | Crimping Tool |                            | Catalogue page |              | Crimp profile |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------|
|                                                                                             |                                                               | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |               |
| Mechanical<br>crimping tools                                                                | 6 - 50                                                        | K05D          |                            | 235            |              | ⬡             |
|                                                                                             | 10 - 120                                                      | K06D          |                            | 237            |              | ⬡             |
|                                                                                             | 25 - 150                                                      | K09D          |                            | 238            |              | ⬡             |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>dies / heads | 6 - 120                                                       | K354          |                            | 246            | 330          | ⬡             |
|                                                                                             | 6 - 185                                                       | K18           |                            | 248            | 338          | ⬡             |
|                                                                                             | 6 - 300                                                       | K22           |                            | 250            | 343          | ⬡             |
| Hand hydraulic<br>crimping tools                                                            | 6 - 185                                                       | HK6018        |                            | 292            | 338          | ⬡             |
|                                                                                             |                                                               | HK60UNV       | +UA18                      | 473            | 338          | ⬡             |
|                                                                                             | 6 - 300                                                       | HK6022        |                            | 294            | 343          | ⬡             |
|                                                                                             |                                                               | HK60UNV       | +UA22                      | 473            | 343          | ⬡             |
|                                                                                             | 16 - 300                                                      | HK12030       |                            | 298            | 348          | ⬡             |
|                                                                                             |                                                               | HK12042       |                            | 300            | 348          | ⬡             |
|                                                                                             |                                                               | HK120U        |                            | 302            | 348          | ⬡             |
|                                                                                             | 120 - 1000                                                    | HK45          |                            | 321            | 358          | ⬡             |
|                                                                                             |                                                               |               |                            |                |              |               |
| Battery powered<br>crimping tools                                                           | 6 - 120                                                       | EK354ML       |                            | 262            | 330          | ⬡             |
|                                                                                             |                                                               | EK354         |                            | 266            | 330          | ⬡             |
|                                                                                             | 6 - 185                                                       | EK505         |                            | 268            | 334          | ⬡             |
|                                                                                             |                                                               | EK5018        |                            | 270            | 338          | ⬡             |
|                                                                                             |                                                               | EK60UNV       | +UA18                      | 476            | 338          | ⬡             |
|                                                                                             |                                                               | EKM60UNV      | +UA18                      | 475            | 338          | ⬡             |
|                                                                                             |                                                               |               |                            |                |              |               |
|                                                                                             | 6 - 300                                                       | EK6022        |                            | 247            | 343          | ⬡             |
|                                                                                             |                                                               | EKM6022       |                            | 272            | 343          | ⬡             |
|                                                                                             |                                                               | EK60UNV       | +UA22                      | 476            | 343          | ⬡             |
|                                                                                             |                                                               | EKM60UNV      | +UA22                      | 475            | 343          | ⬡             |
|                                                                                             |                                                               |               |                            |                |              |               |
|                                                                                             | 16 - 300                                                      | EK12032       |                            | 280            | 348          | ⬡             |
|                                                                                             |                                                               | EK12042       |                            | 282            | 348          | ⬡             |
|                                                                                             |                                                               | EK120U        |                            | 284            | 348          | ⬡             |
|                                                                                             |                                                               | EK120UNV      | +UA12T                     | 477            | 348          | ⬡             |
|                                                                                             |                                                               | EK135FT       | +UA15T                     | 286            | 348          | ⬡             |
|                                                                                             | 400 - 625                                                     | EK135FT       |                            | 286            | 352          | ⬡             |
|                                                                                             |                                                               |               |                            |                |              |               |
| Hydraulic<br>crimping systems                                                               | 6 - 185                                                       | THK18         |                            | 306            | 338          | ⬡             |
|                                                                                             | 6 - 240                                                       | THK22         |                            | 308            | 343          | ⬡             |
|                                                                                             |                                                               | HK122EL380    |                            | 322            | 343          | ⬡             |
|                                                                                             | 16 - 625                                                      | HK252         |                            | 320            | 354          | ⬡             |
|                                                                                             |                                                               | HK252EL380    |                            | 323            | 354          | ⬡             |
| Hydraulic<br>crimping heads                                                                 | 6 - 185                                                       | PK18          |                            | 306            | 338          | ⬡             |
|                                                                                             |                                                               | PK60UNV       | +UA18                      | 474            | 338          | ⬡             |
|                                                                                             | 6 - 300                                                       | PK22          |                            | 308            | 343          | ⬡             |
|                                                                                             |                                                               | PK60UNV       | +UA22                      | 474            | 343          | ⬡             |
|                                                                                             | 16 - 300                                                      | PK12042       |                            | 312            | 348          | ⬡             |
|                                                                                             |                                                               | PK120U        |                            | 314            | 348          | ⬡             |
|                                                                                             | 16 - 625                                                      | PK252         |                            | 316            | 354          | ⬡             |
|                                                                                             | 120 - 1000                                                    | PK45          |                            | 318            | 358          | ⬡             |
|                                                                                             |                                                               |               |                            |                |              |               |



## Tool application chart

### Double compression cable lugs

| Tool type                                                                          | Crimping range corresponds to nominal cross-section mm² | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|------------------------------------------------------------------------------------|---------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                    |                                                         | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical, electrical, pneumatic crimping tools with interchangeable dies / heads | 2x50 - 2x70                                             | K22           |                         | 250            | 343          | ○             |
| Hand hydraulic crimping tools                                                      | 2x50 - 2x70                                             | HK6022        |                         | 294            | 343          | ○             |
|                                                                                    |                                                         | HK60UNV       | +UA22                   | 473            | 343          | ○             |
|                                                                                    | 2x50 - 2x95                                             | HK12030       |                         | 298            | 348          | ○             |
|                                                                                    |                                                         | HK12042       |                         | 300            | 348          | ○             |
|                                                                                    |                                                         | HK120U        |                         | 302            | 348          | ○             |
| Battery powered crimping tools                                                     | 2x50 - 2x70                                             | EK6022        |                         | 274            | 343          | ○             |
|                                                                                    |                                                         | EKM6022       |                         | 272            | 343          | ○             |
|                                                                                    |                                                         | EK60UNV       | +UA22                   | 476            | 343          | ○             |
|                                                                                    |                                                         | EKM60UNV      | +UA22                   | 475            | 343          | ○             |
|                                                                                    | 2x50 - 2x95                                             | EK12032       |                         | 280            | 348          | ○             |
|                                                                                    |                                                         | EK12042       |                         | 282            | 348          | ○             |
|                                                                                    |                                                         | EK120U        |                         | 284            | 348          | ○             |
|                                                                                    |                                                         | EK135FT       | +UA15T                  | 286            | 348          | ○             |
|                                                                                    |                                                         | EK120UNV      | +UA12T                  | 477            | 348          | ○             |
| Hydraulic crimping systems                                                         | 2x50 - 2x70                                             | THK22         |                         | 308            | 343          | ○             |
|                                                                                    | 2x50 - 2x95                                             | HK122EL380    |                         | 322            | 348          | ○             |
|                                                                                    | 2x50 - 2x120                                            | HK252         |                         | 320            | 354          | ○             |
|                                                                                    |                                                         | HK252EL380    |                         | 323            | 354          | ○             |
| Hydraulic crimping heads                                                           | 2x50 - 2x70                                             | PK22          |                         | 308            | 343          | ○             |
|                                                                                    |                                                         | PK60UNV       | +UA22                   | 474            | 343          | ○             |
|                                                                                    | 2x50 - 2x95                                             | PK12042       |                         | 312            | 348          | ○             |
|                                                                                    |                                                         | PK120U        |                         | 314            | 348          | ○             |
|                                                                                    | 2x50 - 2x120                                            | PK252         |                         | 316            | 354          | ○             |
|                                                                                    |                                                         |               |                         |                |              |               |





# PUNCHED - SOLDERLESS TERMINALS MADE FROM COPPER TO DIN 46234

Unlike the tubular cable lugs, Klauke solderless terminals are punched from a sheet, bent and then hard soldered in the crimp area. The grooved profile on the inside ensures higher conductor pull-out values. This product's small dimensions make it the ideal solution for confined areas.



### In brief

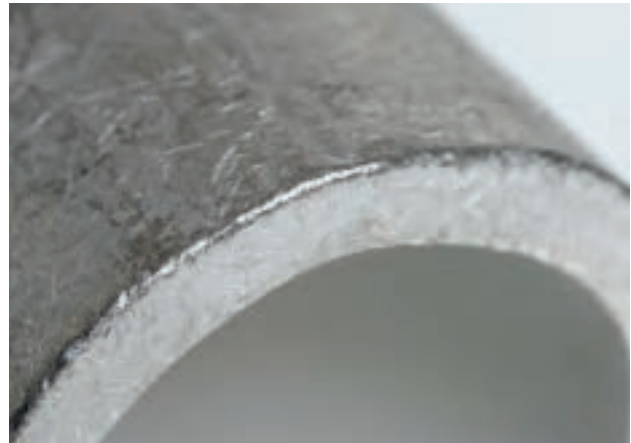
- ▶ Reliable crimping due to high-quality solder seam
- ▶ Small dimensions for confined areas
- ▶ Suitable for multi-stranded, fine-stranded and superfine-stranded conductors



### ► Hard soldered for reliable contact

The quality of Klauke cable lugs is also evident during the crimping operation: The solderless terminal always remains intact due to the high-quality solder seam. Guaranteed quality.

- Reliable contact due to high-quality solder seam and tinning
- Best possible contacting with ribbed profile
- Optimum solution for confined areas thanks to highly-compact dimensions
- Insulated and non-insulated versions



### ► Well insulated

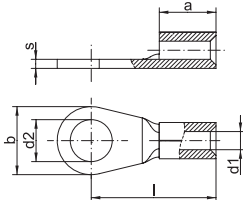
Klauke products make your day-to-day work easier. Thanks to the widened insulation, the conductor can be very conveniently inserted into our insulated solderless terminals. The insulation remains intact even after crimping, eliminating the need for retrospective insulation. Everything accomplished in one operation.

- Easy to use thanks to widened sleeve
- No additional insulation, hence fast processing
- As a fork-type, ideal for connecting meters in confined areas for example
- Easy conductor insertion thanks to widened sleeve





### Solderless terminals to DIN, Cu



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 2, 5 and 6
- ▶ To DIN 46234
- ▶ High-quality brazing process in the crimp area



#### Characteristics

- Improved contact properties due to grooved profile



#### Material

- Copper (ETP)



#### Surface

- Tin-plated to protect against corrosion



#### Technical instructions

- Tool: see page 82



#### Additional information

- \* = not standardised
- 0.5 - 6 mm<sup>2</sup> not UL-tested

| Nominal cross section mm <sup>2</sup> | Nominal size to DIN | Part No.      | Hint | Dimension mm |    |     |      |    |     | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|---------------------|---------------|------|--------------|----|-----|------|----|-----|-----------------------|------------------|
|                                       |                     |               |      | a            | b  | d1  | d2   | l  | s   |                       |                  |
| 0.5 - 1                               | 2.5 - 1             | <b>162025</b> |      | 5            | 6  | 1.6 | 2.8  | 11 | 0.8 | 0.060                 | 100              |
|                                       | 3 - 1               | <b>16203</b>  |      | 5            | 6  | 1.6 | 3.2  | 11 | 0.8 | 0.060                 | 100              |
|                                       | 3.5 - 1             | <b>162035</b> |      | 5            | 6  | 1.6 | 3.7  | 11 | 0.8 | 0.055                 | 100              |
|                                       | 4 - 1               | <b>16204</b>  |      | 5            | 8  | 1.6 | 4.3  | 12 | 0.8 | 0.070                 | 100              |
|                                       | 5 - 1               | <b>16205</b>  |      | 5            | 10 | 1.6 | 5.3  | 13 | 0.8 | 0.090                 | 100              |
|                                       | 6 - 1               | <b>16206</b>  | *    | 5            | 11 | 1.6 | 6.5  | 15 | 0.8 | 0.080                 | 100              |
|                                       | 8 - 1               | <b>16208</b>  | *    | 5            | 14 | 1.6 | 8.4  | 17 | 0.8 | 0.130                 | 100              |
|                                       | 10 - 1              | <b>162010</b> | *    | 5            | 18 | 1.6 | 10.5 | 19 | 0.8 | 0.130                 | 100              |
| 1.5 - 2.5                             | 3 - 2.5             | <b>16303</b>  |      | 5            | 6  | 2.3 | 3.2  | 11 | 0.8 | 0.065                 | 100              |
|                                       | 4 - 2.5             | <b>16304</b>  |      | 5            | 8  | 2.3 | 4.3  | 12 | 0.8 | 0.080                 | 100              |
|                                       | 3.5 - 2.5           | <b>163035</b> |      | 5            | 6  | 2.3 | 3.7  | 11 | 0.8 | 0.065                 | 100              |
|                                       | 5 - 2.5             | <b>16305</b>  |      | 5            | 10 | 2.3 | 5.3  | 14 | 0.8 | 0.090                 | 100              |
|                                       | 6 - 2.5             | <b>16306</b>  |      | 5            | 11 | 2.3 | 6.5  | 16 | 0.8 | 0.110                 | 100              |
|                                       | 8 - 2.5             | <b>16308</b>  |      | 5            | 14 | 2.3 | 8.4  | 17 | 0.8 | 0.130                 | 100              |
|                                       | 10 - 2.5            | <b>163010</b> | *    | 5            | 18 | 2.3 | 10.5 | 19 | 0.8 | 0.160                 | 100              |
|                                       | 12 - 2.5            | <b>163012</b> | *    | 5            | 18 | 2.3 | 13.0 | 19 | 0.8 | 0.160                 | 100              |
| 4 - 6                                 | 4 - 6               | <b>16504</b>  |      | 6            | 8  | 3.6 | 4.3  | 14 | 1.0 | 0.140                 | 100              |
|                                       | 5 - 6               | <b>16505</b>  |      | 6            | 10 | 3.6 | 5.3  | 15 | 1.0 | 0.160                 | 100              |
|                                       | 6 - 6               | <b>16506</b>  |      | 6            | 11 | 3.6 | 6.5  | 16 | 1.0 | 0.170                 | 100              |
|                                       | 8 - 6               | <b>16508</b>  |      | 6            | 14 | 3.6 | 8.4  | 19 | 1.0 | 0.220                 | 100              |
|                                       | 10 - 6              | <b>165010</b> |      | 6            | 18 | 3.6 | 10.5 | 21 | 1.0 | 0.290                 | 100              |
|                                       | 12 - 6              | <b>165012</b> | *    | 6            | 18 | 3.6 | 13.0 | 21 | 1.0 | 0.280                 | 100              |
| 10                                    | 5 - 10              | <b>16525</b>  |      | 8            | 10 | 4.5 | 5.3  | 16 | 1.1 | 0.230                 | 100              |
|                                       | 6 - 10              | <b>16526</b>  |      | 8            | 11 | 4.5 | 6.5  | 17 | 1.1 | 0.24                  | 100              |
|                                       | 8 - 10              | <b>16528</b>  |      | 8            | 14 | 4.5 | 8.4  | 20 | 1.1 | 0.340                 | 100              |
|                                       | 10 - 10             | <b>165210</b> |      | 8            | 18 | 4.5 | 10.5 | 21 | 1.1 | 0.340                 | 100              |
|                                       | 12 - 10             | <b>165212</b> |      | 8            | 22 | 4.5 | 13.0 | 23 | 1.1 | 0.420                 | 100              |
| 16                                    | 5 - 16              | <b>16535</b>  |      | 10           | 11 | 5.8 | 5.3  | 20 | 1.2 | 0.390                 | 100              |
|                                       | 6 - 16              | <b>16536</b>  |      | 10           | 11 | 5.8 | 6.5  | 20 | 1.2 | 0.380                 | 100              |
|                                       | 8 - 16              | <b>16538</b>  |      | 10           | 14 | 5.8 | 8.4  | 22 | 1.2 | 0.43                  | 100              |
|                                       | 10 - 16             | <b>165310</b> |      | 10           | 18 | 5.8 | 10.5 | 24 | 1.2 | 0.500                 | 100              |
|                                       | 12 - 16             | <b>165312</b> |      | 10           | 18 | 5.8 | 13.0 | 24 | 1.2 | 0.500                 | 100              |

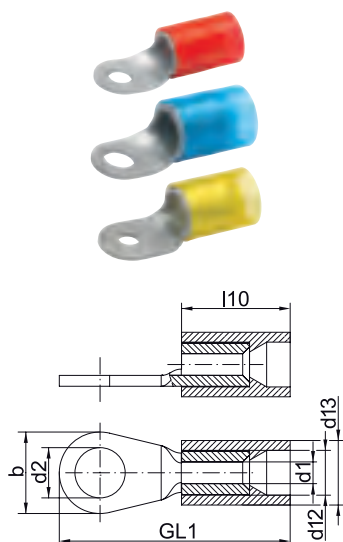
see next page

## Solderless terminals to DIN, Cu

| Nominal cross section mm <sup>2</sup> | Nominal size to DIN | Part No.      | Hint | Dimension mm |    |      |      |    |     | Weight/ 100 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|---------------------|---------------|------|--------------|----|------|------|----|-----|-----------------------|------------------|
|                                       |                     |               |      | a            | b  | d1   | d2   | l  | s   |                       |                  |
| 25                                    | 5 - 25              | <b>16545</b>  |      | 11           | 12 | 7.5  | 5.3  | 25 | 1.5 | 0.750                 | 100              |
|                                       | 6 - 25              | <b>16546</b>  |      | 11           | 12 | 7.5  | 6.5  | 25 | 1.5 | 0.750                 | 100              |
|                                       | 8 - 25              | <b>16548</b>  |      | 11           | 16 | 7.5  | 8.4  | 25 | 1.5 | 0.750                 | 100              |
|                                       | 10 - 25             | <b>165410</b> |      | 11           | 18 | 7.5  | 10.5 | 26 | 1.5 | 0.750                 | 100              |
|                                       | 12 - 25             | <b>165412</b> |      | 11           | 22 | 7.5  | 13.0 | 31 | 1.5 | 0.920                 | 100              |
|                                       | 16 - 25             | <b>165416</b> |      | 11           | 28 | 7.5  | 17.0 | 35 | 1.5 | 1.320                 | 100              |
| 35                                    | 6 - 35              | <b>16556</b>  |      | 12           | 16 | 9.0  | 8.4  | 26 | 1.6 | 0.980                 | 100              |
|                                       | 8 - 35              | <b>16558</b>  |      | 12           | 16 | 9.0  | 8.4  | 26 | 1.6 | 0.980                 | 100              |
|                                       | 10 - 35             | <b>165510</b> |      | 12           | 18 | 9.0  | 10.5 | 27 | 1.6 | 1.000                 | 100              |
|                                       | 12 - 35             | <b>165512</b> |      | 12           | 22 | 9.0  | 13.0 | 31 | 1.6 | 1.260                 | 100              |
|                                       | 16 - 35             | <b>165516</b> |      | 12           | 28 | 9.0  | 17.0 | 36 | 1.6 | 1.550                 | 100              |
| 50                                    | 6 - 50              | <b>16566</b>  |      | 16           | 18 | 11.0 | 6.5  | 34 | 1.8 | 1.650                 | 100              |
|                                       | 8 - 50              | <b>16568</b>  |      | 16           | 18 | 11.0 | 8.4  | 34 | 1.8 | 1.650                 | 100              |
|                                       | 10 - 50             | <b>165610</b> |      | 16           | 18 | 11.0 | 10.5 | 34 | 1.8 | 1.600                 | 100              |
|                                       | 12 - 50             | <b>165612</b> |      | 16           | 22 | 11.0 | 13.0 | 36 | 1.8 | 1.800                 | 100              |
|                                       | 16 - 50             | <b>165616</b> |      | 16           | 28 | 11.0 | 17.0 | 40 | 1.8 | 2.100                 | 100              |
| 70                                    | 6 - 70              | <b>16576</b>  |      | 18           | 22 | 13.0 | 6.5  | 38 | 2.0 | 2.600                 | 50               |
|                                       | 8 - 70              | <b>16578</b>  |      | 18           | 22 | 13.0 | 8.4  | 38 | 2.0 | 2.500                 | 50               |
|                                       | 10 - 70             | <b>165710</b> |      | 18           | 22 | 13.0 | 10.5 | 38 | 2.0 | 2.500                 | 50               |
|                                       | 12 - 70             | <b>165712</b> |      | 18           | 22 | 13.0 | 13.0 | 38 | 2.0 | 2.400                 | 50               |
|                                       | 16 - 70             | <b>165716</b> |      | 18           | 28 | 13.0 | 17.0 | 42 | 2.0 | 2.700                 | 50               |
| 95                                    | 8 - 95              | <b>16588</b>  |      | 20           | 24 | 15.0 | 8.4  | 42 | 2.5 | 4.300                 | 50               |
|                                       | 10 - 95             | <b>165810</b> |      | 20           | 24 | 15.0 | 10.5 | 42 | 2.5 | 4.1                   | 50               |
|                                       | 12 - 95             | <b>165812</b> |      | 20           | 24 | 15.0 | 13.0 | 42 | 2.5 | 3.900                 | 50               |
|                                       | 16 - 95             | <b>165816</b> |      | 20           | 28 | 15.0 | 17.0 | 44 | 2.5 | 4.100                 | 50               |
| 120                                   | 8 - 120             | <b>16598</b>  |      | 22           | 24 | 17.0 | 8.4  | 44 | 3.0 | 5.601                 | 50               |
|                                       | 10 - 120            | <b>165910</b> |      | 22           | 24 | 17.0 | 10.5 | 44 | 3.0 | 5.600                 | 50               |
|                                       | 12 - 120            | <b>165912</b> |      | 22           | 24 | 17.0 | 13.0 | 44 | 3.0 | 5.400                 | 50               |
|                                       | 16 - 120            | <b>165916</b> |      | 22           | 28 | 17.0 | 17.0 | 48 | 3.0 | 5.800                 | 50               |
| 150                                   | 10 - 150            | <b>166010</b> |      | 24           | 30 | 19.0 | 10.5 | 50 | 3.2 | 7.600                 | 50               |
|                                       | 12 - 150            | <b>166012</b> |      | 24           | 30 | 19.0 | 13.0 | 50 | 3.2 | 7.600                 | 50               |
|                                       | 16 - 150            | <b>166016</b> |      | 24           | 30 | 19.0 | 17.0 | 50 | 3.2 | 7.500                 | 50               |
| 185                                   | 12 - 185            | <b>166112</b> |      | 28           | 36 | 21.0 | 13.0 | 50 | 3.5 | 11.300                | 50               |
|                                       | 16 - 185            | <b>166116</b> |      | 28           | 36 | 21.0 | 17.0 | 50 | 3.5 | 11.300                | 50               |
| 240                                   | 12 - 240            | <b>166212</b> |      | 32           | 38 | 23.5 | 13.0 | 56 | 4.0 | 15.900                | 25               |
|                                       | 16 - 240            | <b>166216</b> |      | 32           | 38 | 23.5 | 17.0 | 56 | 4.0 | 15.900                | 25               |



### Insulated solderless terminals, Cu with Easy-Entry



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 2, 5 and 6
- ▶ High-quality brazing process in the crimp area
- ▶ Fast preparation as no additional insulation of the crimped connection is required
- ▶ Simple processing due to crimping over the insulation
- ▶ Insulation sleeve halogen-free

#### Characteristics

- Insulating, halogen-free with easy-entry cable insertion
- Dimensions in tube according to DIN 46234
- Improved contact properties due to grooved profile
- Cross-section-dependent colour-coding
- Heat resistant to 105° C

#### Material

- Copper (ETP)
- Insulation sleeve: PA

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 84

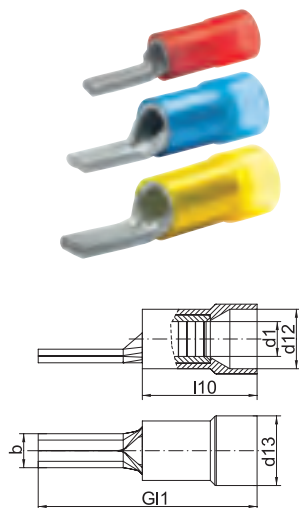
| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Dimension mm |      |      |      |      |      |      | Weight 100 pcs. ~kg Cu | Weight 100 pcs. ~kg Total | Packing unit/ pcs |
|---------------------------------------|----------|--------|--------------|------|------|------|------|------|------|------------------------|---------------------------|-------------------|
|                                       |          |        | b            | d1   | d12  | d13  | d2   | GL1  | l10  |                        |                           |                   |
| 10                                    | 6525     | Red    | 10           | 4.5  | 6.7  | 8.6  | 5.3  | 34.0 | 19.0 | 0.27                   | 0.27                      | 100               |
|                                       | 6526     | Red    | 11           | 4.5  | 6.7  | 8.6  | 6.5  | 34.0 | 19.0 | 0.24                   | 0.28                      | 100               |
|                                       | 6528     | Red    | 14           | 4.5  | 6.7  | 8.6  | 8.4  | 37.5 | 19.0 | 0.29                   | 0.33                      | 100               |
|                                       | 65210    | Red    | 18           | 4.5  | 6.7  | 8.6  | 10.5 | 41.5 | 19.0 | 0.34                   | 0.38                      | 100               |
|                                       | 65212    | Red    | 22           | 4.5  | 6.7  | 8.6  | 13.0 | 45.5 | 19.0 | 0.42                   | 0.46                      | 100               |
| 16                                    | 6535     | Blue   | 11           | 5.8  | 7.7  | 9.6  | 5.3  | 39.5 | 20.5 | 0.39                   | 0.44                      | 100               |
|                                       | 6536     | Blue   | 11           | 5.8  | 7.7  | 9.6  | 6.5  | 39.5 | 20.5 | 0.38                   | 0.43                      | 100               |
|                                       | 6538     | Blue   | 14           | 5.8  | 7.7  | 9.6  | 8.4  | 41.5 | 20.5 | 0.43                   | 0.48                      | 100               |
|                                       | 65310    | Blue   | 18           | 5.8  | 7.7  | 9.6  | 10.5 | 43.5 | 20.5 | 0.50                   | 0.55                      | 100               |
|                                       | 65312    | Blue   | 18           | 5.8  | 7.7  | 9.6  | 13.0 | 50.5 | 20.5 | 0.58                   | 0.63                      | 100               |
| 25                                    | 6545     | Yellow | 12           | 7.5  | 11.0 | 13.0 | 5.3  | 40.0 | 20.0 | 0.75                   | 0.84                      | 50                |
|                                       | 6546     | Yellow | 12           | 7.5  | 11.0 | 13.0 | 6.5  | 42.5 | 20.0 | 0.69                   | 0.78                      | 50                |
|                                       | 6548     | Yellow | 16           | 7.5  | 11.0 | 13.0 | 8.4  | 43.0 | 20.0 | 0.75                   | 0.84                      | 50                |
|                                       | 65410    | Yellow | 18           | 7.5  | 11.0 | 13.0 | 10.5 | 45.0 | 20.0 | 0.80                   | 0.89                      | 50                |
|                                       | 65412    | Yellow | 22           | 7.5  | 11.0 | 13.0 | 13.0 | 51.0 | 20.0 | 0.92                   | 1.00                      | 50                |
|                                       | 65416    | Yellow | 28           | 7.5  | 11.0 | 13.0 | 17.0 | 59.0 | 20.0 | 1.32                   | 1.40                      | 50                |
| 35                                    | 6556     | Red    | 16           | 9.0  | 12.7 | 15.0 | 6.5  | 44.0 | 22.5 | 1.01                   | 1.14                      | 50                |
|                                       | 6558     | Red    | 16           | 9.0  | 12.7 | 15.0 | 8.4  | 44.5 | 22.5 | 0.98                   | 1.10                      | 50                |
|                                       | 65510    | Red    | 18           | 9.0  | 12.7 | 15.0 | 10.5 | 46.5 | 22.5 | 1.00                   | 1.12                      | 50                |
|                                       | 65512    | Red    | 22           | 9.0  | 12.7 | 15.0 | 13.0 | 52.5 | 22.5 | 1.26                   | 1.38                      | 50                |
|                                       | 65516    | Red    | 28           | 9.0  | 12.7 | 15.0 | 17.0 | 54.5 | 22.5 | 1.55                   | 1.67                      | 50                |
| 50                                    | 6566     | Blue   | 18           | 11.0 | 15.4 | 18.0 | 6.5  | 54.5 | 27.5 | 1.65                   | 1.90                      | 50                |
|                                       | 6568     | Blue   | 18           | 11.0 | 15.4 | 18.0 | 8.4  | 60.5 | 27.5 | 1.65                   | 1.90                      | 50                |
|                                       | 65610    | Blue   | 18           | 11.0 | 15.4 | 18.0 | 10.5 | 60.5 | 27.5 | 1.60                   | 1.85                      | 50                |
|                                       | 65612    | Blue   | 22           | 11.0 | 15.4 | 18.0 | 13.0 | 60.5 | 27.5 | 1.80                   | 2.05                      | 50                |
|                                       | 65616    | Blue   | 28           | 11.0 | 15.4 | 18.0 | 17.0 | 67.5 | 27.5 | 2.10                   | 2.35                      | 50                |

see next page

## Insulated solderless terminals, Cu with Easy-Entry

| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Dimension mm |      |      |      |      |      |      | Weight 100 pcs. ~kg Cu | Weight 100 pcs. ~kg Total | Packing unit/ pcs |
|---------------------------------------|----------|--------|--------------|------|------|------|------|------|------|------------------------|---------------------------|-------------------|
|                                       |          |        | b            | d1   | d12  | d13  | d2   | Gl1  | l10  |                        |                           |                   |
| 70                                    | 6576     | Yellow | 22           | 13.0 | 17.4 | 20.0 | 6.5  | 61.5 | 30.5 | 2.60                   | 2.90                      | 50                |
|                                       | 6578     | Yellow | 22           | 13.0 | 17.4 | 20.0 | 8.4  | 61.5 | 30.5 | 2.50                   | 2.80                      | 50                |
|                                       | 65710    | Yellow | 22           | 13.0 | 17.4 | 20.0 | 10.5 | 66.5 | 30.5 | 2.50                   | 2.80                      | 50                |
|                                       | 65712    | Yellow | 22           | 13.0 | 17.4 | 20.0 | 13.0 | 66.5 | 30.5 | 2.40                   | 2.70                      | 50                |
|                                       | 65716    | Yellow | 28           | 13.0 | 17.4 | 20.0 | 17.0 | 70.5 | 30.5 | 2.70                   | 3.00                      | 50                |
| 95                                    | 65810    | Red    | 24           | 15.0 | 20.5 | 23.5 | 10.5 | 70.0 | 34.0 | 4.10                   | 4.50                      | 25                |
|                                       | 65812    | Red    | 24           | 15.0 | 20.5 | 23.5 | 13.0 | 70.0 | 34.0 | 3.90                   | 4.40                      | 25                |
|                                       | 65816    | Red    | 28           | 15.0 | 20.5 | 23.5 | 17.0 | 76.0 | 34.0 | 4.10                   | 4.50                      | 25                |
| 120                                   | 65910    | Blue   | 24           | 17.0 | 23.5 | 26.7 | 10.5 | 79.0 | 36.0 | 5.60                   | 6.10                      | 25                |
|                                       | 65912    | Blue   | 24           | 17.0 | 23.5 | 26.7 | 13.0 | 82.0 | 36.0 | 5.40                   | 5.90                      | 25                |
|                                       | 65916    | Blue   | 28           | 17.0 | 23.5 | 26.7 | 17.0 | 90.0 | 36.0 | 5.80                   | 6.30                      | 25                |
| 150                                   | 66010    | Yellow | 30           | 19.0 | 26.0 | 29.2 | 10.5 | 80.0 | 39.0 | 7.60                   | 8.40                      | 25                |
|                                       | 66012    | Yellow | 30           | 19.0 | 26.0 | 29.2 | 13.0 | 83.0 | 39.0 | 7.60                   | 8.40                      | 25                |
|                                       | 66016    | Yellow | 30           | 19.0 | 26.0 | 29.2 | 17.0 | 83.0 | 39.0 | 7.50                   | 8.30                      | 25                |

## Insulated pin terminals, Cu with Easy-Entry



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 2, 5 and 6
- ▶ High-quality brazing process in the crimp area
- ▶ Fast preparation as no additional insulation of the crimped connection is required
- ▶ Insulation sleeve halogen-free

### Characteristics

- Insulating, halogen-free with easy-entry cable insertion
- Improved contact properties due to grooved profile
- Cross-section-dependent colour-coding
- Heat resistant to 105° C

### Material

- Copper (ETP)
- Insulation sleeve: PA

### Surface

- Tin-plated to protect against corrosion

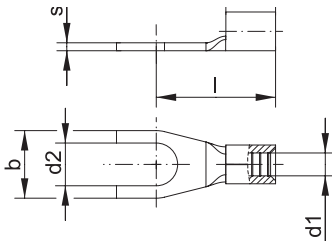
### Technical instructions

- Tool: see page 84

| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Dimension mm |      |      |      |      |      | Weight 100 pcs. ~kg Cu | Weight 100 pcs. ~kg Total | Packing unit/ pcs |
|---------------------------------------|----------|--------|--------------|------|------|------|------|------|------------------------|---------------------------|-------------------|
|                                       |          |        | b            | d1   | d12  | d13  | Gl1  | l10  |                        |                           |                   |
| 10                                    | ST1716IS | Red    | 4.3          | 4.3  | 7.4  | 9.4  | 33.0 | 19.0 | 0.27                   | 0.31                      | 100               |
| 16                                    | ST1717IS | Blue   | 5.5          | 5.4  | 8.6  | 10.6 | 38.0 | 20.0 | 0.39                   | 0.44                      | 100               |
| 25                                    | ST1718IS | Yellow | 6.8          | 6.7  | 12.5 | 14.5 | 43.5 | 23.5 | 0.63                   | 0.73                      | 50                |
| 35                                    | ST1719IS | Red    | 8.0          | 8.2  | 14.0 | 16.4 | 51.5 | 27.5 | 1.17                   | 1.34                      | 50                |
| 50                                    | ST1720IS | Blue   | 9.5          | 9.5  | 15.5 | 18.0 | 59.0 | 33.0 | 1.79                   | 2.10                      | 50                |
| 70                                    | ST1721IS | Yellow | 11.0         | 11.2 | 18.0 | 20.5 | 69.0 | 38.0 | 2.92                   | 3.20                      | 50                |
| 95                                    | ST1722IS | Red    | 12.5         | 13.5 | 20.7 | 23.5 | 71.0 | 40.0 | 4.30                   | 4.70                      | 25                |



### Solderless terminals, Cu, fork type



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 2, 5 and 6
- ▶ Dimensions in tube to 6 mm<sup>2</sup> to DIN 46234
- ▶ Simple fork-type mounting
- ▶ High-quality brazing process in the crimp area

#### Characteristics

- Improved contact properties due to grooved profile

#### Material

- Copper (ETP)

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 82

#### Additional information

- 0.5 - 6 mm<sup>2</sup> not UL-certified

| Nominal cross section mm <sup>2</sup> | Nominal size to DIN | Part No.       | Dimension mm |      |     |     |      |     | Weight 100 pcs. ~kg | Packing unit/ pcs |
|---------------------------------------|---------------------|----------------|--------------|------|-----|-----|------|-----|---------------------|-------------------|
|                                       |                     |                | a            | b    | d1  | d2  | l    | s   |                     |                   |
| 0.5 - 1                               | 3 - 1               | <b>1620C3</b>  | 5.0          | 6.0  | 1.6 | 3.2 | 11.0 | 0.8 | 0.060               | 100               |
|                                       | 3.5 - 1             | <b>1620C35</b> | 5.0          | 6.0  | 1.6 | 3.7 | 11.0 | 0.8 | 0.060               | 100               |
|                                       | 4 - 1               | <b>1620C4</b>  | 5.0          | 6.8  | 1.6 | 4.3 | 12.0 | 0.8 | 0.070               | 100               |
|                                       | 5 - 1               | <b>1620C5</b>  | 5.0          | 10.0 | 1.6 | 5.3 | 13.0 | 0.8 | 0.090               | 100               |
|                                       | 6 - 1               | <b>1620C6</b>  | 5.0          | 11.0 | 1.6 | 6.5 | 15.0 | 0.8 | 0.080               | 100               |
| 1.5 - 2.5                             | 3 - 2.5             | <b>1630C3</b>  | 5.0          | 5.5  | 2.3 | 3.2 | 13.8 | 0.8 | 0.065               | 100               |
|                                       | 3.5 - 2.5           | <b>1630C35</b> | 5.0          | 6.0  | 2.3 | 3.7 | 11.0 | 0.8 | 0.065               | 100               |
|                                       | 4 - 2.5             | <b>1630C4</b>  | 5.0          | 6.8  | 2.3 | 4.3 | 12.0 | 0.8 | 0.080               | 100               |
|                                       | 5 - 2.5             | <b>1630C5</b>  | 5.0          | 10.0 | 2.3 | 5.3 | 14.0 | 0.8 | 0.090               | 100               |
|                                       | 6 - 2.5             | <b>1630C6</b>  | 5.0          | 11.0 | 2.3 | 6.5 | 16.0 | 0.8 | 0.110               | 100               |
| 4 - 6                                 | 4 - 6               | <b>1650C4</b>  | 6.0          | 8.0  | 3.6 | 4.3 | 14.0 | 1.0 | 0.140               | 100               |
|                                       | 5 - 6               | <b>1650C5</b>  | 6.0          | 10.0 | 3.6 | 5.3 | 15.0 | 1.0 | 0.160               | 100               |
|                                       | 6 - 6               | <b>1650C6</b>  | 6.0          | 11.0 | 3.6 | 6.5 | 16.0 | 1.0 | 0.170               | 100               |
|                                       | 8 - 6               | <b>1650C8</b>  | 6.0          | 14.0 | 3.6 | 8.4 | 19.0 | 1.0 | 0.220               | 100               |
| 10                                    | 5 - 10              | <b>1652C5</b>  | 10.0         | 10.0 | 4.3 | 5.3 | 19.0 | 1.0 | 0.240               | 100               |
|                                       | 6 - 10              | <b>1652C6</b>  | 10.0         | 11.0 | 4.3 | 6.4 | 21.0 | 1.0 | 0.260               | 100               |
| 16                                    | 6 - 16              | <b>1653C6</b>  | 11.5         | 11.0 | 5.8 | 6.4 | 24.0 | 1.0 | 0.350               | 100               |

## Pin terminals to DIN, Cu



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 2, 5 and 6
- ▶ Nominal cross-sections 0.5 - 6 mm<sup>2</sup> to DIN 46230
- ▶ High-quality brazing process in the crimp area

### Characteristics

- Improved contact properties due to grooved profile

### Material

- Copper (ETP)

### Surface

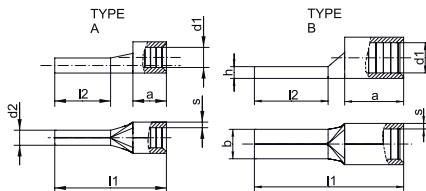
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 82

### Additional information

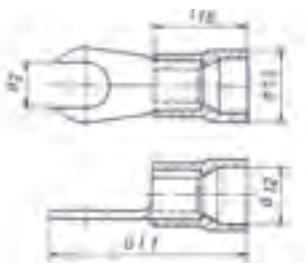
- \* = not standardised
- 0.5 - 6 mm<sup>2</sup> not UL-tested



| Nominal cross section mm <sup>2</sup> | Nominal size to DIN | Part No. | Typ | Hint | Dimension mm |      |      |     |      |    |     |     | Weight 100 pcs. ~kg | Packing unit/pcs |
|---------------------------------------|---------------------|----------|-----|------|--------------|------|------|-----|------|----|-----|-----|---------------------|------------------|
|                                       |                     |          |     |      | a            | b    | d1   | d2  | l1   | l2 | s   | h   |                     |                  |
| 0.5 - 1                               | 1                   | ST1705   | A   |      | 5.0          | --   | 1.8  | 1.9 | 17.0 | 10 | 0.8 | --  | 0.060               | 100              |
| 1.5 - 2.5                             | 2.5                 | ST1710   | A   |      | 5.0          | --   | 2.3  | 1.9 | 17.0 | 10 | 0.8 | --  | 0.072               | 100              |
| 4 - 6                                 | 6                   | ST1715   | A   |      | 6.0          | --   | 3.6  | 2.7 | 20.0 | 11 | 1.0 | --  | 0.160               | 100              |
| 10                                    | --                  | ST1716   | B   | *    | 10.0         | 4.3  | 4.3  | --  | 24.5 | 11 | 1.0 | 2.0 | 0.270               | 100              |
| 16                                    | --                  | ST1717   | B   | *    | 11.5         | 5.8  | 5.4  | --  | 29.5 | 15 | 1.0 | 2.0 | 0.390               | 100              |
| 25                                    | --                  | ST1718   | B   | *    | 13.5         | 6.8  | 6.7  | --  | 33.5 | 15 | 1.2 | 2.4 | 0.630               | 100              |
| 35                                    | --                  | ST1719   | B   | *    | 16.0         | 8.0  | 8.2  | --  | 40.5 | 20 | 1.5 | 3.2 | 1.170               | 50               |
| 50                                    | --                  | ST1720   | B   | *    | 19.0         | 9.5  | 9.5  | --  | 45.0 | 20 | 1.8 | 3.6 | 1.790               | 50               |
| 70                                    | --                  | ST1721   | B   | *    | 24.0         | 11.0 | 11.2 | --  | 55.0 | 23 | 2.0 | 4.0 | 2.920               | 50               |
| 95                                    | --                  | ST1722   | B   | *    | 24.0         | 12.5 | 13.5 | --  | 55.0 | 23 | 2.5 | 5.0 | 4.300               | 50               |



### Insulated solderless terminals for meter connections, Cu, fork type



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 2, 5 and 6
- ▶ Special design for meter connection
- ▶ High-quality brazing process in the crimp area
- ▶ Fast preparation as no additional insulation of the crimped connection is required
- ▶ Insulation sleeve halogen-free

#### Characteristics

- Improved contact properties due to grooved profile
- Cross-section-dependent colour-coding
- Heat resistant to 105° C

#### Material

- Copper (ETP)
- Insulation sleeve: PA

#### Surface

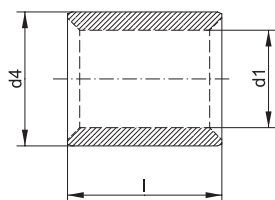
- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 84

| Nominal cross section mm² | Part No.     | Colour | Dimension mm |      |     |      |      | Gewicht 100 St. ~kg Cu | Gewicht 100 St. ~kg Ges. | Packing unit/ pcs |
|---------------------------|--------------|--------|--------------|------|-----|------|------|------------------------|--------------------------|-------------------|
|                           |              |        | d12          | d13  | d2  | Gl1  | l10  |                        |                          |                   |
| 10                        | <b>652C5</b> | ■      | 7.0          | 9.6  | 5.3 | 33.5 | 19.0 | 0.24                   | 0.28                     | 100               |
|                           | <b>652C6</b> | ■      | 7.0          | 9.6  | 6.4 | 33.5 | 19.0 | 0.26                   | 0.30                     | 100               |
| 16                        | <b>653C6</b> | ■      | 8.6          | 10.6 | 6.4 | 37.5 | 20.5 | 0.35                   | 0.40                     | 100               |

### Solderless connectors to DIN, Cu, short type



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 2, 5 and 6
- ▶ To DIN 46341, Part 1, Form A
- ▶ Ideal for connecting differing conductor cross-sections

#### Characteristics

- Simple cable entry due to internal chamfer
- Annealed material optimises material and crimping properties

#### Material

- Copper (EN13600)

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 82

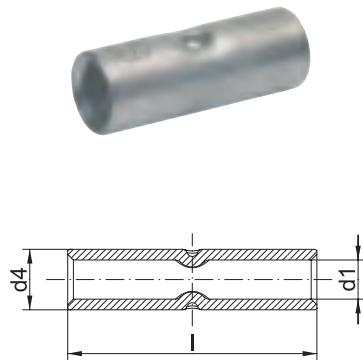
#### Additional information

- The sum of the single conductor cross sections must be within the specified cross section range.

| Nominal cross section mm² | Nominal size to DIN | Part No.     | Dimension mm |      |    | Weight 100 pcs. ~kg | Packing unit/pcs |
|---------------------------|---------------------|--------------|--------------|------|----|---------------------|------------------|
|                           |                     |              | d1           | d4   | l  |                     |                  |
| 0.5 - 1                   | 1                   | <b>1620K</b> | 1.6          | 3.2  | 8  | 0.045               | 100              |
| 1 - 2.5                   | 2.5                 | <b>1630K</b> | 2.3          | 3.9  | 8  | 0.055               | 100              |
| 2.5 - 6                   | 6                   | <b>1650K</b> | 3.6          | 5.6  | 9  | 0.090               | 100              |
| 6 - 10                    | 10                  | <b>1652K</b> | 4.5          | 6.7  | 10 | 0.170               | 100              |
| 10 - 16                   | 16                  | <b>1653K</b> | 5.8          | 8.2  | 11 | 0.260               | 100              |
| 16 - 25                   | 25                  | <b>1654K</b> | 7.5          | 10.5 | 14 | 0.510               | 100              |
| 25 - 35                   | 35                  | <b>1655K</b> | 9.0          | 12.2 | 16 | 0.730               | 100              |
| 35 - 50                   | 50                  | <b>1656K</b> | 11.0         | 14.6 | 19 | 1.200               | 100              |
| 50 - 70                   | 70                  | <b>1657K</b> | 13.0         | 17.0 | 19 | 1.530               | 50               |
| 70 - 95                   | 95                  | <b>1658K</b> | 15.0         | 20.0 | 20 | 2.370               | 50               |
| 95 - 120                  | 120                 | <b>1659K</b> | 16.5         | 22.5 | 22 | 3.450               | 50               |
| 120 - 150                 | 150                 | <b>1660K</b> | 19.0         | 25.4 | 26 | 5.060               | 50               |



## Solderless connectors to DIN, Cu, long type



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 2, 5 and 6
- ▶ To DIN 46341, Part 1, Form B
- ▶ Simple and safe processing due to butt mark

### Characteristics

- Simple cable entry due to internal chamfer
- Annealed material optimises material and crimping properties

### Material

- Copper (EN13600)

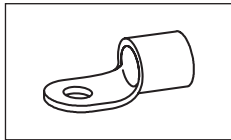
### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 82

| Nominal cross section mm <sup>2</sup> | Nominal size to DIN | Part No.     | Dimension mm |      |    | Weight 100 pcs. ~kg | Packing unit/pcs |
|---------------------------------------|---------------------|--------------|--------------|------|----|---------------------|------------------|
|                                       |                     |              | d1           | d4   | l  |                     |                  |
| 0.5 - 1                               | 1                   | <b>1620L</b> | 1.6          | 3.2  | 15 | 0.08                | 100              |
| 1.5 - 2.5                             | 2.5                 | <b>1630L</b> | 2.3          | 3.9  | 15 | 0.10                | 100              |
| 4 - 6                                 | 6                   | <b>1650L</b> | 3.6          | 5.6  | 15 | 0.19                | 100              |
| 10                                    | 10                  | <b>1652L</b> | 4.5          | 6.7  | 21 | 0.36                | 100              |
| 16                                    | 16                  | <b>1653L</b> | 5.8          | 8.2  | 26 | 0.62                | 100              |
| 25                                    | 25                  | <b>1654L</b> | 7.5          | 10.5 | 29 | 1.11                | 100              |
| 35                                    | 35                  | <b>1655L</b> | 9.0          | 12.2 | 32 | 1.50                | 100              |
| 50                                    | 50                  | <b>1656L</b> | 11.0         | 14.6 | 38 | 2.44                | 100              |
| 70                                    | 70                  | <b>1657L</b> | 13.0         | 17.0 | 42 | 3.54                | 50               |
| 95                                    | 95                  | <b>1658L</b> | 15.0         | 20.0 | 48 | 5.87                | 50               |
| 120                                   | 120                 | <b>1659L</b> | 16.5         | 22.5 | 52 | 8.46                | 50               |
| 150                                   | 150                 | <b>1660L</b> | 19.0         | 25.4 | 56 | 10.86               | 50               |

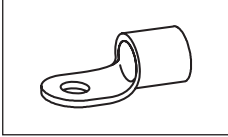


### Tool application chart

**Solderless terminals to DIN 46234, pin terminals to DIN 46230,  
solderless connectors to DIN 46341**  
Part 1 of 2

| Tool type                                                                                   | Crimping range<br>corresponds to nominal<br>cross-section mm <sup>2</sup> | Crimping Tool |                            | Catalogue page |              | Crimp profile |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------|
|                                                                                             |                                                                           | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |               |
| Mechanical<br>crimping tools                                                                | 0.5 - 16                                                                  | K25           |                            | 230            |              |               |
|                                                                                             | 16 - 95                                                                   | K95           |                            | 230            |              |               |
|                                                                                             |                                                                           | TK95          |                            | 231            |              |               |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>dies / heads | 0.5 - 10                                                                  | K50           |                            | 244            | 326          |               |
|                                                                                             |                                                                           | EK50ML        |                            | 254            | 326          |               |
|                                                                                             |                                                                           | K507          |                            | 243            |              |               |
|                                                                                             | 0.75 - 2.5                                                                | KP1           | +KP232                     | 240            |              |               |
|                                                                                             |                                                                           | KP1L          | +KP232                     | 240            |              |               |
|                                                                                             | 4 - 10                                                                    | KP1           | +KP242                     | 240            |              |               |
|                                                                                             |                                                                           | KP1L          | +KP242                     | 240            |              |               |
|                                                                                             | 6 - 35                                                                    | K354          |                            | 246            | 330          |               |
|                                                                                             | 10 - 70                                                                   | K18           |                            | 248            | 338          |               |
|                                                                                             |                                                                           | K22           |                            | 250            | 343          |               |
| Hand hydraulic<br>crimping tools                                                            | 10 - 70                                                                   | HK6018        |                            | 292            | 338          |               |
|                                                                                             |                                                                           | HK60UNV       | +UA18                      | 473            | 338          |               |
|                                                                                             |                                                                           | HK6022        |                            | 294            | 343          |               |
|                                                                                             |                                                                           | HK60UNV       | +UA22                      | 473            | 343          |               |
|                                                                                             | 16 - 150                                                                  | HK12030       |                            | 298            | 349          |               |
|                                                                                             |                                                                           | HK12042       |                            | 300            | 349          |               |
|                                                                                             |                                                                           | HK120U        |                            | 302            | 349          |               |
| Battery powered<br>crimping tools                                                           | 0.5 - 10                                                                  | EK1550ML      |                            | 258            | 326          |               |
|                                                                                             | 6 - 35                                                                    | EK354ML       |                            | 262            | 330          |               |
|                                                                                             |                                                                           | EK354         |                            | 266            | 330          |               |
|                                                                                             | 10 - 50                                                                   | EK505         |                            | 268            | 334          |               |
|                                                                                             | 10 - 70                                                                   | EK5018        |                            | 270            | 338          |               |
|                                                                                             |                                                                           | EK60UNV       | +UA18                      | 476            | 338          |               |
|                                                                                             |                                                                           | EKM60UNV      | +UA18                      | 475            | 338          |               |
|                                                                                             |                                                                           | EK6022        |                            | 247            | 343          |               |
|                                                                                             |                                                                           | EKM6022       |                            | 272            | 343          |               |
|                                                                                             |                                                                           | EK60UNV       | +UA22                      | 476            | 343          |               |
|                                                                                             |                                                                           | EKM60UNV      | +UA22                      | 475            | 343          |               |
|                                                                                             | 10 - 240                                                                  | EKM60ID       |                            | 278            |              |               |
|                                                                                             | 16 - 150                                                                  | EK12032       |                            | 280            | 349          |               |
|                                                                                             |                                                                           | EK12042       |                            | 282            | 349          |               |
|                                                                                             |                                                                           | EK120U        |                            | 284            | 349          |               |
|                                                                                             |                                                                           | EK135FT       | +UA15T                     | 286            | 349          |               |
|                                                                                             |                                                                           | EK120UNV      | +UA12T                     | 477            | 349          |               |
|                                                                                             | 35 - 240                                                                  | EK120ID       |                            | 279            |              |               |

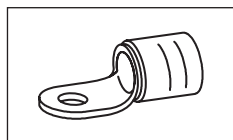
see next page



## Tool application chart

**Solderless terminals to DIN 46234, pin terminals to DIN 46230,  
solderless connectors to DIN 46341**  
Part 2 of 2

| Tool type                     | Crimping range<br>corresponds to nominal<br>cross-section mm <sup>2</sup> | Crimping Tool |                            | Catalogue page |              | Crimp profile                                                                       |
|-------------------------------|---------------------------------------------------------------------------|---------------|----------------------------|----------------|--------------|-------------------------------------------------------------------------------------|
|                               |                                                                           | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |                                                                                     |
| Hydraulic<br>crimping systems | 10 - 70                                                                   | THK18         |                            | 306            | 338          |  |
|                               |                                                                           | THK22         |                            | 308            | 343          |  |
|                               | 16 - 150                                                                  | HK122EL380    |                            | 322            | 349          |  |
|                               | 16 - 240                                                                  | HK252         |                            | 320            | 354          |  |
|                               |                                                                           | HK252EL380    |                            | 323            | 354          |  |
| Hydraulic<br>crimping heads   | 10 - 70                                                                   | PK18          |                            | 306            | 338          |  |
|                               |                                                                           | PK60UNV       | +UA18                      | 474            | 338          |  |
|                               |                                                                           | PK22          |                            | 308            | 343          |  |
|                               |                                                                           | PK60UNV       | +UA22                      | 474            | 343          |  |
|                               | 10 - 240                                                                  | PK60ID        |                            | 311            |              |  |
|                               | 16 - 150                                                                  | PK12042       |                            | 312            | 349          |  |
|                               |                                                                           | PK120U        |                            | 314            | 349          |  |
|                               | 16 - 240                                                                  | PK252         |                            | 316            | 354          |  |



### Tool application chart

#### Isolierte Quetschkabelschuhe Isolierte Stiftkabelschuhe

| Tool type                                                                                   | Crimping range<br>corresponds to nominal<br>cross-section mm² | Crimping Tool |                            | Catalogue page |              | Crimp profile                                                                         |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------------------------------------------------------------------------------|
|                                                                                             |                                                               | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |                                                                                       |
| Mechanical<br>crimping tools                                                                | 10 - 16                                                       | K16           |                            | 223            |              |    |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>dies / heads | 10 - 16                                                       | K50           |                            | 244            | 327          |    |
|                                                                                             |                                                               | EK50ML        |                            | 254            | 327          |    |
|                                                                                             |                                                               | K354          |                            | 246            | 327          |    |
|                                                                                             | 10 - 50                                                       | K18           |                            | 248            | 338          |    |
|                                                                                             | 10 - 70                                                       | K22           |                            | 250            | 343          |    |
| Hand hydraulic<br>crimping tools                                                            | 10 - 50                                                       | HK6018        |                            | 292            | 338          |    |
|                                                                                             |                                                               | HK60UNV       | +UA18                      | 473            | 338          |    |
|                                                                                             | 10 - 70                                                       | HK6022        |                            | 294            | 343          |    |
|                                                                                             |                                                               | HK60UNV       | +UA22                      | 473            | 343          |    |
|                                                                                             | 10 - 95                                                       | HK12030       |                            | 298            | 349          |    |
|                                                                                             |                                                               | HK12042       |                            | 300            | 349          |    |
|                                                                                             |                                                               | HK120U        |                            | 302            | 349          |  |
| Battery powered<br>crimping tools                                                           | 10 - 16                                                       | EK1550ML      |                            | 258            | 327          |  |
|                                                                                             |                                                               | EK354ML       |                            | 262            | 330          |  |
|                                                                                             |                                                               | EK354         |                            | 266            | 330          |  |
|                                                                                             | 10 - 50                                                       | EK5018        |                            | 270            | 338          |  |
|                                                                                             |                                                               | EK60UNV       | +UA18                      | 476            | 338          |  |
|                                                                                             |                                                               | EKM60UNV      | +UA18                      | 475            | 338          |  |
|                                                                                             | 10 - 70                                                       | EK6022        |                            | 274            | 343          |  |
|                                                                                             |                                                               | EKM6022       |                            | 272            | 343          |  |
|                                                                                             |                                                               | EK60UNV       | +UA22                      | 476            | 343          |  |
|                                                                                             |                                                               | EKM60UNV      | +UA22                      | 475            | 343          |  |
|                                                                                             | 10 - 95                                                       | EK12032       |                            | 280            | 349          |  |
|                                                                                             |                                                               | EK12042       |                            | 282            | 349          |  |
|                                                                                             |                                                               | EK120U        |                            | 284            | 349          |  |
|                                                                                             |                                                               | EK135FT       | +UA15T                     | 286            | 349          |  |
|                                                                                             |                                                               | EK120UNV      | +UA12T                     | 477            | 349          |  |
| Hydraulic<br>crimping systems                                                               | 10 - 50                                                       | THK18         |                            | 306            | 338          |  |
|                                                                                             | 10 - 70                                                       | THK22         |                            | 308            | 343          |  |
|                                                                                             | 10 - 150                                                      | HK252         |                            | 320            | 355          |  |
| Hydraulic<br>crimping heads                                                                 | 10 - 50                                                       | PK18          |                            | 306            | 338          |  |
|                                                                                             |                                                               | PK60UNV       | +UA18                      | 474            | 338          |  |
|                                                                                             | 10 - 70                                                       | PK22          |                            | 308            | 343          |  |
|                                                                                             |                                                               | PK60UNV       | +UA22                      | 474            | 343          |  |
|                                                                                             | 10 - 95                                                       | PK12042       |                            | 312            | 349          |  |
|                                                                                             |                                                               | PK120U        |                            | 314            | 349          |  |
|                                                                                             | 10 - 150                                                      | PK252         |                            | 316            | 355          |  |





# COMPENSATING - SLEEVES FOR COPPER SECTOR-SHAPED AND COMPACTED CONDUCTORS

With the right sleeve, copper sector-shaped conductors are easy to crimp all the way round and can then be conveniently inserted into the cable lug. Klauke sleeves for compacted conductors compensate the difference between the compacted conductor and cable lug - ensuring reliable connections.



### In brief

- ▶ For round crimping sector-shaped conductors
- ▶ Brings compacted conductors to the required volume
- ▶ Good conductivity due to high-quality copper
- ▶ Available for DIN and tubular cable lugs



**Note:** The sleeves for sector-shaped conductors must be crimped with pre-rounding dies.

### ► Filled in two steps

Making it easy for you: Use the Klauke sleeves to bring compacted conductors to the required volume in just two work steps: Simply attach the sleeve to the stripped conductor and insert it into the appropriate cable lug - done.

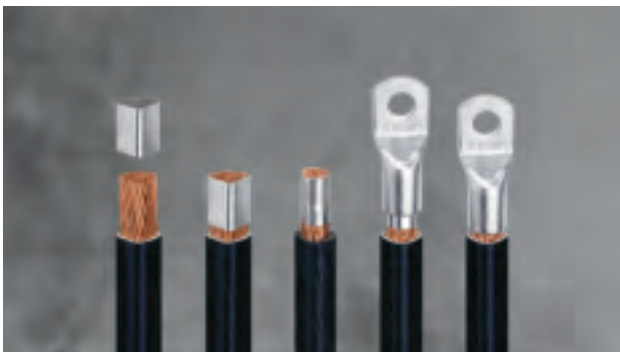
No additional tools and no special solutions required.

- Simple filling of compacted conductors
- For nominal cross-sections of up to 400 mm<sup>2</sup>
- High-quality material reduces contact resistance
- No special solutions required: existing tool can be used for reliable crimping

### ► Pre-rounded sector-shaped conductors

Pre-rounds 3- and 4-sector-shaped conductors without special cable lugs - using Klauke sleeves.

- For pre-rounding of sector-shaped conductors
- Suitable for 3- and 4-sector-shaped conductors at angles of 120° and 90°
- Nominal cross-section up to 240 mm<sup>2</sup>
- No splicing of conductors
- No special cable lugs required
- Lower storage costs



### ► The right sleeve for every cable lug

With Klauke, everything fits together. The diameter and length of the sleeve are adapted to the required cable lug to ensure optimum crimping.

- Reliable crimping in a just a few steps
- Sleeves accurately matched to the Klauke system





### Sleeves for compacted conductors, for tubular cable lugs and connector standard type



- ▶ For multi-stranded, compacted conductors e.g. to DIN EN 60228 Cl. 2
- ▶ Allows the use of Klauke tubular cable lugs and connectors, standard type, on compacted conductors

#### Characteristics

- Annealed material optimises material and crimping properties

#### Material

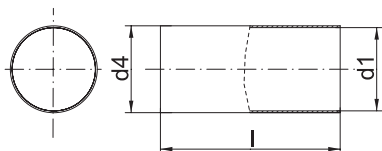
- Copper (HCP)

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-7



| Nominal cross section<br>mm <sup>2</sup> | Part No.      | Dimension mm |      |    | Weight<br>100 pcs. ~kg | Packing unit/pcs |
|------------------------------------------|---------------|--------------|------|----|------------------------|------------------|
|                                          |               | d1           | d4   | l  |                        |                  |
| 16                                       | <b>VHR16</b>  | 5.0          | 5.3  | 11 | 0.024                  | 100              |
| 25                                       | <b>VHR25</b>  | 6.4          | 6.7  | 14 | 0.038                  | 100              |
| 35                                       | <b>VHR35</b>  | 7.7          | 8.2  | 15 | 0.083                  | 100              |
| 50                                       | <b>VHR50</b>  | 9.0          | 9.5  | 18 | 0.118                  | 50               |
| 70                                       | <b>VHR70</b>  | 10.6         | 11.2 | 19 | 0.173                  | 50               |
| 95                                       | <b>VHR95</b>  | 12.4         | 13.0 | 21 | 0.223                  | 50               |
| 120                                      | <b>VHR120</b> | 13.9         | 14.5 | 22 | 0.261                  | 50               |
| 150                                      | <b>VHR150</b> | 15.4         | 16.0 | 26 | 0.342                  | 25               |
| 185                                      | <b>VHR185</b> | 17.6         | 18.2 | 26 | 0.396                  | 25               |
| 240                                      | <b>VHR240</b> | 19.9         | 20.5 | 30 | 0.508                  | 25               |
| 300                                      | <b>VHR300</b> | 22.4         | 23.0 | 38 | 0.723                  | 10               |
| 400                                      | <b>VHR400</b> | 25.4         | 26.2 | 38 | 1.108                  | 10               |



## Sleeves for compacted conductors, for tubular cable lugs and connector DIN type



- ▶ For multi-stranded, compacted conductors e.g. to DIN EN 60228 Cl. 2
- ▶ Allows the use of Klauke DIN compression cable lugs and connectors for compacted conductors

### Characteristics

- Annealed material optimises material and crimping properties

### Material

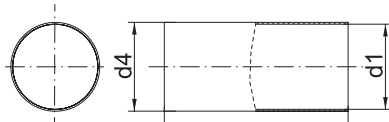
- Copper (HCP)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-7



| Nominal cross section<br>mm <sup>2</sup> | Part No.      | Dimension mm |      |    | Weight<br>100 pcs. ~kg | Packing unit/pcs |
|------------------------------------------|---------------|--------------|------|----|------------------------|------------------|
|                                          |               | d1           | d4   | l  |                        |                  |
| 16                                       | <b>VHD16</b>  | 5.0          | 5.3  | 16 | 0.035                  | 100              |
| 25                                       | <b>VHD25</b>  | 6.4          | 6.7  | 16 | 0.043                  | 100              |
| 35                                       | <b>VHD35</b>  | 7.7          | 8.2  | 17 | 0.094                  | 100              |
| 50                                       | <b>VHD50</b>  | 9.0          | 9.5  | 23 | 0.151                  | 50               |
| 70                                       | <b>VHD70</b>  | 10.6         | 11.2 | 24 | 0.219                  | 50               |
| 95                                       | <b>VHD95</b>  | 12.4         | 13.0 | 28 | 0.298                  | 50               |
| 120                                      | <b>VHD120</b> | 13.9         | 14.5 | 30 | 0.357                  | 50               |
| 150                                      | <b>VHD150</b> | 15.4         | 16.0 | 30 | 0.395                  | 25               |
| 185                                      | <b>VHD185</b> | 17.6         | 18.2 | 38 | 0.579                  | 25               |
| 240                                      | <b>VHD240</b> | 19.9         | 20.5 | 38 | 0.645                  | 25               |
| 300                                      | <b>VHD300</b> | 22.4         | 23.0 | 48 | 0.913                  | 5                |
| 400                                      | <b>VHD400</b> | 25.4         | 26.2 | 58 | 1.692                  | 5                |



### Sleeves for sector shaped conductors, 3-core cable



- ▶ For multi-stranded, sector shaped conductors, e.g. to DIN EN 60228
- ▶ For tubular cable lugs and connectors, standard version and DIN compression cable lugs and connectors
- ▶ To simplify pre-rounding of 3-core cables (120° angle)
- ▶ Prevents sector shaped conductors from de-stranding during pre-rounding

#### Characteristics

- Annealed material optimises material and crimping properties

#### Material

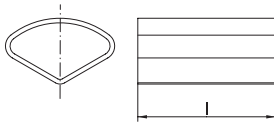
- Copper (HCP)

#### Surface

- Tin-plated to protect against corrosion

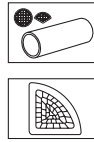
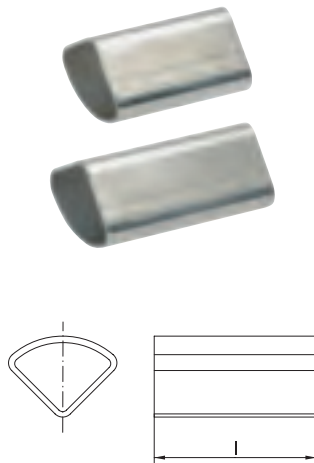
#### Technical instructions

- For round crimping dies, see „Crimping dies“
- Refer to the installation instructions in the technical appendix on page i-7



| Nominal cross section mm <sup>2</sup> | Part No. | Dimension mm für l | Weight<br>100 pcs. ~kg | Packing unit/pcs |
|---------------------------------------|----------|--------------------|------------------------|------------------|
| Standard type                         |          |                    |                        |                  |
| 35                                    | VHR353   | 14                 | 0.08                   | 100              |
| 50                                    | VHR503   | 17                 | 0.17                   | 50               |
| 70                                    | VHR703   | 18                 | 0.29                   | 50               |
| 95                                    | VHR953   | 22                 | 0.45                   | 50               |
| 120                                   | VHR1203  | 23                 | 0.49                   | 50               |
| 150                                   | VHR1503  | 25                 | 0.58                   | 25               |
| 185                                   | VHR1853  | 25                 | 0.80                   | 25               |
| 240                                   | VHR2403  | 30                 | 1.04                   | 25               |
| DIN version                           |          |                    |                        |                  |
| 35                                    | VHD353   | 17,5               | 0.11                   | 100              |
| 50                                    | VHD503   | 25,0               | 0.26                   | 50               |
| 70                                    | VHD703   | 25,0               | 0.39                   | 50               |
| 95                                    | VHD953   | 32,0               | 0.66                   | 50               |
| 120                                   | VHD1203  | 32,0               | 0.68                   | 50               |
| 150                                   | VHD1503  | 32,0               | 0.74                   | 25               |
| 185                                   | VHD1853  | 35,0               | 1.13                   | 25               |
| 240                                   | VHD2403  | 35,0               | 1.22                   | 25               |

## Sleeves for sector shaped conductors, 4-core cable



- ▶ For multi-stranded, sector shaped conductors, e.g. to DIN EN 60228
- ▶ For tubular cable lugs and connectors, standard version and DIN compression cable lugs and connectors
- ▶ To simplify pre-rounding of 4-core cables (90° angle)
- ▶ Prevents sector shaped conductors from de-stranding during pre-rounding

### Characteristics

- Annealed material optimises material and crimping properties

### Material

- Copper (HCP)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-7
- For round crimping dies, see „Crimping dies“

| Nominal cross section mm <sup>2</sup> | Part No. | Dimension mm für l | Weight<br>100 pcs. ~kg | Packing unit/pcs |
|---------------------------------------|----------|--------------------|------------------------|------------------|
| Standard type                         |          |                    |                        |                  |
| 35                                    | VHR354   | 14                 | 0.13                   | 100              |
| 50                                    | VHR504   | 17                 | 0.17                   | 50               |
| 70                                    | VHR704   | 18                 | 0.28                   | 50               |
| 95                                    | VHR954   | 22                 | 0.40                   | 50               |
| 120                                   | VHR1204  | 23                 | 0.51                   | 50               |
| 150                                   | VHR1504  | 25                 | 0.57                   | 25               |
| 185                                   | VHR1854  | 25                 | 0.78                   | 25               |
| 240                                   | VHR2404  | 30                 | 0.85                   | 25               |
| DIN version                           |          |                    |                        |                  |
| 35                                    | VHD354   | 17.5               | 0.11                   | 100              |
| 50                                    | VHD504   | 25.0               | 0.25                   | 50               |
| 70                                    | VHD704   | 25.0               | 0.38                   | 50               |
| 95                                    | VHD954   | 32.0               | 0.63                   | 50               |
| 120                                   | VHD1204  | 32.0               | 0.71                   | 50               |
| 150                                   | VHD1504  | 32.0               | 0.73                   | 25               |
| 185                                   | VHD1854  | 35.0               | 1.09                   | 25               |
| 240                                   | VHD2404  | 35.0               | 1.13                   | 25               |



# RELIABLE - ALUMINIUM COMPRESSION CABLE LUGS AND CONNECTORS TO DIN

Light and extremely reliable: Klauke aluminium compression cable lugs are both. Contact grease breaks down the oxidation layer, high-quality tinning facilitates the contact with copper in dry environments. For the toughest demands, all cable lugs and most connectors are IEC-tested for safety. We offer a solution for practically every problem.



### In brief

- ▶ Aluminium cable lugs and connectors according to and based on DIN standards
- ▶ Tested to the stringent IEC 61238-1
- ▶ Appropriate solutions to 30 kV
- ▶ Also for power lines and conductor wires
- ▶ Tinned and non-tinned versions available

### ► Deep drawn

Deep-drawn connectors are produced with barrier and precisely to DIN 46329. Thanks to the special production method, there is absolutely no ingress or escaping of liquids through the cable lug flange.

- Barrier design with oil stop
- Filled with contact grease as standard
- In the tinned version, also suitable for connecting to copper in dry environments
- For moist environments, we recommend Klauke connectors made from aluminium/copper

### ► Same excellent quality

Because we at Klauke have our own manufacturing facilities, our products are always the same consistently high quality. No matter which cable lug or connector you need, the Klauke system guarantees you the best results.

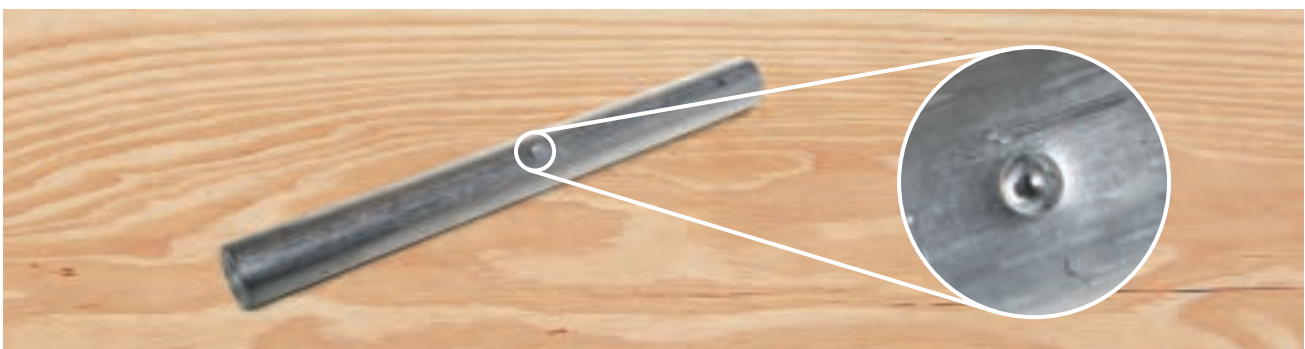
- Constant qualities in many forms
- Connections according to or based on DIN standards
- Simple processing with DIN hexagonal crimping or optionally EKM60ID
- Guaranteed safety through IEC 61238-1 tests



### ► Flexibility in power line construction

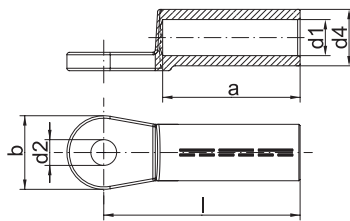
In power line construction too, Klauke products provide the flexible and reliable solution.

For special solutions, contact us directly. We can make them for you.





### Compression cable lugs to DIN, Al



- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182
- ▶ For pre-rounded sector shaped conductors
- ▶ To DIN 46329
- ▶ With code number for clear tool assignment for clear tool assignment
- ▶ Filled with contact grease for optimum crimp characteristics

#### Characteristics

- Barrier design with oil stop
- Optional tin-plated (20 µm) version to connect copper bus bars in dry indoor areas
- Simple and safe connection due to flat contact surfaces and internal chamfer
- Unique tool assignment due to DIN die coding

#### Material

- E-aluminium

#### Surface

- Bright

#### Technical instructions

- Tool: see page 103

#### Additional information

- Part Number appendix for tinned version „V“
- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded
- 70 - 240 mm<sup>2</sup> UL-tested
- \* = not standardised

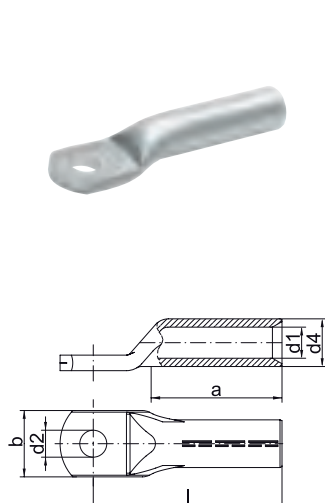
| Size of bolt dia. | Part No.      | Nominal cross section mm <sup>2</sup> |       | Hint | Code | Dimension mm |    |      |      |      |    | Number of crimps |           | Weight 100 pcs. ~kg | Packing unit/pcs |
|-------------------|---------------|---------------------------------------|-------|------|------|--------------|----|------|------|------|----|------------------|-----------|---------------------|------------------|
|                   |               | rm/sm                                 | re/se |      |      | a            | b  | d1   | d2   | d4   | l  | Al (7 mm)        | Al (wide) |                     |                  |
| M 8               | <b>263R8</b>  | 16                                    | 25    | *    | 12   | 30           | 20 | 5.8  | 8.4  | 12   | 50 | 4                | 2         | 1.20                | 4                |
| M 10              | <b>263R10</b> | 16                                    | 25    | *    | 12   | 30           | 20 | 5.8  | 10.5 | 12   | 50 | 4                | 2         | 1.20                | 4                |
| M 8               | <b>264R8</b>  | 25                                    | 35    |      | 12   | 30           | 25 | 6.8  | 8.4  | 12   | 50 | 4                | 2         | 1.30                | 4                |
| M 10              | <b>264R10</b> | 25                                    | 35    |      | 12   | 30           | 25 | 6.8  | 10.5 | 12   | 50 | 4                | 2         | 1.24                | 4                |
| M 12              | <b>264R12</b> | 25                                    | 35    |      | 12   | 30           | 25 | 6.8  | 13.0 | 12   | 50 | 4                | 2         | 1.22                | 4                |
| M 8               | <b>265R8</b>  | 35                                    | 50    |      | 14   | 42           | 25 | 8.0  | 8.4  | 14   | 62 | 5                | 2         | 2.50                | 4                |
| M 10              | <b>265R10</b> | 35                                    | 50    |      | 14   | 42           | 25 | 8.0  | 10.5 | 14   | 62 | 5                | 2         | 1.98                | 4                |
| M 12              | <b>265R12</b> | 35                                    | 50    |      | 14   | 42           | 25 | 8.0  | 13.0 | 14   | 62 | 5                | 2         | 2.50                | 4                |
| M 8               | <b>266R8</b>  | 50                                    | 70    |      | 16   | 42           | 25 | 9.8  | 8.4  | 16   | 62 | 5                | 2         | 2.75                | 4                |
| M 10              | <b>266R10</b> | 50                                    | 70    |      | 16   | 42           | 25 | 9.8  | 10.5 | 16   | 62 | 5                | 2         | 2.70                | 4                |
| M 12              | <b>266R12</b> | 50                                    | 70    |      | 16   | 42           | 25 | 9.8  | 13.0 | 16   | 62 | 5                | 2         | 2.65                | 4                |
| M 8               | <b>267R8</b>  | 70                                    | 95    |      | 18   | 52           | 25 | 11.2 | 8.4  | 18.5 | 72 | 6                | 3         | 3.45                | 4                |
| M 10              | <b>267R10</b> | 70                                    | 95    |      | 18   | 52           | 25 | 11.2 | 10.5 | 18.5 | 72 | 6                | 3         | 3.80                | 4                |
| M 12              | <b>267R12</b> | 70                                    | 95    |      | 18   | 52           | 25 | 11.2 | 13.0 | 18.5 | 72 | 6                | 3         | 3.35                | 4                |
| M 10              | <b>268R10</b> | 95                                    | 120   |      | 22   | 56           | 25 | 13.2 | 10.5 | 22   | 75 | 6                | 3         | 6.90                | 4                |
| M 12              | <b>268R12</b> | 95                                    | 120   |      | 22   | 56           | 25 | 13.2 | 13.0 | 22   | 75 | 6                | 3         | 4.92                | 4                |
| M 16              | <b>268R16</b> | 95                                    | 120   | *    | 22   | 56           | 25 | 13.2 | 17.0 | 22   | 75 | 6                | 3         | 6.00                | 4                |
| M 10              | <b>269R10</b> | 120                                   | 150   |      | 22   | 56           | 30 | 14.7 | 10.5 | 23   | 80 | 6                | 3         | 5.95                | 4                |
| M 12              | <b>269R12</b> | 120                                   | 150   |      | 22   | 56           | 30 | 14.7 | 13.0 | 23   | 80 | 6                | 3         | 5.84                | 4                |
| M 16              | <b>269R16</b> | 120                                   | 150   |      | 22   | 56           | 30 | 14.7 | 17.0 | 23   | 80 | 6                | 3         | 6.60                | 4                |
| M 10              | <b>270R10</b> | 150                                   | 185   |      | 25   | 60           | 30 | 16.3 | 10.5 | 25   | 90 | 6                | 3         | 8.50                | 4                |

## Compression cable lugs to DIN, Al

| Size of bolt dia. | Part No.      | Nominal cross section mm <sup>2</sup> |       | Hint | Code | Dimension mm |    |      |      |      |     | Number of crimps |           | Weight 100 pcs. ~kg | Packing unit/pcs |
|-------------------|---------------|---------------------------------------|-------|------|------|--------------|----|------|------|------|-----|------------------|-----------|---------------------|------------------|
|                   |               | rm/sm                                 | re/se |      |      | a            | b  | d1   | d2   | d4   | l   | Al (7 mm)        | Al (wide) |                     |                  |
| M 12              | <b>270R12</b> | 150                                   | 185   |      | 25   | 60           | 30 | 16.3 | 13.0 | 25   | 90  | 6                | 3         | 7.73                | 4                |
| M 16              | <b>270R16</b> | 150                                   | 185   |      | 25   | 60           | 30 | 16.3 | 17.0 | 25   | 90  | 6                | 3         | 7.60                | 4                |
| M 20              | <b>270R20</b> | 150                                   | 185   | *    | 25   | 60           | 30 | 16.3 | 21.0 | 25   | 90  | 6                | 3         | 8.20                | 4                |
| M 10              | <b>271R10</b> | 185                                   | 240   |      | 28   | 60           | 30 | 18.3 | 10.5 | 28.5 | 91  | 6                | 3         | 11.00               | 4                |
| M 12              | <b>271R12</b> | 185                                   | 240   |      | 28   | 60           | 30 | 18.3 | 13.0 | 28.5 | 91  | 6                | 3         | 9.88                | 4                |
| M 16              | <b>271R16</b> | 185                                   | 240   |      | 28   | 60           | 30 | 18.3 | 17.0 | 28.5 | 91  | 6                | 3         | 10.10               | 4                |
| M 20              | <b>271R20</b> | 185                                   | 240   | *    | 28   | 60           | 30 | 18.3 | 21.0 | 28.5 | 91  | 6                | 3         | 10.00               | 4                |
| M 10              | <b>272R10</b> | 240                                   | 300   | *    | 32   | 70           | 38 | 21.0 | 10.5 | 32   | 103 | 8                | 3         | 15.50               | 4                |
| M 12              | <b>272R12</b> | 240                                   | 300   |      | 32   | 70           | 38 | 21.0 | 13.0 | 32   | 103 | 8                | 3         | 13.80               | 4                |
| M 16              | <b>272R16</b> | 240                                   | 300   |      | 32   | 70           | 38 | 21.0 | 17.0 | 32   | 103 | 8                | 3         | 13.48               | 4                |
| M 20              | <b>272R20</b> | 240                                   | 300   |      | 32   | 70           | 38 | 21.0 | 21.0 | 32   | 103 | 8                | 3         | 15.00               | 4                |
| M 12              | <b>273R12</b> | 300                                   | --    |      | 34   | 70           | 38 | 23.3 | 13.0 | 34   | 103 | 8                | 3         | 17.60               | 1                |
| M 16              | <b>273R16</b> | 300                                   | --    |      | 34   | 70           | 38 | 23.3 | 17.0 | 34   | 103 | 8                | 3         | 17.28               | 1                |
| M 20              | <b>273R20</b> | 300                                   | --    |      | 34   | 70           | 38 | 23.3 | 21.0 | 34   | 103 | 8                | 3         | 17.40               | 1                |
| M 12              | <b>274R12</b> | 400                                   | --    |      | 38   | 73           | 38 | 26.0 | 13.0 | 38.5 | 116 | --               | 4         | 38.00               | 1                |
| M 16              | <b>274R16</b> | 400                                   | --    |      | 38   | 73           | 38 | 26.0 | 17.0 | 38.5 | 116 | --               | 4         | 37.40               | 1                |
| M 20              | <b>274R20</b> | 400                                   | --    |      | 38   | 73           | 38 | 26.0 | 21.0 | 38.5 | 116 | --               | 4         | 40.20               | 1                |
| M 12              | <b>275R12</b> | 500                                   | --    |      | 44   | 79           | 44 | 29.0 | 13.0 | 44   | 122 | --               | 4         | 43.70               | 1                |
| M 16              | <b>275R16</b> | 500                                   | --    |      | 44   | 79           | 44 | 29.0 | 17.0 | 44   | 122 | --               | 4         | 43.30               | 1                |
| M 20              | <b>275R20</b> | 500                                   | --    |      | 44   | 79           | 44 | 29.0 | 21.0 | 44   | 122 | --               | 4         | 43.00               | 1                |



### Compression cable lugs, Al



- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182
- ▶ For pre-rounded sector shaped conductors
- ▶ Tube dimension to DIN 46329
- ▶ With code number for clear tool assignment
- ▶ Filled with contact grease for optimum crimp characteristics

#### Characteristics

- Easy to process due to crimp markings
- Simple and safe connection due to flat contact surfaces and internal chamfer

#### Material

- E-aluminium

#### Surface

- Bright

#### Technical instructions

- Tool: see page 103

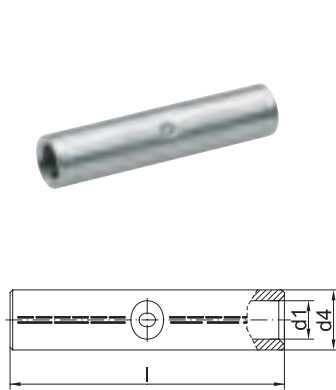
#### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded
- 16 - 400 mm<sup>2</sup> IEC-tested

| Size of<br>bolt dia. | Part No. | Nominal cross section mm² |       |    | Code | Dimension mm |      |      |      |     |           | Number of crimps |       | Weight<br>100 pcs.<br>~kg | Packing<br>unit/pcs |
|----------------------|----------|---------------------------|-------|----|------|--------------|------|------|------|-----|-----------|------------------|-------|---------------------------|---------------------|
|                      |          | rm/sm                     | re/se | a  |      | b            | d1   | d2   | d4   | l   | Al (7 mm) | Al (wide)        |       |                           |                     |
| M 6                  | 202R6    | 10                        | 25    | 10 | 32   | 16           | 5.0  | 6.5  | 10   | 52  | 4         | 2                | 0.86  | 25                        |                     |
| M 8                  | 202R8    | 10                        | 25    | 10 | 32   | 18           | 5.0  | 8.5  | 10   | 52  | 4         | 2                | 0.88  | 25                        |                     |
|                      | 203R8    | 16                        | 25    | 12 | 32   | 18           | 5.8  | 8.5  | 12   | 52  | 4         | 2                | 1.37  | 10                        |                     |
| M 10                 | 203R10   | 16                        | 25    | 12 | 32   | 18           | 5.8  | 10.5 | 12   | 52  | 4         | 2                | 1.39  | 10                        |                     |
| M 8                  | 204R8    | 25                        | 35    | 12 | 38   | 18           | 6.8  | 8.5  | 12   | 60  | 4         | 2                | 1.41  | 10                        |                     |
| M 10                 | 204R10   | 25                        | 35    | 12 | 38   | 18           | 6.8  | 10.5 | 12   | 60  | 4         | 2                | 1.46  | 10                        |                     |
|                      | 205R10   | 35                        | 50    | 14 | 42   | 21           | 8.0  | 10.5 | 14   | 67  | 5         | 2                | 2.08  | 10                        |                     |
| M 12                 | 205R12   | 35                        | 50    | 14 | 42   | 21           | 8.0  | 13.0 | 14   | 67  | 5         | 2                | 2.05  | 10                        |                     |
| M 10                 | 206R10   | 50                        | 70    | 16 | 45   | 25           | 9.8  | 10.5 | 16   | 72  | 5         | 2                | 2.68  | 10                        |                     |
| M 12                 | 206R12   | 50                        | 70    | 16 | 45   | 25           | 9.8  | 13.0 | 16   | 72  | 5         | 2                | 2.73  | 10                        |                     |
| M 10                 | 207R10   | 70                        | 95    | 18 | 55   | 28           | 11.2 | 10.5 | 18.5 | 86  | 6         | 3                | 4.42  | 10                        |                     |
| M 12                 | 207R12   | 70                        | 95    | 18 | 55   | 28           | 11.2 | 13.0 | 18.5 | 86  | 6         | 3                | 4.27  | 10                        |                     |
| M 10                 | 208R10   | 95                        | 120   | 22 | 55   | 32           | 13.2 | 10.5 | 22   | 90  | 6         | 3                | 7.40  | 4                         |                     |
| M 12                 | 208R12   | 95                        | 120   | 22 | 55   | 32           | 13.2 | 13.0 | 22   | 90  | 6         | 3                | 7.50  | 4                         |                     |
| M 16                 | 208R16   | 95                        | 120   | 22 | 55   | 34           | 13.2 | 17.0 | 22   | 90  | 6         | 3                | 7.30  | 4                         |                     |
| M 12                 | 209R12   | 120                       | 150   | 22 | 55   | 32           | 14.7 | 13.0 | 23   | 91  | 6         | 3                | 6.68  | 4                         |                     |
| M 16                 | 209R16   | 120                       | 150   | 22 | 55   | 34           | 14.7 | 17.0 | 23   | 91  | 6         | 3                | 6.41  | 4                         |                     |
| M 12                 | 210R12   | 150                       | 185   | 25 | 63   | 35           | 16.3 | 13.0 | 25   | 103 | 6         | 3                | 9.64  | 4                         |                     |
| M 16                 | 210R16   | 150                       | 185   | 25 | 63   | 35           | 16.3 | 17.0 | 25   | 103 | 6         | 3                | 9.24  | 4                         |                     |
| M 20                 | 210R20   | 150                       | 185   | 25 | 63   | 41           | 16.3 | 21.0 | 25   | 103 | 6         | 3                | 9.40  | 4                         |                     |
| M 12                 | 211R12   | 185                       | 240   | 28 | 65   | 40           | 18.3 | 13.0 | 28   | 106 | 6         | 3                | 12.61 | 1                         |                     |
| M 16                 | 211R16   | 185                       | 240   | 28 | 65   | 40           | 18.3 | 17.0 | 28   | 106 | 6         | 3                | 11.92 | 1                         |                     |
| M 20                 | 211R20   | 185                       | 240   | 28 | 65   | 40           | 18.3 | 21.0 | 28   | 106 | 6         | 3                | 13.10 | 1                         |                     |
| M 12                 | 212R12   | 240                       | 300   | 32 | 70   | 45           | 21.0 | 13.0 | 32   | 116 | 8         | 3                | 18.30 | 1                         |                     |
| M 16                 | 212R16   | 240                       | 300   | 32 | 70   | 45           | 21.0 | 17.0 | 32   | 116 | 8         | 3                | 17.60 | 1                         |                     |
| M 20                 | 212R20   | 240                       | 300   | 32 | 70   | 45           | 21.0 | 21.0 | 32   | 116 | 8         | 3                | 17.30 | 1                         |                     |
| M 16                 | 213R16   | 300                       | --    | 34 | 75   | 49           | 23.3 | 17.0 | 34   | 124 | 8         | 3                | 17.50 | 1                         |                     |
| M 20                 | 213R20   | 300                       | --    | 34 | 75   | 49           | 23.3 | 21.0 | 34   | 124 | 8         | 3                | 17.30 | 1                         |                     |
| M 16                 | 214R16   | 400                       | --    | 38 | 95   | 58           | 26.0 | 17.0 | 38.5 | 165 | --        | 4                | 32.20 | 1                         |                     |
| M 20                 | 214R20   | 400                       | --    | 38 | 95   | 58           | 26.0 | 21.0 | 38.5 | 165 | --        | 4                | 31.90 | 1                         |                     |



## Compression joint to DIN, Al



- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182
- ▶ To DIN 46267, Part 2
- ▶ With code number for clear tool assignment
- ▶ Filled with contact grease for optimum crimp characteristics
- ▶ For pre-rounded sector shaped conductors

### Characteristics

- Easy to process due to crimp markings
- Simple cable entry due to internal chamfer
- Simple and safe processing due to butt mark

### Material

- E-aluminium

### Surface

- Bright

### Technical instructions

- Tool: see page 103

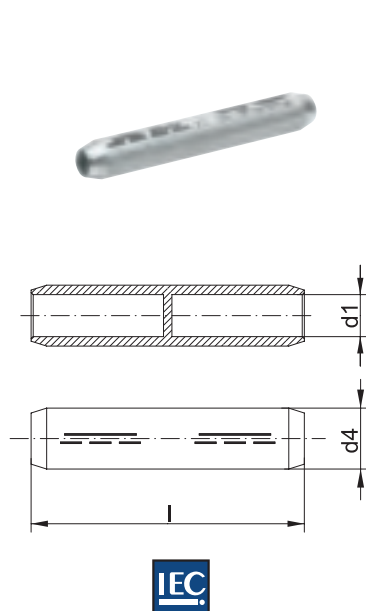
### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded
- 16 - 500 mm<sup>2</sup> IEC-tested
- \* = not standardised

| Part No. | Nominal cross section mm <sup>2</sup> |       | Hint | Code | Dimension mm |      |     | Number of crimps |           | Weight 100 pcs. ~kg | Packing unit/ pcs |
|----------|---------------------------------------|-------|------|------|--------------|------|-----|------------------|-----------|---------------------|-------------------|
|          | rm/sm                                 | re/se |      |      | d1           | d4   | l   | Al (7 mm)        | Al (wide) |                     |                   |
| 222R     | 10                                    | 16    | *    | 10   | 5.0          | 10   | 55  | 3/3              | --        | 0.95                | 10                |
| 223R     | 16                                    | 25    | *    | 12   | 5.8          | 12   | 55  | 3/3              | --        | 1.40                | 10                |
| 224R     | 25                                    | 35    |      | 12   | 6.8          | 12   | 70  | 4/4              | 2/2       | 1.60                | 10                |
| 225R     | 35                                    | 50    |      | 14   | 8.0          | 14   | 85  | 5/5              | 2/2       | 2.60                | 10                |
| 226R     | 50                                    | 70    |      | 16   | 9.8          | 16   | 85  | 5/5              | 2/2       | 3.20                | 10                |
| 227R     | 70                                    | 95    |      | 18   | 11.2         | 18.5 | 105 | 6/6              | 3/3       | 5.30                | 10                |
| 228R     | 95                                    | 120   |      | 22   | 13.2         | 22   | 105 | 6/6              | 3/3       | 7.60                | 10                |
| 229R     | 120                                   | 150   |      | 22   | 14.7         | 23   | 105 | 6/6              | 3/3       | 7.80                | 10                |
| 230R     | 150                                   | 185   |      | 25   | 16.3         | 25   | 125 | 6/6              | 3/3       | 10.70               | 10                |
| 231R     | 185                                   | 240   |      | 28   | 18.3         | 28.5 | 125 | 6/6              | 3/3       | 14.30               | 5                 |
| 232R     | 240                                   | 300   |      | 32   | 21.0         | 32   | 145 | 8/8              | 3/3       | 20.30               | 5                 |
| 233R     | 300                                   | --    |      | 34   | 23.3         | 34   | 145 | 8/8              | 3/3       | 22.20               | 1                 |
| 234R     | 400                                   | --    |      | 38   | 26.0         | 38   | 210 | --               | 5/5       | 40.80               | 1                 |
| 235R     | 500                                   | --    |      | 44   | 29.0         | 44   | 210 | --               | 5/5       | 56.00               | 1                 |



### Compression joints, Al



- ▶ For non-tension connections of medium-voltage aluminium cable 10-30 kV
- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182 and pre-rounded sector shaped conductors
- ▶ Tube dimension to DIN 46267, Part 2
- ▶ With code number for clear tool assignment
- ▶ Filled with contact grease for optimum crimp characteristics

#### Characteristics

- Also available as barrier design with oil stop
- With chamfered edges for reduced wrapping during assembly
- Easy to process due to crimp markings
- Simple cable entry due to internal chamfer

#### Material

- E-aluminium

#### Surface

- Bright

#### Technical instructions

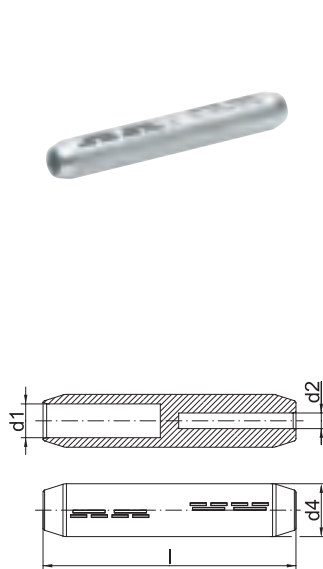
- Tool: see page 103

#### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded

| Part No.        | Nominal cross section mm² |       | Code | Dimension mm |      |     | Number of crimps |           | Weight<br>100 pcs. ~kg | Packing unit/<br>pcs |
|-----------------|---------------------------|-------|------|--------------|------|-----|------------------|-----------|------------------------|----------------------|
|                 | rm/sm                     | re/se |      | d1           | d4   | l   | Al (7 mm)        | Al (wide) |                        |                      |
| Standard type   |                           |       |      |              |      |     |                  |           |                        |                      |
| 405R            | 35                        | 50    | 14   | 8.2          | 14   | 90  | 4/4              | 2/2       | 2.7                    | 10                   |
| 406R            | 50                        | 70    | 16   | 10.0         | 16   | 90  | 4/4              | 2/2       | 3.4                    | 10                   |
| 407R            | 70                        | 95    | 18   | 11.5         | 18.5 | 95  | 4/4              | 2/2       | 4.6                    | 10                   |
| 408R            | 95                        | 120   | 22   | 13.5         | 22   | 100 | 4/4              | 2/2       | 6.8                    | 10                   |
| 409R            | 120                       | 150   | 22   | 15.0         | 23   | 105 | 4/4              | 2/2       | 7.4                    | 10                   |
| 410R            | 150                       | 185   | 25   | 16.5         | 25   | 105 | 4/4              | 2/2       | 8.7                    | 10                   |
| 411R            | 185                       | 240   | 28   | 18.5         | 28.5 | 125 | 5/5              | 2/2       | 13.4                   | 5                    |
| 412R            | 240                       | 300   | 32   | 21.3         | 32   | 125 | 5/5              | 2/2       | 15.7                   | 5                    |
| 413R            | 300                       | --    | 34   | 23.6         | 34   | 125 | 5/5              | 2/2       | 16.3                   | 1                    |
| 414R            | 400                       | --    | 38   | 26.25        | 38   | 150 | --               | 3/3       | 25.8                   | 1                    |
| Barrier version |                           |       |      |              |      |     |                  |           |                        |                      |
| 415R            | 35                        | 50    | 14   | 8.0          | 14   | 95  | 4/4              | 2/2       | 3.1                    | 5                    |
| 416R            | 50                        | 70    | 16   | 9.8          | 16   | 95  | 4/4              | 2/2       | 5.6                    | 5                    |
| 417R            | 70                        | 95    | 18   | 11.2         | 18.5 | 100 | 4/4              | 2/2       | 6.1                    | 5                    |
| 418R            | 95                        | 120   | 22   | 13.2         | 22   | 105 | 4/4              | 2/2       | 9.2                    | 5                    |
| 419R            | 120                       | 150   | 22   | 14.7         | 23   | 110 | 4/4              | 2/2       | 10.3                   | 5                    |
| 420R            | 150                       | 185   | 25   | 16.3         | 25   | 110 | 4/4              | 2/2       | 12.0                   | 5                    |
| 421R            | 185                       | 240   | 28   | 18.3         | 28.5 | 130 | 5/5              | 2/2       | 15.6                   | 5                    |
| 422R            | 240                       | 300   | 32   | 21.0         | 32   | 130 | 5/5              | 2/2       | 19.1                   | 5                    |
| 423R            | 300                       | --    | 34   | 23.3         | 34   | 135 | 5/5              | 2/2       | 30.7                   | 1                    |
| 424R            | 400                       | --    | 38   | 26.0         | 38   | 165 | --               | 3/3       | 30.0                   | 1                    |

## Reduction compression joints, Al, barrier type



- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182
- ▶ In nominal cross-section area tube dimension to DIN 46267, part 2
- ▶ For pre-rounded sector shaped conductors
- ▶ Ideal for connecting differing conductor cross-sections
- ▶ Filled with contact grease for optimum crimp characteristics

### Characteristics

- Barrier design with oil stop
- Unique tool assignment due to DIN die coding
- Easy to process due to crimp markings
- Simple cable entry due to internal chamfer

### Material

- E-aluminium

### Surface

- Bright

### Technical instructions

- Tools: see chart page 103

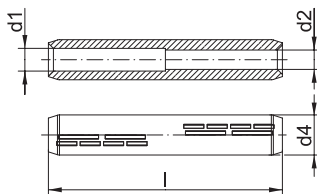
### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded

| Part No. | Nominal cross section mm <sup>2</sup> |               |          |          | Code | Dimension mm |      |      |     | Number of crimps |           | Weight<br>100 pcs.<br>~kg | Packing<br>unit/pcs |
|----------|---------------------------------------|---------------|----------|----------|------|--------------|------|------|-----|------------------|-----------|---------------------------|---------------------|
|          | re/se<br>from                         | rm/sm<br>from | re/se to | rm/sm to |      | d1           | d2   | d4   | l   | Al (7 mm)        | Al (wide) |                           |                     |
| 425R25   | 50                                    | 35            | 35       | 25       | 14   | 8.0          | 6.8  | 14   | 95  | 4/4              | 2/2       | 2.8                       | 5                   |
| 426R35   | 70                                    | 50            | 50       | 35       | 16   | 9.8          | 8.0  | 16   | 95  | 4/4              | 2/2       | 3.45                      | 5                   |
| 427R35   | 95                                    | 70            | 50       | 35       | 18   | 11.2         | 8.0  | 18.5 | 100 | 4/4              | 2/2       | 4.79                      | 5                   |
| 427R50   | 95                                    | 70            | 70       | 50       | 18   | 11.2         | 9.8  | 18.5 | 100 | 4/4              | 2/2       | 4.42                      | 5                   |
| 428R50   | 120                                   | 95            | 70       | 50       | 22   | 13.2         | 9.8  | 22   | 105 | 4/4              | 2/2       | 7.60                      | 5                   |
| 428R70   | 120                                   | 95            | 95       | 70       | 22   | 13.2         | 11.2 | 22   | 105 | 4/4              | 2/2       | 7.35                      | 5                   |
| 429R70   | 150                                   | 120           | 95       | 70       | 22   | 14.7         | 11.2 | 23   | 110 | 4/4              | 2/2       | 7.10                      | 5                   |
| 429R95   | 150                                   | 120           | 120      | 95       | 22   | 14.7         | 13.2 | 23   | 110 | 4/4              | 2/2       | 6.55                      | 5                   |
| 430R70   | 185                                   | 150           | 95       | 70       | 25   | 16.3         | 11.2 | 25   | 110 | 4/4              | 2/2       | 9.80                      | 5                   |
| 430R95   | 185                                   | 150           | 120      | 95       | 25   | 16.3         | 13.2 | 25   | 110 | 4/4              | 2/2       | 9.50                      | 5                   |
| 430R120  | 185                                   | 150           | 150      | 120      | 25   | 16.3         | 14.7 | 25   | 110 | 4/4              | 2/2       | 8.65                      | 5                   |
| 431R70   | 240                                   | 185           | 95       | 70       | 28   | 18.3         | 11.2 | 28.5 | 130 | --               | 2/2       | 15.05                     | 5                   |
| 431R95   | 240                                   | 185           | 120      | 95       | 28   | 18.3         | 13.2 | 28.5 | 130 | --               | 2/2       | 14.40                     | 5                   |
| 431R120  | 240                                   | 185           | 150      | 120      | 28   | 18.3         | 14.7 | 28.5 | 130 | 5/5              | 2/2       | 13.70                     | 5                   |
| 431R150  | 240                                   | 185           | 185      | 150      | 28   | 18.3         | 16.3 | 28.5 | 130 | 5/5              | 2/2       | 13.05                     | 5                   |
| 432R120  | 300                                   | 240           | 150      | 120      | 32   | 21.0         | 14.7 | 32   | 130 | --               | 2/2       | 18.80                     | 5                   |
| 432R150  | 300                                   | 240           | 185      | 150      | 32   | 21.0         | 16.3 | 32   | 130 | 5/5              | 2/2       | 18.125                    | 5                   |
| 432R185  | 300                                   | 240           | 240      | 185      | 32   | 21.0         | 18.3 | 32   | 130 | 5/5              | 2/2       | 17.275                    | 5                   |
| 433R150  | -                                     | 300           | 185      | 150      | 34   | 23.3         | 16.3 | 34   | 135 | 5/5              | 2/2       | 21.10                     | 1                   |
| 433R185  | -                                     | 300           | 240      | 185      | 34   | 23.3         | 18.3 | 34   | 135 | 5/5              | 2/2       | 20.12                     | 1                   |
| 433R240  | -                                     | 300           | 300      | 240      | 34   | 23.3         | 21.0 | 34   | 135 | 5/5              | 2/2       | 18.73                     | 1                   |
| 434R300  | -                                     | 400           | -        | 300      | 38   | 26.0         | 23.3 | 34   | 165 | --               | 3/3       | 31.20                     | 1                   |



### Reduction-compression joints, Al



- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182
- ▶ For pre-rounded sector shaped conductors
- ▶ In nominal cross-section area tube dimension to DIN 46267, part 2
- ▶ With code number for clear tool assignment
- ▶ Filled with contact grease for optimum crimp characteristics

#### Characteristics

- For connecting different conductor cross-sections
- Easy to process due to crimp markings
- Simple cable entry due to internal chamfer

#### Material

- E-aluminium

#### Surface

- Bright

#### Technical instructions

- Tool: see page 103

#### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded

| Part No. | Nominal cross section mm <sup>2</sup> |               |          |          | Code | Dimension mm |      |      |     | Number of crimps |           | Weight<br>100 pcs.<br>~kg | Packing<br>unit/pcs |
|----------|---------------------------------------|---------------|----------|----------|------|--------------|------|------|-----|------------------|-----------|---------------------------|---------------------|
|          | re/se<br>from                         | rm/sm<br>from | re/se to | rm/sm to |      | d1           | d2   | d4   | l   | Al (7 mm)        | Al (wide) |                           |                     |
| 284R16   | 35                                    | 25            | 25       | 16       | 12   | 7.0          | 5.8  | 12   | 75  | 4/4              | 2/2       | 1.53                      | 10                  |
| 285R25   | 50                                    | 35            | 35       | 25       | 14   | 8.2          | 6.8  | 14   | 90  | 5/5              | 2/2       | 2.50                      | 10                  |
| 286R25   | 70                                    | 50            | 35       | 25       | 16   | 10.0         | 6.8  | 16   | 90  | 5/5              | 2/2       | 3.24                      | 10                  |
| 286R35   | 70                                    | 50            | 50       | 35       | 16   | 10.0         | 8.0  | 16   | 90  | 5/5              | 2/2       | 3.09                      | 10                  |
| 287R25   | 95                                    | 70            | 35       | 25       | 18   | 11.5         | 6.8  | 18.5 | 110 | 6/6              | 3/3       | 5.50                      | 10                  |
| 287R35   | 95                                    | 70            | 50       | 35       | 18   | 11.5         | 8.0  | 18.5 | 110 | 6/6              | 3/3       | 5.35                      | 10                  |
| 287R50   | 95                                    | 70            | 70       | 50       | 18   | 11.5         | 9.8  | 18.5 | 110 | 6/6              | 3/3       | 4.96                      | 10                  |
| 288R25   | 120                                   | 95            | 35       | 25       | 22   | 13.5         | 6.8  | 22   | 110 | 6/6              | 3/3       | 9.10                      | 10                  |
| 288R35   | 120                                   | 95            | 50       | 35       | 22   | 13.5         | 8.0  | 22   | 110 | 6/6              | 3/3       | 8.90                      | 10                  |
| 288R50   | 120                                   | 95            | 70       | 50       | 22   | 13.5         | 9.8  | 22   | 110 | 6/6              | 3/3       | 8.51                      | 10                  |
| 288R70   | 120                                   | 95            | 95       | 70       | 22   | 13.5         | 11.2 | 22   | 110 | 6/6              | 3/3       | 8.15                      | 10                  |
| 289R50   | 150                                   | 120           | 70       | 50       | 22   | 15.0         | 9.8  | 23   | 110 | 6/6              | 3/3       | 8.04                      | 10                  |
| 289R70   | 150                                   | 120           | 95       | 70       | 22   | 15.0         | 11.2 | 23   | 110 | 6/6              | 3/3       | 7.66                      | 10                  |
| 289R95   | 150                                   | 120           | 120      | 95       | 22   | 15.0         | 13.2 | 23   | 110 | 6/6              | 3/3       | 7.14                      | 10                  |
| 290R70   | 185                                   | 150           | 95       | 70       | 25   | 16.5         | 11.2 | 25   | 130 | 6/6              | 3/3       | 11.70                     | 10                  |
| 290R95   | 185                                   | 150           | 120      | 95       | 25   | 16.5         | 13.2 | 25   | 130 | 6/6              | 3/3       | 11.05                     | 10                  |
| 290R120  | 185                                   | 150           | 150      | 120      | 25   | 16.5         | 14.7 | 25   | 130 | 6/6              | 3/3       | 10.49                     | 10                  |
| 291R120  | 240                                   | 185           | 150      | 120      | 28   | 18.5         | 14.7 | 28.5 | 130 | 6/6              | 3/3       | 13.80                     | 5                   |
| 291R150  | 240                                   | 185           | 185      | 150      | 28   | 18.5         | 16.3 | 28.5 | 130 | 6/6              | 3/3       | 13.19                     | 5                   |
| 292R95   | 300                                   | 240           | 120      | 95       | 32   | 21.3         | 13.2 | 32   | 150 | --               | 3/3       | 22.24                     | 5                   |
| 292R120  | 300                                   | 240           | 150      | 120      | 32   | 21.3         | 14.7 | 32   | 150 | --               | 3/3       | 21.59                     | 5                   |
| 292R150  | 300                                   | 240           | 185      | 150      | 32   | 21.3         | 16.3 | 32   | 150 | --               | 3/3       | 20.87                     | 5                   |

## Compression joint to DIN, Al, full tension



- ▶ For full tension connections of aluminium cables to DIN EN 50182
- ▶ To DIN 48085, Part 2
- ▶ With code number for clear tool assignment
- ▶ Filled with contact grease for optimum crimp characteristics

### Characteristics

- Easy to process due to crimp markings
- Simple cable entry due to internal chamfer

### Material

- E-aluminium to 95 mm<sup>2</sup>
- AlMgSi from 120 mm<sup>2</sup>

### Surface

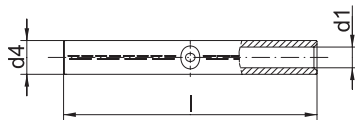
- Bright

### Technical instructions

- Tool: see page 103

### Additional information

- \* = not standardised



| Nominal cross section mm <sup>2</sup> | Part No.    | Hint | Code | Dimension mm |      |     | Number of crimps |           | Conductor mm dia. | Weight 100 pcs. ~kg | Packing unit/pcs |
|---------------------------------------|-------------|------|------|--------------|------|-----|------------------|-----------|-------------------|---------------------|------------------|
|                                       |             |      |      | d1           | d4   | l   | Al (7 mm)        | Al (wide) |                   |                     |                  |
| 16                                    | <b>243R</b> | *    | 12   | 5.8          | 12.0 | 140 | 8/8              | 4/4       | 5.1               | 3.4                 | 10               |
| 25                                    | <b>244R</b> |      | 12   | 6.8          | 12.0 | 140 | 8/8              | 4/4       | 6.3               | 2.9                 | 10               |
| 35                                    | <b>245R</b> |      | 14   | 8.0          | 14.0 | 140 | 8/8              | 4/4       | 7.5               | 3.9                 | 10               |
| 50                                    | <b>246R</b> |      | 16   | 10.0         | 16.0 | 155 | 8/8              | 4/4       | 9.0               | 5.2                 | 10               |
| 70                                    | <b>247R</b> |      | 18   | 11.5         | 18.5 | 165 | 8/8              | 4/4       | 10.5              | 7.4                 | 10               |
| 95                                    | <b>248R</b> |      | 22   | 13.5         | 22.0 | 165 | 8/8              | 4/4       | 12.5              | 12.2                | 10               |
| 120                                   | <b>249R</b> |      | 25   | 15.5         | 25.5 | 250 | 12/12            | 6/6       | 14.0              | 21.8                | 10               |
| 150                                   | <b>250R</b> |      | 28   | 16.5         | 28.5 | 300 | --               | 7/7       | 15.7              | 34.4                | 10               |
| 185                                   | <b>251R</b> |      | 28   | 18.5         | 28.5 | 330 | --               | 7/7       | 17.5              | 33.0                | 5                |
| 240                                   | <b>252R</b> |      | 34   | 21.5         | 34.5 | 350 | --               | 7/7       | 20.2              | 54.0                | 5                |
| 300                                   | <b>253R</b> |      | 38   | 23.5         | 38.5 | 400 | --               | 8/8       | 22.5              | 79.0                | 1                |



### Compression joints, Al, full tension



- ▶ For full tension connections of Aldrey cables according to DIN EN 50182
- ▶ With code number for clear tool assignment
- ▶ Filled with contact grease for optimum crimp characteristics

#### Characteristics

- Tube diameters adjusted to Aldrey cables
- Easy to process due to crimp markings

#### Material

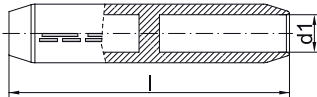
- AlMgSi F20

#### Surface

- Bright

#### Technical instructions

- Tool: see page 104



| Nominal cross section mm <sup>2</sup> | Part No.     | Code | Dimension mm |     | Number of crimps |               | Conductor mm dia. | Weight 100 pcs. ~kg | Packing unit/ pcs |
|---------------------------------------|--------------|------|--------------|-----|------------------|---------------|-------------------|---------------------|-------------------|
|                                       |              |      | d1           | l   | Aldrey (7 mm)    | Aldrey (wide) |                   |                     |                   |
| 35                                    | <b>295AD</b> | 14   | 8.0          | 140 | 8/8              | --            | 7.5               | 4.7                 | 5                 |
| 50                                    | <b>296AD</b> | 16   | 10.0         | 155 | 8/8              | --            | 9.0               | 5.9                 | 5                 |
| 70                                    | <b>297AD</b> | 18   | 11.5         | 165 | 8/8              | --            | 10.5              | 9.0                 | 5                 |

### Compression joint to DIN, Al/St



- ▶ For full tension connections of Al/St conductors to DIN EN 50182
- ▶ To DIN 48085, Part 3
- ▶ Unique tool assignment due to coding
- ▶ Filled with contact grease for optimum crimp characteristics

#### Characteristics

- Easy to process due to crimp markings
- Simple cable entry due to internal chamfer

#### Material

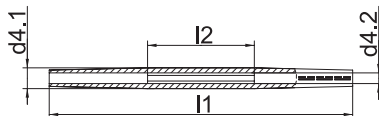
- Sleeve: E-aluminium
- Sleeve: Steel (St 52)

#### Surface

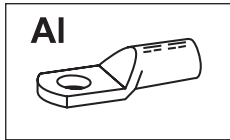
- Al sleeve: bright
- St sleeve: hot zinc galvanised

#### Technical instructions

- Tool: see page 105



| Nominal cross section mm <sup>2</sup> | Part No.    | Code | Dimension mm |      |     |     | Code Al | Number of crimps |              |           |           | Conductor mm dia. | Weight 100 pcs. ~kg | Packing unit/ pcs |
|---------------------------------------|-------------|------|--------------|------|-----|-----|---------|------------------|--------------|-----------|-----------|-------------------|---------------------|-------------------|
|                                       |             |      | d41          | d42  | l1  | l2  |         | Stahl (5 mm)     | Stahl (wide) | Al (7 mm) | Al (wide) |                   |                     |                   |
| 35 - 6                                | <b>455R</b> | 6    | 14.0         | 6.3  | 235 | 75  | 14      | 5/5              | --           | 8/8       | --        | 8.1               | 7                   | 5                 |
| 50 - 8                                | <b>456R</b> | 7    | 16.0         | 7.5  | 270 | 95  | 16      | 6/6              | --           | 9/9       | --        | 9.6               | 11                  | 5                 |
| 70 - 12                               | <b>457R</b> | 9    | 18.5         | 9.5  | 270 | 95  | 18      | 6/6              | --           | 9/9       | --        | 11.7              | 15                  | 5                 |
| 95 - 15                               | <b>458R</b> | 9    | 22.5         | 9.6  | 310 | 95  | 22      | 6/6              | --           | 11/11     | --        | 13.6              | 23                  | 5                 |
| 120 - 20                              | <b>459R</b> | 13   | 25.0         | 13.0 | 380 | 110 | 25      | 7/7              | 4/4          | 13/13     | 6/6       | 15.5              | 36                  | 5                 |



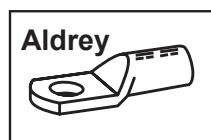
## Tool application chart

### Compression cable lugs and connectors made from E-Al

#### Compression cable lugs for full-tension connections from Al conductors DIN EN 50182, 16 - 95 mm<sup>2</sup>

| Tool type                                                                                 | Crimping range<br>corresponds to nominal<br>cross-section mm <sup>2</sup> | Crimping Tool |                            | Catalogue page |              | Crimp profile |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------|
|                                                                                           |                                                                           | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |               |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>die / head | 10 - 70                                                                   | K354          |                            | 246            | 331          | ⬡             |
|                                                                                           | 10 - 185                                                                  | K18           |                            | 248            | 339          | ⬡             |
|                                                                                           | 10 - 240                                                                  | K22           |                            | 250            | 344          | ⬡             |
| Hand hydraulic<br>crimping tools                                                          | 10 - 185                                                                  | HK6018        |                            | 292            | 339          | ⬡             |
|                                                                                           |                                                                           | HK60UNV       | +UA18                      | 473            | 339          | ⬡             |
|                                                                                           | 10 - 300                                                                  | HK6022        |                            | 294            | 344          | ⬡             |
|                                                                                           |                                                                           | HK60UNV       | +UA22                      | 473            | 344          | ⬡             |
|                                                                                           |                                                                           | HK12030       |                            | 298            | 350          | ⬡             |
|                                                                                           |                                                                           | HK12042       |                            | 300            | 350          | ⬡             |
|                                                                                           |                                                                           | HK120U        |                            | 302            | 350          | ⬡             |
|                                                                                           | 150 - 500                                                                 | HK45          |                            | 321            | 358          | ⬡             |
|                                                                                           |                                                                           |               |                            |                |              |               |
| Battery powered<br>crimping tools                                                         | 10 - 70                                                                   | EK354ML       |                            | 262            | 331          | ⬡             |
|                                                                                           |                                                                           | EK354         |                            | 266            | 331          | ⬡             |
|                                                                                           | 10 - 150                                                                  | EK505         |                            | 268            | 335          | ⬡             |
|                                                                                           |                                                                           |               |                            |                |              |               |
|                                                                                           | 10 - 185                                                                  | EK5018        |                            | 270            | 339          | ⬡             |
|                                                                                           |                                                                           | EK60UNV       | +UA18                      | 476            | 339          | ⬡             |
|                                                                                           |                                                                           | EKM60UNV      | +UA18                      | 475            | 339          | ⬡             |
|                                                                                           | 10 - 300                                                                  | EK6022        |                            | 274            | 344          | ⬡             |
|                                                                                           |                                                                           | EKM6022       |                            | 272            | 344          | ⬡             |
|                                                                                           | 50 - 240                                                                  | EKM60ID*      |                            | 278            |              | ⬡             |
|                                                                                           |                                                                           | EK60UNV       | +UA22                      | 476            | 344          | ⬡             |
|                                                                                           |                                                                           | EKM60UNV      | +UA22                      | 475            | 344          | ⬡             |
|                                                                                           |                                                                           | EK120UNV      |                            | 477            | 350          | ⬡             |
|                                                                                           |                                                                           | EK12032       |                            | 280            | 350          | ⬡             |
|                                                                                           |                                                                           | EK12042       |                            | 282            | 350          | ⬡             |
|                                                                                           |                                                                           | EK120U        | +UA15T                     | 284            | 350          | ⬡             |
|                                                                                           |                                                                           | EK135FT       | +UA12T                     | 286            | 350          | ⬡             |
|                                                                                           |                                                                           |               |                            |                |              |               |
| Hydraulic<br>crimping systems                                                             | 10 - 185                                                                  | THK18         |                            | 306            | 339          | ⬡             |
|                                                                                           | 10 - 300                                                                  | THK22         |                            | 308            | 344          | ⬡             |
|                                                                                           |                                                                           | HK122EL380    |                            | 322            | 350          | ⬡             |
|                                                                                           | 10 - 500                                                                  | HK252         |                            | 320            | 355          | ⬡             |
|                                                                                           |                                                                           | HK252EL380    |                            | 323            | 355          | ⬡             |
| Hydraulic<br>crimping heads                                                               | 10 - 185                                                                  | PK18          |                            | 306            | 339          | ⬡             |
|                                                                                           |                                                                           | PK60UNV       | +UA18                      | 474            | 339          | ⬡             |
|                                                                                           | 10 - 300                                                                  | PK22          |                            | 308            | 344          | ⬡             |
|                                                                                           |                                                                           | PK60UNV       | +UA22                      | 474            | 344          | ⬡             |
|                                                                                           |                                                                           | PK12042       |                            | 312            | 350          | ⬡             |
|                                                                                           |                                                                           | PK120U        |                            | 314            | 350          | ⬡             |
|                                                                                           | 10 - 500                                                                  | PK252         |                            | 316            | 355          | ⬡             |
|                                                                                           | 50 - 240                                                                  | PK60ID*       |                            | 311            |              | ⬡             |
|                                                                                           | 150 - 500                                                                 | PK45          |                            | 318            | 358          | ⬡             |
|                                                                                           |                                                                           |               |                            |                |              |               |

\* Not suitable for full-tension connections

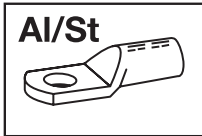


### Tool application chart

**Compression joints for full-tension connections from Aldrey conductors to DIN EN 50182 and Al conductors to DIN EN 50182, 120-300 mm²**

| Tool type                                                                        | Crimping range corresponds to nominal cross-section mm² | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|----------------------------------------------------------------------------------|---------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                  |                                                         | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical, electrical, pneumatic crimping tools with interchangeable die / head | 6 - 25                                                  | EK50ML        |                         | 254            | 326          | ⬡             |
|                                                                                  |                                                         | K50           |                         | 244            | 326          | ⬡             |
|                                                                                  | 25 - 50                                                 | K354          |                         | 246            | 331          | ⬡             |
|                                                                                  | 25 - 95                                                 | K18           |                         | 248            | 339          | ⬡             |
|                                                                                  | 25 - 185                                                | K22           |                         | 250            | 344          | ⬡             |
| Hand hydraulic crimping tools                                                    | 25 - 95                                                 | HK6018        |                         | 292            | 339          | ⬡             |
|                                                                                  |                                                         | HK60UNV       | +UA18                   | 473            | 339          | ⬡             |
|                                                                                  | 25 - 185                                                | HK6022        |                         | 294            | 344          | ⬡             |
|                                                                                  |                                                         | HK60UNV       | +UA22                   | 473            | 344          | ⬡             |
|                                                                                  |                                                         | HK12030       |                         | 298            | 350          | ⬡             |
|                                                                                  |                                                         | HK12042       |                         | 300            | 350          | ⬡             |
|                                                                                  |                                                         | HK120U        |                         | 302            | 350          | ⬡             |
|                                                                                  | 150 - 300                                               | HK45          |                         | 321            | 358          | ⬡             |
| Battery powered crimping tools                                                   | 6 - 25                                                  | EK1550ML      |                         | 258            | 326          | ⬡             |
|                                                                                  | 25 - 50                                                 | EK354ML       |                         | 262            | 331          | ⬡             |
|                                                                                  |                                                         | EK354         |                         | 266            | 331          | ⬡             |
|                                                                                  | 25 - 95                                                 | EK505         |                         | 268            | 335          | ⬡             |
|                                                                                  |                                                         | EK5018        |                         | 270            | 339          | ⬡             |
|                                                                                  |                                                         | EK60UNV       | +UA18                   | 476            | 339          | ⬡             |
|                                                                                  |                                                         | EKM60UNV      | +UA18                   | 475            | 339          | ⬡             |
|                                                                                  |                                                         | EK6022        |                         | 274            | 344          | ⬡             |
|                                                                                  |                                                         | EKM6022       |                         | 272            | 344          | ⬡             |
|                                                                                  | 25 - 185                                                | EK60UNV       | +UA22                   | 476            | 344          | ⬡             |
|                                                                                  |                                                         | EKM60UNV      | +UA22                   | 475            | 344          | ⬡             |
|                                                                                  |                                                         | EK12032       |                         | 280            | 350          | ⬡             |
|                                                                                  |                                                         | EK12042       |                         | 282            | 350          | ⬡             |
|                                                                                  |                                                         | EK120U        |                         | 284            | 350          | ⬡             |
|                                                                                  |                                                         | EK135FT       | +UA15T                  | 286            | 350          | ⬡             |
|                                                                                  |                                                         | EK120UNV      | +UA12T                  | 477            | 350          | ⬡             |
|                                                                                  |                                                         | THK18         |                         | 306            | 339          | ⬡             |
| Hydraulic crimping systems                                                       | 25 - 185                                                | THK22         |                         | 308            | 344          | ⬡             |
|                                                                                  |                                                         | HK122EL380    |                         | 322            | 350          | ⬡             |
|                                                                                  | 25 - 300                                                | HK252         |                         | 320            | 355          | ⬡             |
|                                                                                  |                                                         | HK252EL380    |                         | 323            | 355          | ⬡             |
| Hydraulic crimping heads                                                         | 25 - 95                                                 | PK18          |                         | 306            | 339          | ⬡             |
|                                                                                  |                                                         | PK60UNV       | +UA18                   | 474            | 339          | ⬡             |
|                                                                                  | 25 - 185                                                | PK22          |                         | 308            | 344          | ⬡             |
|                                                                                  |                                                         | PK60UNV       | +UA22                   | 474            | 344          | ⬡             |
|                                                                                  |                                                         | PK12042       |                         | 312            | 350          | ⬡             |
|                                                                                  |                                                         | PK120U        |                         | 314            | 350          | ⬡             |
|                                                                                  | 25 - 300                                                | PK252         |                         | 316            | 355          | ⬡             |
|                                                                                  | 150 - 300                                               | PK45          |                         | 318            | 358          | ⬡             |





## Tool application chart

Compression joints for non-tension connections from Al/St. cables and full-tension connections to DIN 48085, part 3 for Al/St. cables to DIN EN 50182

| Tool type                                                                        | Crimping range corresponds to nominal cross-section mm² | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|----------------------------------------------------------------------------------|---------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                  |                                                         | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical, electrical, pneumatic crimping tools with interchangeable die / head | 25/4 - 120/20                                           | K22           |                         | 250            | 345          | ⬡             |
| Hand hydraulic crimping tools                                                    | 25/4 - 120/20                                           | HK6022        |                         | 294            | 345          | ⬡             |
|                                                                                  |                                                         | HK60UNV       | +UA22                   | 473            | 345          | ⬡             |
|                                                                                  |                                                         | HK12030       |                         | 298            | 350          | ⬡             |
|                                                                                  |                                                         | HK12042       |                         | 300            | 350          | ⬡             |
|                                                                                  |                                                         | HK120U        |                         | 302            | 350          | ⬡             |
| Battery powered crimping tools                                                   | 25/4 - 120/20                                           | EK6022        |                         | 274            | 345          | ⬡             |
|                                                                                  |                                                         | EKM6022       |                         | 272            | 345          | ⬡             |
|                                                                                  |                                                         | EK60UNV       | +UA22                   | 476            | 345          | ⬡             |
|                                                                                  |                                                         | EKM60UNV      | +UA22                   | 475            | 345          | ⬡             |
|                                                                                  |                                                         | EK12032       |                         | 280            | 350          | ⬡             |
|                                                                                  |                                                         | EK12042       |                         | 282            | 350          | ⬡             |
|                                                                                  |                                                         | EK120U        |                         | 284            | 350          | ⬡             |
|                                                                                  |                                                         | EK135FT       | +UA15T                  | 286            | 350          | ⬡             |
|                                                                                  |                                                         | EK120UNV      | +UA12T                  | 477            | 350          | ⬡             |
| Hydraulic crimping systems                                                       | 25/4 - 120/20                                           | THK22         |                         | 308            | 345          | ⬡             |
|                                                                                  |                                                         | HK122EL380    |                         | 322            | 350          | ⬡             |
|                                                                                  |                                                         | HK252         |                         | 320            | 356          | ⬡             |
|                                                                                  |                                                         | HK252EL380    |                         | 323            | 356          | ⬡             |
| Hydraulic crimping heads                                                         | 25/4 - 120/20                                           | PK22          |                         | 308            | 345          | ⬡             |
|                                                                                  |                                                         | PK60UNV       | +UA22                   | 474            | 345          | ⬡             |
|                                                                                  |                                                         | PK12042       |                         | 312            | 350          | ⬡             |
|                                                                                  |                                                         | PK120U        |                         | 314            | 350          | ⬡             |
|                                                                                  |                                                         | PK252         |                         | 316            | 356          | ⬡             |



# CONNECTED - COMPRESSION CABLE LUGS MADE FROM ALUMINIUM AND COPPER

Two components reliably connected. Copper and aluminium have different material properties. That's not always a good thing. Our compression cable lugs and connectors made from aluminium and copper are intricately produced by special processes and join together what belongs together. No matter which material you use: Your contacts are reliable with Klauke.



### In brief

- ▶ Simple processing based on DIN standards
- ▶ Reliable connection of copper and aluminium, even in contact with water
- ▶ Special manufacturing methods ensure high quality
- ▶ Also suitable for sector shaped conductors and wires

### ► As good as always

Cable lugs and connectors made from aluminium and copper can be processed in exactly the same way as DIN standard aluminium cable lugs. No special tools are required, you simply use the right Klauke dies. And so the result is as good as always.

- For round and sector shaped conductors to DIN EN 60228 and aluminium wires to DIN 50182
- No additional costs for new crimping dies
- Reliable connection by preventing contact corrosion

### ► Numerous versions available

The great thing about the broad Klauke range is: You can select the suitable cable lug for your project and optimally process your choice using the Klauke tools. Everything fitting together.

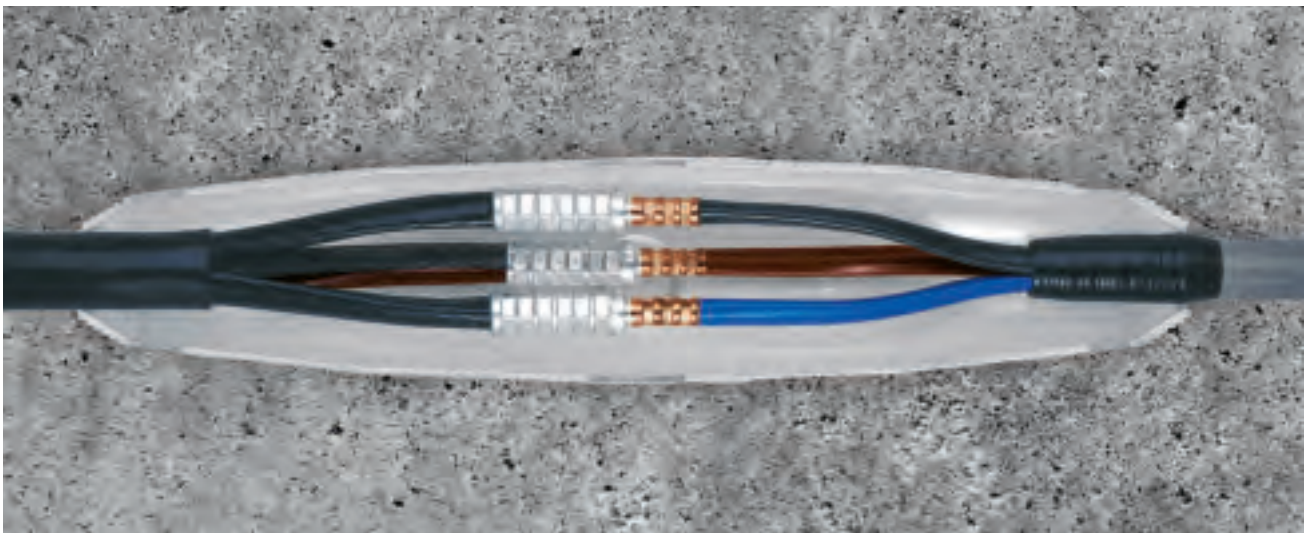
- Processing as usual with standard aluminium cable lugs
- Different versions available, for instance, as a cable lug with a copper eye or Cupal washers or as a rotational friction welded cable lug



### ► Well connected in every situation

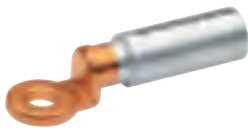
Reduction compression joints enable aluminium conductors to be integrated into copper-containing systems. They connect the two different materials regardless of the physical cable dimensions.

- Suitable for round or sector shaped conductors
- Suitable for multi-stranded and single-stranded sector shaped conductors





### Compression cable lugs, Al/Cu



- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium open wires to DIN EN 50182 and pre-rounded sector shaped conductors
- ▶ Tube dimension to DIN 46329
- ▶ With code number for clear tool assignment
- ▶ Filled with contact grease for optimum crimp results

#### Characteristics

- For connecting non-tensioned aluminium conductors to copper connections in humid environments and outdoors
- Barrier design with oil stop and solid copper palm
- Internal chamfer for simple cable insertion

#### Material

- E-aluminium
- Copper (EN13600)

#### Surface

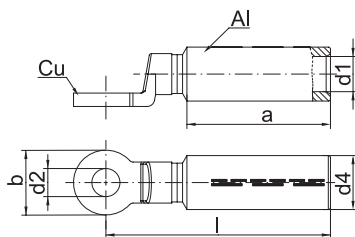
- Bright

#### Technical instructions

- Tool: see page 115

#### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded



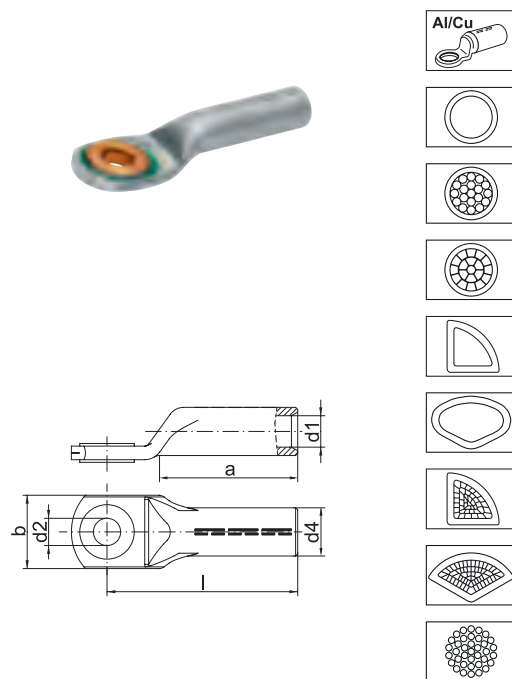
| Size of bolt dia. | Part No. | Nominal cross section mm <sup>2</sup> |       | Code | Dimension mm |    |      |      |      |       | Number of crimps |           | Weight 100 St. ~kg Cu | Weight 100 St. ~kg total | Packing unit/pcs |
|-------------------|----------|---------------------------------------|-------|------|--------------|----|------|------|------|-------|------------------|-----------|-----------------------|--------------------------|------------------|
|                   |          | re/se                                 | re/se |      | a            | b  | d1   | d2   | d4   | l     | Al (7 mm)        | Al (wide) |                       |                          |                  |
| M 8               | 363R8    | 16                                    | 25    | 12   | 30           | 24 | 6.0  | 8.5  | 12   | 68    | 4                | 2         | 4.4                   | 5.9                      | 10               |
| M 10              | 363R10   | 16                                    | 25    | 12   | 30           | 24 | 6.0  | 10.5 | 12   | 68    | 4                | 2         | 4.2                   | 5.7                      | 10               |
| M 8               | 364R8    | 25                                    | 35    | 12   | 30           | 24 | 6.8  | 8.5  | 12   | 68    | 4                | 2         | 4.4                   | 5.8                      | 10               |
| M 10              | 364R10   | 25                                    | 35    | 12   | 30           | 24 | 6.8  | 10.5 | 12   | 68    | 4                | 2         | 4.2                   | 5.6                      | 10               |
| M 12              | 364R12   | 25                                    | 35    | 12   | 30           | 24 | 6.8  | 13.0 | 12   | 68    | 4                | 2         | 3.9                   | 5.3                      | 10               |
| M 8               | 365R8    | 35                                    | 50    | 14   | 42           | 24 | 8.0  | 8.5  | 14   | 77    | 5                | 2         | 4.4                   | 6.3                      | 10               |
| M 10              | 365R10   | 35                                    | 50    | 14   | 42           | 24 | 8.0  | 10.5 | 14   | 77    | 5                | 2         | 4.2                   | 6.1                      | 10               |
| M 12              | 365R12   | 35                                    | 50    | 14   | 42           | 24 | 8.0  | 13.0 | 14   | 77    | 5                | 2         | 3.8                   | 5.8                      | 10               |
| M 8               | 366R8    | 50                                    | 70    | 16   | 42           | 25 | 9.8  | 8.5  | 16   | 77    | 5                | 2         | 4.4                   | 6.4                      | 10               |
| M 10              | 366R10   | 50                                    | 70    | 16   | 42           | 25 | 9.8  | 10.5 | 16   | 77    | 5                | 2         | 4.2                   | 6.2                      | 10               |
| M 12              | 366R12   | 50                                    | 70    | 16   | 42           | 25 | 9.8  | 13.0 | 16   | 77    | 5                | 2         | 3.9                   | 5.9                      | 10               |
| M 10              | 367R10   | 70                                    | 95    | 18   | 52           | 25 | 11.2 | 10.5 | 18.5 | 84.5  | 6                | 3         | 4.2                   | 7.4                      | 10               |
| M 12              | 367R12   | 70                                    | 95    | 18   | 52           | 25 | 11.2 | 13.0 | 18.5 | 84.5  | 6                | 3         | 3.9                   | 7.1                      | 10               |
| M 10              | 368R10   | 95                                    | 120   | 22   | 56           | 30 | 13.2 | 10.5 | 22   | 90.5  | 6                | 3         | 7.4                   | 11.4                     | 10               |
| M 12              | 368R12   | 95                                    | 120   | 22   | 56           | 30 | 13.2 | 13.0 | 22   | 90.5  | 6                | 3         | 6.8                   | 10.8                     | 10               |
| M 16              | 368R16   | 95                                    | 120   | 22   | 56           | 30 | 13.2 | 17.0 | 22   | 90.5  | 6                | 3         | 6.4                   | 10.4                     | 10               |
| M 12              | 369R12   | 120                                   | 150   | 22   | 56           | 30 | 14.7 | 13.0 | 23   | 92.0  | 6                | 3         | 6.8                   | 11.4                     | 5                |
| M 16              | 369R16   | 120                                   | 150   | 22   | 56           | 30 | 14.7 | 17.0 | 23   | 92.0  | 6                | 3         | 6.4                   | 10.8                     | 5                |
| M 12              | 370R12   | 150                                   | 185   | 25   | 60           | 30 | 16.3 | 13.0 | 25   | 104.0 | 6                | 3         | 6.8                   | 13.1                     | 5                |
| M 16              | 370R16   | 150                                   | 185   | 25   | 60           | 30 | 16.3 | 17.0 | 25   | 104.0 | 6                | 3         | 6.4                   | 12.7                     | 5                |
| M 20              | 370R20   | 150                                   | 185   | 25   | 60           | 35 | 16.3 | 21.0 | 25   | 107.5 | 6                | 3         | 10.1                  | 16.4                     | 5                |
| M 10              | 371R10   | 185                                   | 240   | 28   | 60           | 30 | 18.3 | 10.5 | 28.5 | 105.0 | 6                | 3         | 10.3                  | 18.6                     | 5                |
| M 12              | 371R12   | 185                                   | 240   | 28   | 60           | 35 | 18.3 | 13.0 | 28.5 | 105.0 | 6                | 3         | 10.1                  | 18.4                     | 5                |
| M 16              | 371R16   | 185                                   | 240   | 28   | 60           | 35 | 18.3 | 17.0 | 28.5 | 105.0 | 6                | 3         | 9.3                   | 17.6                     | 5                |

see next page

## Compression cable lugs, Al/Cu

| Size of bolt dia. | Part No.      | Nominal cross section mm <sup>2</sup> |       | Code | Dimension mm |    |      |      |      |       | Number of crimps |           | Weight 100 St. ~kg Cu | Weight 100 St. ~kg total | Packing unit/pcs |
|-------------------|---------------|---------------------------------------|-------|------|--------------|----|------|------|------|-------|------------------|-----------|-----------------------|--------------------------|------------------|
|                   |               | rm/sm                                 | re/se |      | a            | b  | d1   | d2   | d4   | l     | Al (7 mm)        | Al (wide) |                       |                          |                  |
| M 20              | <b>371R20</b> | 185                                   | 240   | 28   | 60           | 35 | 18.3 | 21.0 | 28.5 | 107.5 | 6                | 3         | 10.1                  | 18.4                     | 5                |
| M 10              | <b>372R10</b> | 240                                   | 300   | 32   | 70           | 35 | 21.0 | 10.5 | 32   | 118.5 | 8                | 3         | 12.1                  | 22.5                     | 5                |
| M 12              | <b>372R12</b> | 240                                   | 300   | 32   | 70           | 35 | 21.0 | 13.0 | 32   | 118.5 | 8                | 3         | 11.8                  | 22.2                     | 5                |
| M 16              | <b>372R16</b> | 240                                   | 300   | 32   | 70           | 35 | 21.0 | 17.0 | 32   | 118.5 | 8                | 3         | 11.0                  | 21.4                     | 5                |
| M 20              | <b>372R20</b> | 240                                   | 300   | 32   | 70           | 35 | 21.0 | 21.0 | 32   | 118.5 | 8                | 3         | 10.1                  | 20.5                     | 5                |
| M 12              | <b>373R12</b> | 300                                   | --    | 34   | 70           | 36 | 23.3 | 13.0 | 34   | 123.5 | 8                | 3         | 17.7                  | 33.7                     | 2                |
| M 16              | <b>373R16</b> | 300                                   | --    | 34   | 70           | 36 | 23.3 | 17.0 | 34   | 123.5 | 8                | 3         | 16.9                  | 32.9                     | 2                |
| M 20              | <b>373R20</b> | 300                                   | --    | 34   | 70           | 40 | 23.3 | 21.0 | 34   | 123.5 | 8                | 3         | 16.0                  | 32.0                     | 1                |
| M 12              | <b>374R12</b> | 400                                   | --    | 38   | 73           | 40 | 26.0 | 13.0 | 38.5 | 150.5 | --               | 4         | 25.6                  | 37.4                     | 1                |

## Compression cable lugs, Al/Cu with Cu eye



- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182
- ▶ Tube dimension to DIN 46329
- ▶ For pre-rounded sector shaped conductors
- ▶ Unique tool assignment due to coding
- ▶ Filled with contact grease for optimum crimp characteristics

### Characteristics

- For connecting non-tension aluminium connections using Cu-washers in humid areas
- With Cu eyelet in screw-on area
- Easy to process due to crimp markings
- Simple cable entry due to internal chamfer

### Material

- E-aluminium
- Copper (EN13600)

### Surface

- Bright

### Technical instructions

- Tool: see page 115

### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded

| Size of bolt dia. | Part No.      | Nominal cross section mm <sup>2</sup> |       | Code | Dimension mm |    |      |      |      |    | Number of crimps |           | Weight 100 St. ~kg Cu | Weight 100 St. ~kg total | Packing unit/pcs |
|-------------------|---------------|---------------------------------------|-------|------|--------------|----|------|------|------|----|------------------|-----------|-----------------------|--------------------------|------------------|
|                   |               | rm/sm                                 | re/se |      | a            | b  | d1   | d2   | d4   | l  | Al (7 mm)        | Al (wide) |                       |                          |                  |
| M 6               | <b>302R6</b>  | 10                                    | 16    | 10   | 32           | 18 | 5,0  | 6,5  | 10   | 52 | 4                | 2         | 0,260                 | 1,20                     | 10               |
| M 8               | <b>302R8</b>  | 10                                    | 16    | 10   | 32           | 22 | 5,0  | 8,5  | 10   | 52 | 4                | 2         | 0,580                 | 1,50                     | 10               |
|                   | <b>303R8</b>  | 16                                    | 25    | 12   | 32           | 22 | 5,8  | 8,5  | 12   | 52 | 4                | 2         | 0,600                 | 1,95                     | 10               |
| M 10              | <b>303R10</b> | 16                                    | 25    | 12   | 32           | 25 | 5,8  | 10,5 | 12   | 52 | 4                | 2         | 0,600                 | 2,00                     | 10               |
| M 8               | <b>304R8</b>  | 25                                    | 35    | 12   | 38           | 22 | 6,8  | 8,5  | 12   | 60 | 4                | 2         | 0,625                 | 2,00                     | 10               |
| M 10              | <b>304R10</b> | 25                                    | 35    | 12   | 38           | 25 | 6,8  | 10,5 | 12   | 60 | 4                | 2         | 0,900                 | 2,10                     | 10               |
|                   | <b>305R10</b> | 35                                    | 50    | 14   | 42           | 26 | 8,0  | 10,5 | 14   | 67 | 5                | 2         | 0,800                 | 3,00                     | 10               |
| M 12              | <b>305R12</b> | 35                                    | 50    | 14   | 42           | 30 | 8,0  | 13,0 | 14   | 67 | 5                | 2         | 1,120                 | 3,10                     | 10               |
| M 10              | <b>306R10</b> | 50                                    | 70    | 16   | 45           | 27 | 9,8  | 10,5 | 16   | 72 | 5                | 2         | 0,900                 | 3,60                     | 10               |
| M 12              | <b>306R12</b> | 50                                    | 70    | 16   | 45           | 30 | 9,8  | 13,0 | 16   | 72 | 5                | 2         | 1,120                 | 3,80                     | 10               |
| M 10              | <b>307R10</b> | 70                                    | 95    | 18   | 55           | 29 | 11,2 | 10,5 | 18,5 | 86 | 6                | 3         | 1,075                 | 5,60                     | 10               |

see next page

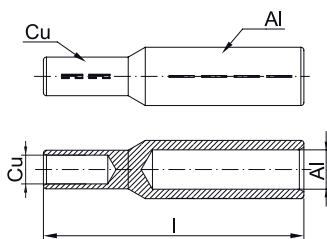


### Compression cable lugs, Al/Cu with Cu eye

| Size of bolt dia. | Part No.      | Nominal cross section mm <sup>2</sup> |       | Code | Dimension mm |    |      |      |      |     | Number of crimps |           | Weight 100 St. ~kg Cu | Weight 100 St. ~kg total | Packing unit/pcs |
|-------------------|---------------|---------------------------------------|-------|------|--------------|----|------|------|------|-----|------------------|-----------|-----------------------|--------------------------|------------------|
|                   |               | rm/sm                                 | re/se |      | a            | b  | d1   | d2   | d4   | l   | Al (7 mm)        | Al (wide) |                       |                          |                  |
| M 12              | <b>307R12</b> | 70                                    | 95    | 18   | 55           | 32 | 11,2 | 13,0 | 18,5 | 86  | 6                | 3         | 1,300                 | 5,70                     | 10               |
| M 10              | <b>308R10</b> | 95                                    | 120   | 22   | 55           | 32 | 13,2 | 10,5 | 22   | 90  | 6                | 3         | 1,435                 | 10,00                    | 5                |
| M 12              | <b>308R12</b> | 95                                    | 120   | 22   | 55           | 35 | 13,2 | 13,0 | 22   | 90  | 6                | 3         | 1,735                 | 9,50                     | 5                |
| M 16              | <b>308R16</b> | 95                                    | 120   | 22   | 55           | 38 | 13,2 | 17,0 | 22   | 90  | 6                | 3         | 2,655                 | 10,00                    | 5                |
| M 12              | <b>309R12</b> | 120                                   | 150   | 22   | 55           | 35 | 14,7 | 13,0 | 23   | 91  | 6                | 3         | 1,810                 | 8,70                     | 5                |
| M 16              | <b>309R16</b> | 120                                   | 150   | 22   | 55           | 38 | 14,7 | 17,0 | 23   | 91  | 6                | 3         | 2,230                 | 8,80                     | 5                |
| M 12              | <b>310R12</b> | 150                                   | 185   | 25   | 63           | 35 | 16,3 | 13,0 | 25   | 103 | 6                | 3         | 2,025                 | 12,20                    | 5                |
| M 16              | <b>310R16</b> | 150                                   | 185   | 25   | 63           | 41 | 16,3 | 17,0 | 25   | 103 | 6                | 3         | 2,655                 | 12,30                    | 5                |
| M 20              | <b>310R20</b> | 150                                   | 185   | 25   | 63           | 44 | 16,3 | 21,0 | 25   | 103 | 6                | 3         | 3,620                 | 12,80                    | 5                |
| M 12              | <b>311R12</b> | 185                                   | 240   | 28   | 65           | 40 | 18,3 | 13,0 | 28   | 106 | 6                | 3         | 2,320                 | 15,00                    | 5                |
| M 16              | <b>311R16</b> | 185                                   | 240   | 28   | 65           | 42 | 18,3 | 17,0 | 28   | 106 | 6                | 3         | 4,975                 | 15,50                    | 5                |
| M 20              | <b>311R20</b> | 185                                   | 240   | 28   | 65           | 46 | 18,3 | 21,0 | 28   | 106 | 6                | 3         | 4,610                 | 15,50                    | 5                |
| M 12              | <b>312R12</b> | 240                                   | 300   | 32   | 70           | 45 | 21,0 | 13,0 | 32   | 116 | 8                | 3         | 2,750                 | 20,00                    | 5                |
| M 16              | <b>312R16</b> | 240                                   | 300   | 32   | 70           | 45 | 21,0 | 17,0 | 32   | 116 | 8                | 3         | 3,400                 | 21,00                    | 5                |
| M 20              | <b>312R20</b> | 240                                   | 300   | 32   | 70           | 49 | 21,0 | 21,0 | 32   | 116 | 8                | 3         | 4,600                 | 22,00                    | 5                |
| M 16              | <b>313R16</b> | 300                                   | --    | 34   | 75           | 51 | 23,3 | 17,0 | 34   | 124 | 8                | 3         | 3,980                 | 21,60                    | 1                |
| M 20              | <b>313R20</b> | 300                                   | --    | 34   | 75           | 51 | 23,3 | 21,0 | 34   | 124 | 8                | 3         | 5,510                 | 22,20                    | 1                |
| M 16              | <b>314R16</b> | 400                                   | --    | 38   | 95           | 58 | 26,0 | 17,0 | 38,5 | 165 | --               | 4         | 4,200                 | 35,00                    | 1                |
| M 20              | <b>314R20</b> | 400                                   | --    | 38   | 95           | 58 | 26,0 | 21,0 | 38,5 | 165 | --               | 4         | 5,950                 | 35,00                    | 1                |



## Compression joints, Al/Cu



- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182
- ▶ For Cu round conductors, e.g. to DIN EN 60228 Cl. 1, 2, 5 and 6
- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ For pre-rounded sector shaped conductors
- ▶ Tube dimension to DIN 46235 part 1 and 2
- ▶ With code number for clear tool assignment

### Characteristics

- For connecting non-tension aluminium and copper conductors
- Easy to process due to crimp markings
- Simple cable entry due to internal chamfer

### Material

- E-aluminium
- Copper (EN13600)

### Surface

- Bright

### Technical instructions

- Sleeves for compacted conductors and sleeves for 3-core and 4-core cables, see chapter „Sleeves for compacted conductors and sector shaped conductors - Cu“
- Reduction sleeves for connecting unequal cross-sections can be found on page 68
- Tool: see page 115

### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded

| Part No. | Nominal cross section mm <sup>2</sup> |          |                   | Dimension mm |               |               | Code |    | Weight<br>100 St.<br>~kg<br>Cu | Weight<br>100 St.<br>~kg<br>total | Packing<br>unit/pcs |
|----------|---------------------------------------|----------|-------------------|--------------|---------------|---------------|------|----|--------------------------------|-----------------------------------|---------------------|
|          | Al rm/sm                              | Al re/se | Cu<br>re/rm/se/sm | I            | Inner dia. Al | Inner dia. Cu | Al   | Cu |                                |                                   |                     |
| 322R10   | 10                                    |          | 10                | 55.0         | 5.0           | 4.5           | 10   | 6  | 0.212                          | 1.100                             | 4                   |
| 322R16   | 10                                    |          | 16                | 61.0         | 5.0           | 5.4           | 10   | 8  | 0.714                          | 1.550                             | 4                   |
| 323R10   | 16                                    |          | 10                | 55.0         | 6.0           | 4.5           | 12   | 6  | 0.212                          | 1.500                             | 4                   |
| 323R16   | 16                                    |          | 16                | 61.0         | 6.0           | 5.4           | 12   | 8  | 0.714                          | 1.750                             | 4                   |
| 324R10   | 25                                    | 35       | 10                | 55.0         | 6.8           | 4.5           | 12   | 6  | 0.212                          | 1.400                             | 4                   |
| 324R16   | 25                                    | 35       | 16                | 61.0         | 6.8           | 5.5           | 12   | 8  | 0.714                          | 1.650                             | 4                   |
| 324R25   | 25                                    | 35       | 25                | 61.0         | 6.8           | 7.0           | 12   | 10 | 0.892                          | 1.900                             | 4                   |
| 324R35   | 25                                    | 35       | 35                | 61.0         | 6.8           | 8.2           | 12   | 12 | 1.624                          | 2.000                             | 4                   |
| 324R50   | 25                                    | 35       | 50                | 72.0         | 6.8           | 10.0          | 12   | 14 | 2.362                          | 3.500                             | 4                   |
| 324R416  | 25/4                                  | 35       | 16                | 61.0         | 7.6           | 5.5           | 12   | 8  | 0.714                          | 1.600                             | 4                   |
| 324R425  | 25/4                                  | 35       | 25                | 61.0         | 7.6           | 7.0           | 12   | 10 | 0.892                          | 1.850                             | 4                   |
| 325R16   | 35                                    | 50       | 16                | 71.0         | 8.0           | 5.5           | 14   | 8  | 0.714                          | 2.500                             | 4                   |
| 325R25   | 35                                    | 50       | 25                | 71.0         | 8.0           | 7.0           | 14   | 10 | 0.892                          | 2.650                             | 4                   |
| 325R35   | 35                                    | 50       | 35                | 71.0         | 8.0           | 8.2           | 14   | 12 | 1.519                          | 3.300                             | 4                   |
| 325R50   | 35                                    | 50       | 50                | 77.0         | 8.0           | 10.0          | 14   | 14 | 2.362                          | 3.530                             | 4                   |
| 325R616  | 35/6                                  | 50       | 16                | 71.0         | 9.0           | 5.5           | 14   | 8  | 0.714                          | 2.450                             | 4                   |
| 325R625  | 35/6                                  | 50       | 25                | 71.0         | 9.0           | 7.0           | 14   | 10 | 0.892                          | 2.600                             | 4                   |
| 325R635  | 35/6                                  | 50       | 35                | 71.0         | 9.0           | 8.2           | 14   | 12 | 1.624                          | 3.250                             | 4                   |
| 326R16   | 50                                    | 70       | 16                | 71.5         | 9.8           | 5.5           | 16   | 8  | 0.714                          | 2.850                             | 4                   |
| 326R25   | 50                                    | 70       | 25                | 71.5         | 9.8           | 7.0           | 16   | 10 | 0.892                          | 3.200                             | 4                   |
| 326R35   | 50                                    | 70       | 35                | 71.5         | 9.8           | 8.2           | 16   | 12 | 1.624                          | 3.800                             | 4                   |
| 326R50   | 50                                    | 70       | 50                | 77.5         | 9.8           | 10.0          | 16   | 14 | 2.362                          | 4.550                             | 4                   |
| 327R16   | 70                                    | 95       | 16                | 79.0         | 11.2          | 5.5           | 18   | 8  | 0.714                          | 4.100                             | 4                   |

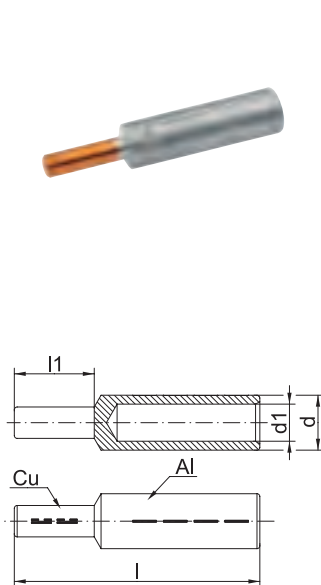


### Compression joints, Al/Cu

| Part No. | Nominal cross section mm <sup>2</sup> |          |                   | Dimension mm |               |               | Code |    | Weight<br>100 St.<br>~kg<br>Cu | Weight<br>100 St.<br>~kg<br>total | Packing<br>unit/pcs |
|----------|---------------------------------------|----------|-------------------|--------------|---------------|---------------|------|----|--------------------------------|-----------------------------------|---------------------|
|          | Al rm/sm                              | Al re/se | Cu<br>re/rm/se/sm | l            | Inner dia. Al | Inner dia. Cu | Al   | Cu |                                |                                   |                     |
| 327R25   | 70                                    | 95       | 25                | 79.0         | 11.2          | 7.0           | 18   | 10 | 0.892                          | 3.950                             | 4                   |
| 327R35   | 70                                    | 95       | 35                | 79.0         | 11.2          | 8.2           | 18   | 12 | 1.624                          | 4.900                             | 4                   |
| 327R50   | 70                                    | 95       | 50                | 85.0         | 11.2          | 10.0          | 18   | 14 | 2.362                          | 5.700                             | 4                   |
| 327R70   | 70                                    | 95       | 70                | 86.0         | 11.2          | 11.5          | 18   | 16 | 2.921                          | 7.250                             | 4                   |
| 327R95   | 70                                    | 95       | 95                | 95.0         | 11.2          | 13.5          | 18   | 18 | 4.957                          | 9.360                             | 4                   |
| 327R120  | 70                                    | 95       | 120               | 99.0         | 11.2          | 15.5          | 18   | 20 | 5.640                          | 10.540                            | 4                   |
| 328R16   | 95                                    | 120      | 16                | 79.0         | 13.2          | 5.5           | 22   | 8  | 0.714                          | 6.150                             | 4                   |
| 328R25   | 95                                    | 120      | 25                | 79.0         | 13.2          | 7.0           | 22   | 10 | 0.892                          | 6.300                             | 4                   |
| 328R35   | 95                                    | 120      | 35                | 79.0         | 13.2          | 8.2           | 22   | 12 | 1.519                          | 6.800                             | 4                   |
| 328R50   | 95                                    | 120      | 50                | 85.0         | 13.2          | 10.0          | 22   | 14 | 2.362                          | 8.050                             | 4                   |
| 328R70   | 95                                    | 120      | 70                | 87.0         | 13.2          | 11.5          | 22   | 16 | 3.105                          | 8.200                             | 4                   |
| 328R95   | 95                                    | 120      | 95                | 95.0         | 13.2          | 13.5          | 22   | 18 | 4.957                          | 10.350                            | 4                   |
| 328R120  | 95                                    | 120      | 120               | 95.0         | 13.2          | 15.5          | 22   | 20 | 5.640                          | 11.550                            | 4                   |
| 329R35   | 120                                   | 150      | 35                | 81.0         | 14.7          | 8.2           | 22   | 12 | 1.519                          | 7.600                             | 4                   |
| 329R50   | 120                                   | 150      | 50                | 87.0         | 14.7          | 10.0          | 22   | 14 | 2.362                          | 7.900                             | 4                   |
| 329R70   | 120                                   | 150      | 70                | 89.0         | 14.7          | 11.5          | 22   | 16 | 3.105                          | 8.500                             | 4                   |
| 329R95   | 120                                   | 150      | 95                | 97.0         | 14.7          | 13.5          | 22   | 18 | 4.857                          | 11.000                            | 4                   |
| 329R120  | 120                                   | 150      | 120               | 97.0         | 14.7          | 15.5          | 22   | 20 | 5.640                          | 10.280                            | 4                   |
| 330R16   | 150                                   | 185      | 16                | 91.5         | 16.3          | 5.4           | 25   | 8  | 0.714                          | 7.800                             | 4                   |
| 330R25   | 150                                   | 185      | 25                | 91.5         | 16.3          | 6.8           | 25   | 10 | 0.892                          | 8.000                             | 4                   |
| 330R35   | 150                                   | 185      | 35                | 91.5         | 16.3          | 8.2           | 25   | 12 | 1.624                          | 8.400                             | 4                   |
| 330R50   | 150                                   | 185      | 50                | 98.5         | 16.3          | 10.0          | 25   | 14 | 2.362                          | 10.200                            | 4                   |
| 330R70   | 150                                   | 185      | 70                | 99.5         | 16.3          | 11.5          | 25   | 16 | 3.105                          | 10.350                            | 4                   |
| 330R95   | 150                                   | 185      | 95                | 107.5        | 16.3          | 13.5          | 25   | 18 | 4.957                          | 12.650                            | 4                   |
| 330R120  | 150                                   | 185      | 120               | 107.5        | 16.3          | 15.5          | 25   | 20 | 5.640                          | 13.900                            | 4                   |
| 330R150  | 150                                   | 185      | 150               | 124.0        | 16.3          | 17.0          | 25   | 22 | 8.231                          | 16.700                            | 4                   |
| 331R50   | 185                                   | 240      | 50                | 99.0         | 18.3          | 10.0          | 28   | 14 | 2.362                          | 12.100                            | 1                   |
| 331R70   | 185                                   | 240      | 70                | 100.0        | 18.3          | 11.5          | 28   | 16 | 3.105                          | 13.000                            | 1                   |
| 331R95   | 185                                   | 240      | 95                | 108.0        | 18.3          | 13.5          | 28   | 18 | 4.957                          | 14.450                            | 1                   |
| 331R120  | 185                                   | 240      | 120               | 108.0        | 18.3          | 15.5          | 28   | 20 | 5.640                          | 13.720                            | 1                   |
| 331R150  | 185                                   | 240      | 150               | 113.0        | 18.3          | 17.0          | 28   | 22 | 8.231                          | 19.550                            | 1                   |
| 331R185  | 185                                   | 240      | 185               | 116.0        | 18.3          | 19.0          | 28   | 25 | 9.621                          | 21.000                            | 1                   |
| 332R50   | 240                                   | 300      | 50                | 110.0        | 21.0          | 10.0          | 32   | 14 | 2.362                          | 16.500                            | 1                   |
| 332R70   | 240                                   | 300      | 70                | 111.0        | 21.0          | 11.5          | 32   | 16 | 3.105                          | 18.000                            | 1                   |
| 332R95   | 240                                   | 300      | 95                | 119.0        | 21.0          | 13.5          | 32   | 18 | 4.957                          | 19.000                            | 1                   |
| 332R120  | 240                                   | 300      | 120               | 119.0        | 21.0          | 15.5          | 32   | 20 | 5.640                          | 20.500                            | 1                   |
| 332R150  | 240                                   | 300      | 150               | 124.0        | 21.0          | 17.0          | 32   | 22 | 8.231                          | 23.300                            | 1                   |
| 332R185  | 240                                   | 300      | 185               | 127.0        | 21.0          | 19.0          | 32   | 25 | 9.621                          | 25.500                            | 1                   |
| 332R240  | 240                                   | 300      | 240               | 128.0        | 21.0          | 21.5          | 32   | 28 | 12.705                         | 30.100                            | 1                   |
| 333R120  | 300                                   | --       | 120               | 119.0        | 23.5          | 15.5          | 34   | 20 | 5.640                          | 27.800                            | 1                   |
| 333R150  | 300                                   | --       | 150               | 124.0        | 23.5          | 17.0          | 34   | 22 | 8.234                          | 31.100                            | 1                   |
| 333R185  | 300                                   | --       | 185               | 127.0        | 23.5          | 19.0          | 34   | 25 | 9.621                          | 32.700                            | 1                   |
| 333R240  | 300                                   | --       | 240               | 128.0        | 23.5          | 21.5          | 34   | 28 | 12.705                         | 37.500                            | 1                   |
| 333R300  | 300                                   | --       | 300               | 134.0        | 23.5          | 24.5          | 34   | 32 | 16.099                         | 41.700                            | 1                   |



## Compression joints with Cu bolts, Al



- ▶ For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182
- ▶ For pre-rounded sector shaped conductors
- ▶ Tube dimension to DIN 46267, part 2
- ▶ Unique tool assignment due to coding

### Characteristics

- For screwing non-tension aluminium conductors into copper terminals
- Easy to process due to crimp markings
- Simple cable entry due to internal chamfer

### Material

- E-aluminium
- Copper (EN13600)

### Surface

- Bright

### Technical instructions

- Tool: see page 115

### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, sector shaped conductors must be pre-rounded

| Part No. | Nominal cross section mm <sup>2</sup> |       | Code | Dimension mm |      |     |    | Bolt mm dia. | Conductor mm dia. | Weight 100 St. ~kg Cu | Weight 100 St. ~kg total | Packing unit/pcs |
|----------|---------------------------------------|-------|------|--------------|------|-----|----|--------------|-------------------|-----------------------|--------------------------|------------------|
|          | rm/sm                                 | re/se |      | d Ø          | d1   | l   | l1 |              |                   |                       |                          |                  |
| 344R     | 25                                    | 35    | 12   | 12.0         | 6.8  | 58  | 20 | 6            | 6.3               | 0.462                 | 1.6                      | 10               |
| 345R     | 35                                    | 50    | 14   | 14.0         | 8.0  | 71  | 22 | 7            | 7.5               | 0.695                 | 2.5                      | 10               |
| 346R     | 50                                    | 70    | 16   | 16.0         | 10.0 | 74  | 25 | 8            | 9.0               | 1.037                 | 3.3                      | 10               |
| 347R     | 70                                    | 95    | 18   | 18.5         | 11.5 | 87  | 30 | 10           | 10.5              | 1.958                 | 5.4                      | 10               |
| 348R     | 95                                    | 120   | 22   | 23.0         | 13.2 | 91  | 33 | 12           | 12.5              | 3.112                 | 8.7                      | 10               |
| 349R     | 120                                   | 150   | 22   | 23.0         | 15.0 | 97  | 38 | 12           | 14.0              | 3.598                 | 9.0                      | 10               |
| 350R     | 150                                   | 185   | 25   | 25.5         | 16.5 | 108 | 38 | 12           | 15.8              | 3.598                 | 10.9                     | 10               |
| 351R     | 185                                   | 240   | 28   | 28.5         | 18.5 | 116 | 44 | 14           | 17.5              | 3.692                 | 15.7                     | 5                |
| 352R     | 240                                   | 300   | 32   | 32.5         | 21.5 | 128 | 44 | 16           | 20.3              | 7.435                 | 21.8                     | 5                |
| 353R     | 300                                   | --    | 34   | 34.5         | 23.5 | 131 | 46 | 18           | 22.5              | 9.410                 | 26.7                     | 1                |



#### Cupal washers

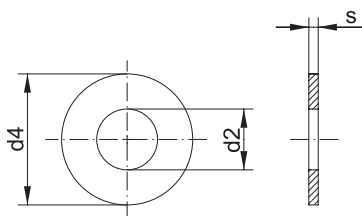


##### Characteristics

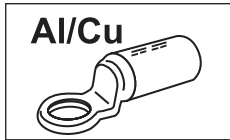
- Flat washer for processing aluminium and copper cable lugs
- For connecting copper conductors to aluminium in dry environments
- For connecting aluminium conductors to copper in dry environments
- Can also be used for connecting tinned aluminium cable lugs in humid environments

##### Material

- E-Al, one side copper plated



| Size of bolt dia. | Part No.      | Dimension mm |    |   | Weight<br>100 pcs. ~kg | Packing unit/pcs |
|-------------------|---------------|--------------|----|---|------------------------|------------------|
|                   |               | d2           | d4 | s |                        |                  |
| M 6               | <b>CS615</b>  | 6.5          | 15 | 2 | 0.06                   | 10               |
| M 8               | <b>CS818</b>  | 8.5          | 18 | 2 | 0.09                   | 10               |
| M 10              | <b>CS1022</b> | 11.0         | 22 | 2 | 0.26                   | 10               |
| M 12              | <b>CS1228</b> | 13.0         | 28 | 2 | 0.44                   | 10               |
| M 14              | <b>CS1428</b> | 15.0         | 28 | 2 | 0.40                   | 10               |
| M 16              | <b>CS1635</b> | 17.0         | 35 | 2 | 0.66                   | 10               |



## Tool application chart

### Compression cable lugs and connectors made from Al/Cu

The tools of the copper side of our Al/Cu compression joints you will find in the tool application chart of copper compression cable lugs and connectors acc. to DIN

| Tool type                                                                        | Crimping range corresponds to nominal cross-section mm² | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|----------------------------------------------------------------------------------|---------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                  |                                                         | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| mechanical, electrical, pneumatic crimping tools with interchangeable die / head | 10-70                                                   | K354          |                         | 246            | 331          | ⬡             |
|                                                                                  | 10-185                                                  | K18           |                         | 248            | 339          | ⬡             |
|                                                                                  | 10-240                                                  | K22           |                         | 250            | 344          | ⬡             |
| Hand hydraulic crimping tools                                                    | 10-185                                                  | HK6018        |                         | 292            | 339          | ⬡             |
|                                                                                  |                                                         | HK60UNV       | +UA18                   | 473            | 339          | ⬡             |
|                                                                                  | 10-300                                                  | HK6022        |                         | 294            | 344          | ⬡             |
|                                                                                  |                                                         | HK60UNV       | +UA22                   | 473            | 344          | ⬡             |
|                                                                                  |                                                         | HK12030       |                         | 298            | 350          | ⬡             |
|                                                                                  |                                                         | HK12042       |                         | 300            | 350          | ⬡             |
|                                                                                  |                                                         | HK120U        |                         | 302            | 350          | ⬡             |
|                                                                                  | 150-500                                                 | HK45          |                         | 321            | 358          | ⬡             |
| Battery powered crimping tools                                                   | 10-7                                                    | EK354ML       |                         | 262            | 331          | ⬡             |
|                                                                                  |                                                         | EK354         |                         | 266            | 331          | ⬡             |
|                                                                                  | 10-185                                                  | EK5018        |                         | 270            | 339          | ⬡             |
|                                                                                  |                                                         | EK60UNV       | +UA18                   | 476            | 339          | ⬡             |
|                                                                                  |                                                         | EKM60UNV      | +UA18                   | 475            | 339          | ⬡             |
|                                                                                  | 10-300                                                  | EK6022        |                         | 274            | 344          | ⬡             |
|                                                                                  |                                                         | EKM6022       |                         | 272            | 344          | ⬡             |
|                                                                                  |                                                         | EK60UNV       | +UA22                   | 476            | 344          | ⬡             |
|                                                                                  |                                                         | EKM60UNV      | +UA22                   | 475            | 344          | ⬡             |
|                                                                                  |                                                         | EK12032       |                         | 280            | 350          | ⬡             |
|                                                                                  |                                                         | EK12042       |                         | 282            | 350          | ⬡             |
|                                                                                  |                                                         | EK120U        |                         | 284            | 350          | ⬡             |
|                                                                                  |                                                         | EK135FT       | +UA15T                  | 286            | 350          | ⬡             |
|                                                                                  |                                                         | EK120UNV      | +UA12T                  | 477            | 350          | ⬡             |
|                                                                                  | 50-240                                                  | EKM60ID       |                         | 278            |              | ⬡             |
| Hydraulic crimping systems                                                       | 10-185                                                  | THK18         |                         | 306            | 339          | ⬡             |
|                                                                                  | 10-300                                                  | THK22         |                         | 308            | 344          | ⬡             |
|                                                                                  |                                                         | HK122EL380    |                         | 322            | 350          | ⬡             |
|                                                                                  | 10-500                                                  | HK252         |                         | 320            | 355          | ⬡             |
|                                                                                  |                                                         | HK252EL380    |                         | 323            | 355          | ⬡             |
| Hydraulic crimping heads                                                         | 10-185                                                  | PK18          |                         | 306            | 339          | ⬡             |
|                                                                                  |                                                         | PK60UNV       | +UA18                   | 474            | 339          | ⬡             |
|                                                                                  | 10-300                                                  | PK22          |                         | 308            | 344          | ⬡             |
|                                                                                  |                                                         | PK60UNV       | +UA22                   | 474            | 344          | ⬡             |
|                                                                                  |                                                         | PK12042       |                         | 312            | 350          | ⬡             |
|                                                                                  |                                                         | PK120U        |                         | 314            | 350          | ⬡             |
|                                                                                  | 10-500                                                  | PK252         |                         | 316            | 355          | ⬡             |
|                                                                                  | 150-500                                                 | PK45          |                         | 318            | 358          | ⬡             |



# UNCOMPLICATED - CLAMPS AND SCREW CONNECTORS

Simple connecting of dissimilar materials and cross-sections. Made possible by Klauke clamps and screw connectors: They suit all standard sizes and materials. In compliance with the specified safety measures, compact tab connectors, for instance, can be installed even when live. All very straightforward.



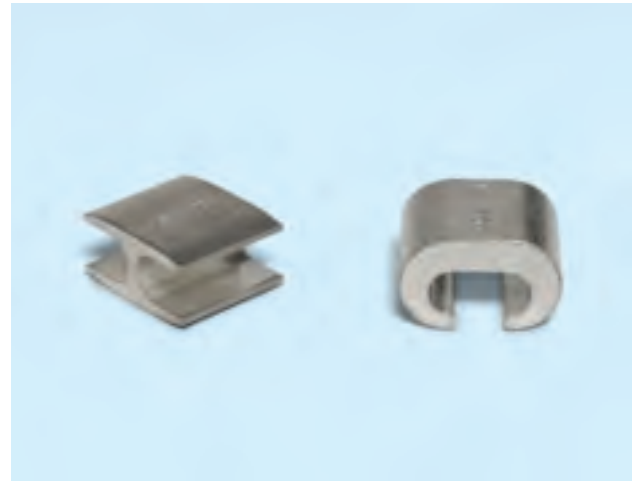
#### In brief

- ▶ Simple branching without having to cut the main conductor with Klauke H and C clamps
- ▶ H clamps to DIN EN 50164-1 short-circuit current tested
- ▶ Also available in a barrier version for Al/Cu connections

### ► Continuously connected

Save yourself the trouble, the conductor does not need to be cut. Various nominal cross-sections can be clamped with multi-purpose clamps.

- Flexible due to the large cross-sectional range, C-clamps from 2.5 mm<sup>2</sup> to 185 mm<sup>2</sup> nominal cross-sections, H-clamps from 70 mm<sup>2</sup> nominal cross-section
- Efficient connections, without having to cut the main conductor.
- Straightforward connection of various cross-sections.



### ► Screwing instead of crimping

Connect the conductors using screws. Why? Because no special tools are needed. Screws are available for every application. To make sure they last, all our screw connectors are produced from high-quality materials. Simply an efficient solution!

- Connections from 2.5 mm<sup>2</sup> to 185 mm<sup>2</sup> nominal cross-section
- No special tool required
- The right screw solution to suit a host of requirements
- For aluminium and copper conductors
- For round and sector shaped conductors
- For conductors and wires

### ► Clamps for continuous supply

We don't abandon your supply. With Klauke clamps, your operation can continue without outage, you carry out the installation even while live. No standstill, the operation continues.

- Especially suitable for the energy supply industry
- Can be installed while live
- Main conductor remains intact
- Different versions available for 3 and 4 core cables





### Punched cable lugs, Cu



► For connecting of round conductors to DIN EN 60228 Cl. 1 and 2, for example in lightning protection areas

#### Characteristics

- Also for outdoor assembly
- Available with 2 or 4 screws

#### Material

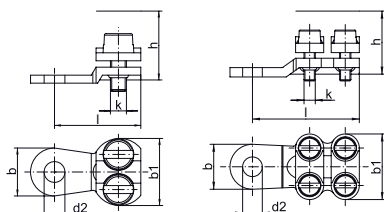
- Copper (ETP)
- Screws: DIN 84 / DIN 933 bronze, F 60

#### Surface

- Tin-plated to protect against corrosion

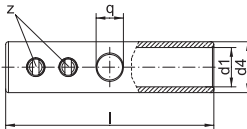
#### Additional information

- Part Number appendix for bright version „BK“



| Nominal cross section mm <sup>2</sup> | Part No.      | Dimension mm |      |      |    |    |      | Number of screws | Torque Nm | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------------------|---------------|--------------|------|------|----|----|------|------------------|-----------|-----------------|------------------|
|                                       |               | b            | b1   | d2   | k  | h  | l    |                  |           |                 |                  |
| 6 - 10                                | <b>572R6</b>  | 15.0         | 18.0 | 6.5  | M4 | 10 | 23.0 | 2                | 4         | 1.30            | 50               |
| 10 - 16                               | <b>573R6</b>  | 15.0         | 20.5 | 6.5  | M5 | 14 | 27.0 | 2                | 6         | 1.30            | 50               |
|                                       | <b>573R8</b>  | 15.0         | 20.5 | 8.5  | M5 | 14 | 27.0 | 2                | 6         | 1.30            | 50               |
| 16 - 25                               | <b>574R8</b>  | 15.0         | 25.0 | 8.5  | M5 | 16 | 30.0 | 2                | 6         | 2.75            | 50               |
|                                       | <b>584R8</b>  | 18.5         | 22.5 | 8.5  | M5 | 16 | 36.0 | 4                | 6         | 3.70            | 25               |
|                                       | <b>584R10</b> | 19.5         | 22.5 | 10.5 | M5 | 16 | 37.0 | 4                | 6         | 3.75            | 25               |
| 25 - 35                               | <b>575R8</b>  | 18.5         | 24.0 | 8.5  | M5 | 16 | 25.5 | 2                | 6         | 2.50            | 50               |
|                                       | <b>585R8</b>  | 18.5         | 24.0 | 8.5  | M5 | 16 | 38.5 | 4                | 6         | 4.30            | 25               |
|                                       | <b>585R10</b> | 21.5         | 24.0 | 10.5 | M5 | 16 | 42.0 | 4                | 6         | 4.65            | 25               |
|                                       | <b>585R12</b> | 21.5         | 24.0 | 13.0 | M5 | 16 | 42.0 | 4                | 6         | 4.50            | 25               |
| 35 - 50                               | <b>586R10</b> | 19.0         | 28.0 | 10.5 | M6 | 19 | 46.0 | 4                | 8         | 6.75            | 25               |
|                                       | <b>586R12</b> | 21.0         | 28.0 | 13.0 | M6 | 19 | 47.0 | 4                | 8         | 6.70            | 25               |
| 50 - 70                               | <b>587R10</b> | 23.5         | 31.0 | 10.5 | M6 | 19 | 51.0 | 4                | 8         | 9.35            | 10               |
|                                       | <b>587R12</b> | 23.5         | 31.0 | 13.0 | M6 | 19 | 51.0 | 4                | 8         | 9.30            | 10               |
| 70 - 95                               | <b>588R10</b> | 24.0         | 34.0 | 10.5 | M6 | 25 | 57.0 | 4                | 8         | 12.00           | 10               |
|                                       | <b>588R12</b> | 24.0         | 34.0 | 13.0 | M6 | 25 | 57.0 | 4                | 8         | 11.85           | 10               |
|                                       | <b>589R10</b> | 30.0         | 42.0 | 10.5 | M8 | 32 | 61.0 | 4                | 20        | 20.15           | 10               |
| 95 - 150                              | <b>589R12</b> | 30.0         | 42.0 | 13.0 | M8 | 32 | 61.0 | 4                | 20        | 20.20           | 10               |
|                                       | <b>589R16</b> | 30.0         | 42.0 | 17.0 | M8 | 32 | 61.5 | 4                | 20        | 20.10           | 10               |
| 150 - 240                             | <b>590R10</b> | 34.0         | 48.5 | 10.5 | M8 | 32 | 68.5 | 4                | 20        | 24.40           | 5                |
|                                       | <b>590R12</b> | 34.0         | 48.5 | 13.0 | M8 | 32 | 68.5 | 4                | 20        | 24.35           | 5                |
|                                       | <b>590R16</b> | 34.0         | 48.5 | 17.0 | M8 | 32 | 68.5 | 4                | 20        | 24.30           | 5                |
|                                       | <b>590R20</b> | 36.0         | 48.5 | 21.0 | M8 | 32 | 70.5 | 4                | 20        | 24.25           | 5                |
|                                       | <b>592R12</b> | 32.0         | 50.0 | 13.0 | M8 | 37 | 68.5 | 4                | 20        | 27.95           | 5                |
| 185 - 300                             | <b>592R16</b> | 32.0         | 50.0 | 17.0 | M8 | 37 | 68.5 | 4                | 20        | 28.00           | 5                |
|                                       | <b>592R20</b> | 34.5         | 50.5 | 21.0 | M8 | 37 | 70.0 | 4                | 20        | 27.95           | 5                |

## Tubular soldering sleeves, CuZn



- ▶ For round conductors, e.g. to DIN EN 60228 Cl. 1, 2, 5 and 6
- ▶ Processed without using a crimping tool



### Characteristics

- Simple processing due to fixed screws and solder hole



### Material

- CuZn 40 Pb 2
- Screws: Steel to DIN 551



### Surface

- Tin-plated to protect against corrosion



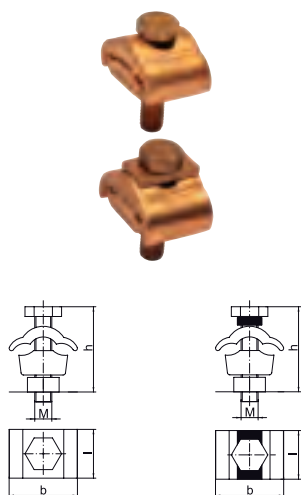
### Technical instructions

- A connection needs to be soldered

| Nominal cross section mm <sup>2</sup> | Part No.    | Dimension mm |      |    |            | Number of set screws z | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------------------|-------------|--------------|------|----|------------|------------------------|-----------------|------------------|
|                                       |             | d1           | d4   | l  | Diameter q |                        |                 |                  |
| 6                                     | <b>551R</b> | 3.5          | 7    | 25 | 3.3        | 2                      | 0.60            | 10               |
| 10                                    | <b>552R</b> | 4.5          | 6    | 30 | 3.3        | 2                      | 1.20            | 10               |
| 16                                    | <b>553R</b> | 5.5          | 10   | 40 | 4.2        | 4                      | 1.90            | 10               |
| 25                                    | <b>554R</b> | 7.0          | 12   | 45 | 4.2        | 4                      | 2.85            | 10               |
| 35                                    | <b>555R</b> | 8.5          | 13   | 45 | 5.0        | 4                      | 3.00            | 10               |
| 50                                    | <b>556R</b> | 10.0         | 15   | 48 | 5.0        | 4                      | 4.00            | 10               |
| 70                                    | <b>557R</b> | 12.0         | 18   | 52 | 6.8        | 4                      | 6.30            | 10               |
| 95                                    | <b>558R</b> | 13.5         | 20   | 55 | 6.8        | 4                      | 8.05            | 10               |
| 120                                   | <b>559R</b> | 15.0         | 22   | 60 | 6.8        | 4                      | 9.90            | 10               |
| 150                                   | <b>560R</b> | 17.0         | 24,5 | 64 | 6.8        | 4                      | 11.80           | 5                |
| 185                                   | <b>561R</b> | 19.0         | 26   | 70 | 6.8        | 10                     | 14.30           | 5                |
| 240                                   | <b>562R</b> | 21.0         | 28   | 70 | 6.8        | 10                     | 15.50           | 5                |
| 300                                   | <b>563R</b> | 24.0         | 32   | 75 | 6.8        | 10                     | 19.30           | 1                |



### Parallel groove clamps, Cu, 1 screw



- ▶ For non-tension copper cables acc. to DIN 48201 part 1
- ▶ For screwing conductors acc. to DIN EN 60228 Class 1 and 2

#### Characteristics

- Also for outdoor assembly
- Version with 1 screw
- Optionally available with thrust plate for equal pressure distribution

#### Material

- Copper (ETP)
- Screws: Bronze F 60
- Nut: copper

#### Surface

- Bright

| Nominal cross section mm² | Part No. | Dimension mm |    |    | M   | Torque Nm | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------|----------|--------------|----|----|-----|-----------|-----------------|------------------|
|                           |          | b            | h  | l  |     |           |                 |                  |
| Without thrust plate      |          |              |    |    |     |           |                 |                  |
| 2.5 - 16                  | SAK10    | 19.5         | 16 | 16 | M5  | 6         | 2.10            | 10               |
| 2.5 - 25                  | SAK12    | 25.0         | 21 | 18 | M6  | 8         | 4.10            | 10               |
|                           | SAK14    | 25.0         | 22 | 20 | M7  | 14        | 3.95            | 10               |
| 6 - 35                    | SAK16    | 28.0         | 23 | 20 | M7  | 14        | 6.0             | 10               |
| 6 - 50                    | SAK18    | 32.5         | 26 | 24 | M7  | 14        | 8.0             | 10               |
|                           | SAK20    | 33.5         | 27 | 22 | M8  | 20        | 8.6             | 10               |
| 6 - 70                    | SAK22    | 37.5         | 29 | 24 | M8  | 20        | 11.1            | 5                |
| 10 - 95                   | SAK24    | 41.0         | 36 | 28 | M8  | 20        | 15.6            | 5                |
| With thrust plate         |          |              |    |    |     |           |                 |                  |
| 2.5 - 16                  | SAK11    | 19.5         | 16 | 16 | M5  | 6         | 2.6             | 10               |
| 2.5 - 25                  | SAK13    | 25.0         | 21 | 18 | M6  | 8         | 4.30            | 10               |
|                           | SAK15    | 25.0         | 22 | 18 | M7  | 14        | 4.6             | 10               |
| 6 - 35                    | SAK17    | 28.0         | 23 | 20 | M7  | 14        | 6.3             | 10               |
| 6 - 50                    | SAK19    | 32.5         | 26 | 20 | M7  | 14        | 7.9             | 10               |
|                           | SAK21    | 33.5         | 27 | 22 | M8  | 20        | 9.1             | 10               |
| 6 - 70                    | SAK23    | 37           | 29 | 24 | M8  | 20        | 11.6            | 5                |
| 10 - 95                   | SAK25    | 45.0         | 36 | 31 | M10 | 39        | 19.60           | 5                |



## Parallel groove clamps, Cu, 2 screws



- ▶ For non-tension copper cables acc. to DIN 48201 part 1
- ▶ For screwing conductors acc. to DIN EN 60228 Cl. 1 and 2

### Characteristics

- Also for outdoor assembly
- Version with 2 screws
- Optionally available with thrust plate for equal pressure distribution

### Material

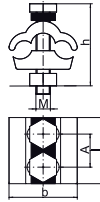
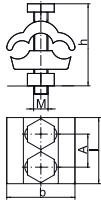
- Copper (ETP)
- Screws: Bronze F 60
- Nut: copper

### Surface

- Bright

### Technical instructions

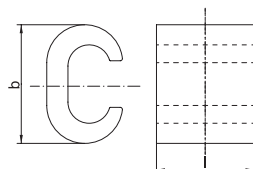
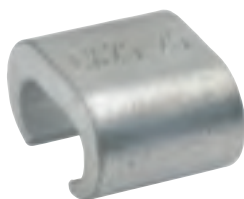
- When connecting cross sections 95, 120 and 150 mm<sup>2</sup> two power branch clamps are to be used due to the current carrying capacity.



| Nominal cross section mm² | Part No. | Dimension mm |      |      | A    | M   | Torque Nm | Weight/pcs. ~kg | Packing unit/ pcs |
|---------------------------|----------|--------------|------|------|------|-----|-----------|-----------------|-------------------|
|                           |          | b            | h    | l    |      |     |           |                 |                   |
| Without thrust plate      |          |              |      |      |      |     |           |                 |                   |
| 2.5 - 16                  | SAK30    | 20.5         | 16.0 | 24   | 13.0 | M5  | 6         | 3.7             | 10                |
| 2.5 - 25                  | SAK32    | 25.5         | 21   | 27   | 13.5 | M6  | 8         | 6.4             | 10                |
|                           | SAK34    | 25.0         | 22   | 30   | 15.0 | M7  | 14        | 7.7             | 10                |
| 6 - 35                    | SAK36    | 30.0         | 23   | 30   | 15   | M7  | 14        | 8.5             | 10                |
| 6 - 50                    | SAK38    | 33.0         | 26   | 32   | 16.0 | M7  | 14        | 12.3            | 10                |
| 10 - 50                   | SAK40    | 32.5         | 27   | 36   | 18.0 | M8  | 20        | 12.9            | 10                |
| 16 - 150                  | SAK46    | 52.5         | 40   | 52   | 26.0 | M10 | 39        | 37.4            | 5                 |
| With thrust plate         |          |              |      |      |      |     |           |                 |                   |
| 2.5 - 16                  | SAK31    | 19.5         | 16   | 24   | 13.0 | M5  | 6         | 4.1             | 10                |
| 2.5 - 25                  | SAK33    | 25.5         | 21   | 27   | 14.0 | M6  | 8         | 7.0             | 10                |
|                           | SAK35    | 25.0         | 22   | 30   | 15.0 | M7  | 14        | 7.9             | 10                |
| 6 - 35                    | SAK37    | 28.0         | 23   | 32   | 16.0 | M7  | 14        | 10.2            | 10                |
| 6 - 50                    | SAK39    | 33.0         | 26   | 32   | 17.0 | M7  | 14        | 12.8            | 10                |
|                           | SAK41    | 32.5         | 27   | 34.5 | 18.0 | M8  | 20        | 14.7            | 10                |
| 6 - 70                    | SAK43    | 37.0         | 29   | 38.5 | 19.0 | M8  | 20        | 19.1            | 5                 |
| 10 - 95                   | SAK45    | 41.0         | 36   | 42   | 20.0 | M8  | 20        | 25.0            | 5                 |
| 16 - 150                  | SAK47    | 52.5         | 40   | 52   | 26.0 | M10 | 39        | 39.0            | 5                 |



### Branch clamps in C-type, Cu



- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ Ideal for clamping identical conductor cross-sections e.g. to VDE 60228 Cl. 1 and 2
- ▶ No need to cut the main conductor

#### Material

- Copper (ETP)

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

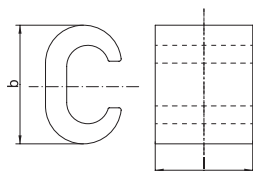
- Optimum conducting characteristics in combination with compound
- Tool: see page 133

#### Additional information

- Part Number appendix for bright version „BK“
- rm = round multi-stranded; re = round single solid
- \* = Also suitable for 25 mm<sup>2</sup> round solid

| Part No. | Hint | Cross section main conductor mm <sup>2</sup> rm/re |               | Hint | Dimension mm |    | Weight/pcs. ~kg | Packing unit/pcs |
|----------|------|----------------------------------------------------|---------------|------|--------------|----|-----------------|------------------|
|          |      | Main conductor                                     | Tab conductor |      | b            | l  |                 |                  |
| CK16     |      | 16/25                                              | 16/25         |      | 16.0         | 15 | 0.94            | 25               |
| CK25     | *    | 25/35                                              | 25/35         | *    | 20.0         | 16 | 1.68            | 25               |
| CK35     |      | 35/50                                              | 35/50         |      | 25.7         | 22 | 3.42            | 25               |
| CK50     |      | 50/-                                               | 50/-          |      | 28.0         | 23 | 4.88            | 25               |
| CK70     |      | 70/-                                               | 70/-          |      | 34.0         | 28 | 9.69            | 10               |
| CK95     |      | 95/-                                               | 95/-          |      | 35.0         | 28 | 7.30            | 10               |

### Branch clamps in C-type, Cu, multi-purpose clamps



- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ Ideal for clamping non-identical conductor cross-sections e.g. to VDE 60228 Cl. 1 and 2
- ▶ No need to cut the main conductor

#### Material

- Copper (ETP)

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Optimum conducting characteristics in combination with compound
- Tool: see page 133

#### Additional information

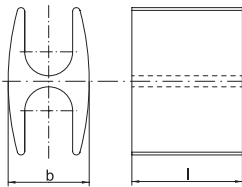
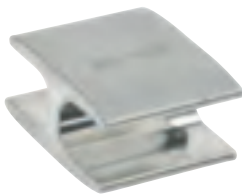
- Part Number appendix for bright version „BK“
- rm = round multi-stranded; re = round single solid

| Part No. | Cross section main conductor mm <sup>2</sup> rm/re |                 | Dimension mm |    | Weight/pcs. ~kg | Packing unit/pcs |
|----------|----------------------------------------------------|-----------------|--------------|----|-----------------|------------------|
|          | Main conductor                                     | Tab conductor   | b            | l  |                 |                  |
| MCK1010  | 6 - 10/10                                          | 4 - 6/4 - 10    | 12.0         | 12 | 0.460           | 25               |
| MCK1016  | 10 - 16/16                                         | 4 - 10/4 - 10   | 19.0         | 17 | 1.900           | 25               |
| MCK1025  | 16 - 25/25                                         | 4 - 10/4 - 10   | 19.0         | 17 | 1.900           | 25               |
| MCK3535  | 16 - 25/25 - 35                                    | 16 - 25/16 - 35 | 20.0         | 17 | 1.750           | 25               |
| MCK2550  | 35/50                                              | 4 - 25/4 - 25   | 24.8         | 23 | 4.400           | 25               |
| MCK5050  | 35/50                                              | 16 - 35/25 - 50 | 26.5         | 23 | 4.200           | 25               |
| MCK3570  | 50 - 70/-                                          | 4 - 35/4 - 35   | 33.8         | 28 | 10.700          | 10               |

## Branch clamps in C-type, Cu, multi-purpose clamps

| Part No.         | Cross section main conductor mm² rm/re |               | Dimension mm |    | Weight/pcs. ~kg | Packing unit/pcs |
|------------------|----------------------------------------|---------------|--------------|----|-----------------|------------------|
|                  | Main conductor                         | Tab conductor | b            | l  |                 |                  |
| <b>MCK3595</b>   | 95/-                                   | 16 - 35       | 41.0         | 30 | 15.000          | 10               |
| <b>MCK7095</b>   | 95/-                                   | 35 - 70       | 41.0         | 30 | 14.000          | 10               |
| <b>MCK120120</b> | 120/-                                  | 35 - 120      | 45.0         | 30 | 16.550          | 10               |
| <b>MCK150150</b> | 150/-                                  | 70 - 150      | 53.0         | 35 | 23.000          | 5                |
| <b>MCK185185</b> | 185/-                                  | 95 - 185      | 60.0         | 40 | 33.000          | 5                |

## Branch clamps in H-type, Cu



- ▶ For non-tension copper cables, e.g. to DIN 48201-1
- ▶ Ideal for clamping identical conductor cross-sect. e.g. to DIN EN 60228 Cl. 1 and 2
- ▶ Lightning protection tested to EN 50164-1
- ▶ No need to cut the main conductor

### Characteristics

- H-shape allows simple processing
- Optimum conducting characteristics when used with compound

### Material

- Copper (ETP)

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 134

### Additional information

- Part Number appendix for bright version „BK“
- \* = To EN 50164-1 lightning current tested

| Part No.        | Cross section main conductor mm² rm/re |               | Hint | Dimension mm |      | Weight/pcs. ~kg | Packing unit/pcs |
|-----------------|----------------------------------------|---------------|------|--------------|------|-----------------|------------------|
|                 | Main conductor                         | Tab conductor |      | b            | l    |                 |                  |
| <b>AH7070</b>   | 70                                     | 70            | *    | 17.0         | 28.0 | 6.5             | 25               |
| <b>AH9595</b>   | 95                                     | 95            |      | 22.0         | 30.0 | 10.0            | 25               |
| <b>AH120120</b> | 120                                    | 120           |      | 24.0         | 25.0 | 9.8             | 25               |

## Compound for branch clamps



- ▶ Optimum conductivity properties for processing aluminium cable lugs and connectors and branch clamps (C and H-type)

### Characteristics

- Water-resistant, with corundum for destroying the oxidation layer
- Content/tin: 0.125 kg

Part No.

**KF125**



### Screw connectors for shielded copper wires



- ▶ For connecting different conductor types and materials, e.g. to DIN EN 60228 Class 1 and 2
- ▶ Ideal for connecting identical and different conductor cross-sections
- ▶ Suitable cross-section range for example shielded copper wires

#### Characteristics

- Special groove profile inside to destroy the oxidation layer when crimping
- With inspection hole for monitoring full cable insertion

#### Material

- Insulated body: brass (CuZn)
- Screws: stainless steel, tin-plated

#### Surface

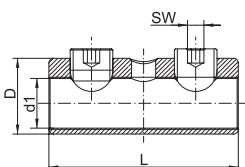
- Tin-plated to protect against corrosion

#### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-8

#### Additional information

- rm = round multi-stranded; re = round single solid



| Part No.     | Nominal cross section mm <sup>2</sup> |        | Dimension mm |     |    |    | Torque Nm | Weight/pcs. ~kg | Packing unit/ pcs |
|--------------|---------------------------------------|--------|--------------|-----|----|----|-----------|-----------------|-------------------|
|              | re                                    | rm     | D            | d1  | L  | AF |           |                 |                   |
| <b>SV100</b> | 6 - 35                                | 6 - 25 | 14           | 7.2 | 40 | 4  | 10        | 3.9             | 4                 |

### Screw connectors for street lighting



- ▶ For connecting different conductor types and materials, e.g. to DIN EN 60228 Class 1 and 2
- ▶ Ideal for connecting identical and different conductor cross-sections
- ▶ Suitable cross-section range for street lighting

#### Characteristics

- Special groove profile inside to destroy the oxidation layer when crimping
- With inspection hole for monitoring full cable insertion

#### Material

- Insulated body: brass (CuZn)
- Screws: stainless steel, tin-plated

#### Surface

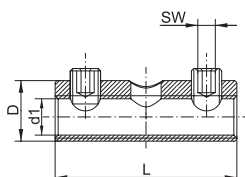
- Either bright or tin-plated

#### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-8

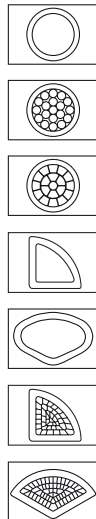
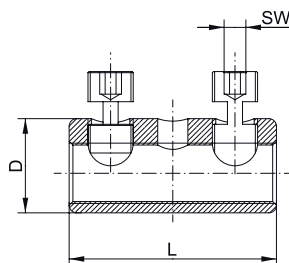
#### Additional information

- rm = round multi-stranded; re = round single solid



| Part No.                           | Nominal cross section mm² |          | Dimension mm |     |    |     | Torque Nm | Weight/pcs.<br>~kg | Packing unit/<br>pcs |
|------------------------------------|---------------------------|----------|--------------|-----|----|-----|-----------|--------------------|----------------------|
|                                    | re                        | rm       | D            | d1  | L  | AF  |           |                    |                      |
| With threaded pin, tin-plated      |                           |          |              |     |    |     |           |                    |                      |
| SV200                              | 1.5 - 16                  | 1.5 - 16 | 10           | 5.5 | 30 | 2.5 | 4         | 1.35               | 4                    |
| With threaded pin, bright finished |                           |          |              |     |    |     |           |                    |                      |
| SV200BK                            | 1.5 - 16                  | 1.5 - 16 | 10           | 5.5 | 30 | 2.5 | 4         | 1.35               | 4                    |

## Screw connector with 2 screws



- ▶ For connecting various conductor types and materials, e.g. to DIN EN 60228 Cl. 1 and 2
- ▶ Ideal for connecting identical and different conductor cross-sections
- ▶ Reliable processing due to cable insertion control (dissimilar materials must not come into contact)

### Characteristics

- Special groove profile inside to destroy the oxidation layer when crimping
- Either with threaded pin or shear head, shear head partly fixed
- Version with 2 screws

### Material

- Insulated body: high-tensile aluminium alloy
- Screws: copper alloy, tin-plated

### Surface

- Either bright or tin-plated

### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-8

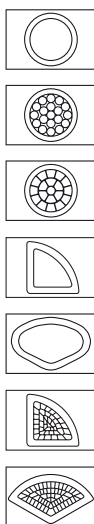
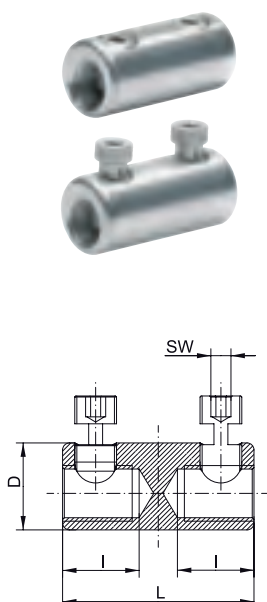
### Additional information

- \* = fixed version, Part Number appendix „NL“
- \*\* = version with fixed countersink shear head, Part Number appendix „VK“
- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, (r) = pre-rounded, (v) = compacted

| Part No.                              | Nominal cross section mm² |                            |                                    |                           | Hint | Dimension mm |    |    | Torque Nm | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------------------------------|---------------------------|----------------------------|------------------------------------|---------------------------|------|--------------|----|----|-----------|------------------|------------------|
|                                       | re                        | rm                         | se                                 | sm                        |      | D            | L  | AF |           |                  |                  |
| With threaded pin, bright finished    |                           |                            |                                    |                           |      |              |    |    |           |                  |                  |
| SV303                                 | 6 - 35                    | 6 - 25,<br>Cu 2.5 - 50 (v) | --                                 | Cu 2.5 - 35               |      | 14           | 40 | 4  | 8         | 1.5              | 4                |
| SV300                                 | Cu 2.5 - 50<br>Al 10 - 50 | Cu 2.5 - 50<br>Al 10 - 50  | Cu 2.5 - 35<br>Al 10 - 35          | Cu 2.5 - 35<br>Al 10 - 35 |      | 16.5         | 40 | 4  | 9         | 1.7              | 4                |
| SV301                                 | 16 - 95                   | 16 - 95                    | 50 - 95                            | 35-95 (r), 35-70          |      | 25           | 55 | 5  | 20        | 6.6              | 4                |
| SV308                                 | 25 - 150                  | 25 - 150                   | 50 - 150 (90°),<br>50 - 150 (120°) | --                        |      | 28           | 70 | 6  | 25        | 11.3             | 4                |
| SV302                                 | 35 - 50                   | 95 - 185                   | 50 - 185 (90°)                     | 35 - 150                  |      | 32           | 80 | 6  | 25        | 16               | 4                |
| Without threaded pin, bright finished |                           |                            |                                    |                           |      |              |    |    |           |                  |                  |
| SV303V                                | 6 - 35                    | 6 - 25,<br>Cu 2.5 - 50 (v) | --                                 | Cu 2.5 - 35               |      | 14           | 40 | 4  | 8         | 1.5              | 4                |
| SV300V                                | Cu 2.5 - 50<br>Al 10 - 50 | Cu 2.5 - 50<br>Al 10 - 50  | Cu 2.5 - 35<br>Al 10 - 35          | Cu 2.5 - 35<br>Al 10 - 35 |      | 16.5         | 40 | 4  | 9         | 1.7              | 4                |
| SV307V                                | 50 - 70                   | 10 - 70                    | 50 - 70                            | 35 - 70, 35 - 70          |      | 22           | 57 | 5  | 15        | 4.7              | 4                |
| SV301V                                | 16 - 95                   | 16 - 95                    | 50 - 95                            | 35-95 (r), 35-70          |      | 25           | 55 | 5  | 20        | 6.6              | 4                |
| SV302V                                | 35 - 50                   | 35*185                     | 50 - 185 (90°)                     | 35 - 150                  |      | 32           | 80 | 6  | 25        | 16               | 4                |
| With shear head, bright finished      |                           |                            |                                    |                           |      |              |    |    |           |                  |                  |
| SV303AK                               | 6 - 35                    | 6 - 25                     | --                                 | --                        | *    | 14           | 40 | 4  | 8         | 1.5              | 4                |
| SV303AKNL                             | 6 - 35                    | 6 - 25,<br>Cu 2.5 - 50 (v) | --                                 | Cu 2.5 - 35               | *    | 14           | 40 | 4  | 8         | 1.5              | 4                |
| SV304AKNL                             | Cu 2.5 - 50<br>Al 10 - 50 | Cu 2.5 - 50<br>Al 10 - 50  | Cu 2.5 - 35<br>Al 10 - 35          | Cu 2.5 - 35<br>Al 10 - 35 |      | 16.5         | 40 | 4  | 9         | 1.7              | 4                |
| SV307AKNL                             | 10 - 70                   | 10 - 70                    | 50 - 70                            | 35 - 70, 35 - 70          |      | 22           | 57 | 5  | 15        | 4.7              | 4                |
| SV301AK                               | 16 - 95                   | 16 - 95                    | 50 - 95,<br>50 - 150 (120°)        | 35 - 95 (r),<br>35 - 150  |      | 25           | 55 | 5  | 20        | 6.6              | 4                |
| SV302AK                               | 35 - 50                   | 35 - 185                   | 50 - 185 (90°)                     | 35 - 185 (r)              |      | 32           | 80 | 6  | 25        | 16               | 4                |
| With shear head, tin - plated         |                           |                            |                                    |                           |      |              |    |    |           |                  |                  |
| SV304AKNLV                            | Cu 2.5 - 50<br>Al 10 - 50 | Cu 2.5 - 50<br>Al 10 - 50  | Cu 2.5 - 35<br>Al 10 - 35          | Cu 2.5 - 35<br>Al 10 - 35 |      | 16.5         | 40 | 4  | 9         | 1.7              | 4                |
| SV301AKV                              | 16 - 95                   | 16 - 95                    | 50 - 95                            | 35 - 70,<br>35 - 95 (r)   | **   | 25           | 55 | 5  | 20        | 6.6              | 4                |
| SV302AKV                              | 35 - 50                   | 35 - 185                   | 50 - 150 (120°),<br>50 - 185 (90°) | 35 - 150                  |      | 32           | 80 | 6  | 25        | 16               | 4                |



### Screw connector with barrier



- ▶ For connecting various conductor types and materials, e.g. to DIN EN 60228 Cl. 1 and 2
- ▶ Ideal for connecting identical and different conductor cross-sections

#### Characteristics

- Special groove profile inside to destroy the oxidation layer when crimping
- Either with threaded pin or shear head, shear head partly fixed
- Version with 2 screws and barrier

#### Material

- Insulated body: high-tensile aluminium alloy
- Screws: copper alloy, tin-plated

#### Surface

- Either bright or tin-plated

#### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-8

#### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, (r) = pre-rounded, (v) = compacted

| Part No.                           | Nominal cross section mm² |                            |                                    |                           | Hint | Dimension mm |      |    |    | Torque Nm | Weight/ pcs. ~kg | Packing unit/pcs |
|------------------------------------|---------------------------|----------------------------|------------------------------------|---------------------------|------|--------------|------|----|----|-----------|------------------|------------------|
|                                    | re                        | rm                         | se                                 | sm                        |      | D            | I    | L  | AF |           |                  |                  |
| With threaded pin, bright finished |                           |                            |                                    |                           |      |              |      |    |    |           |                  |                  |
| SV315                              | Cu 2.5 - 50<br>Al 10 - 50 | Cu 2.5 - 50<br>Al 10 - 50  | Cu 2.5 - 35<br>Al 10 - 35          | Cu 2.5 - 35<br>Al 10 - 35 |      | 16           | 17.5 | 40 | 4  | 9         | 1.7              | 4                |
| SV309                              | 16 - 95                   | 16 - 95                    | 50 - 95                            | 35-95 (r), 35-70          |      | 25           | 22   | 55 | 5  | 20        | 6.6              | 4                |
| SV320                              | 25 - 150                  | 25 - 150                   | 50 - 150 (90°),<br>50 - 150 (120°) | 35 - 150                  |      | 28           | 31   | 70 | 6  | 25        | 11.3             | 4                |
| SV310                              | 35 - 50                   | 35 - 185                   | 50 - 185 (90°)                     | 35 - 185 (r)              |      | 32           | 32   | 80 | 6  | 25        | 16               | 4                |
| With threaded pin, tin-plated      |                           |                            |                                    |                           |      |              |      |    |    |           |                  |                  |
| SV315V                             | Cu 2.5 - 50<br>Al 10 - 50 | Cu 2.5 - 50<br>Al 10 - 50  | Cu 2.5 - 35<br>Al 10 - 35          | Cu 2.5 - 35<br>Al 10 - 35 |      | 16           | 17.5 | 40 | 4  | 9         | 1.7              | 4                |
| SV309V                             | 16 - 95                   | 16 - 95                    | 50 - 95                            | 35-95 (r), 35-70          |      | 25           | 22   | 55 | 5  | 20        | 6.6              | 4                |
| SV320V                             | 25 - 150                  | 25 - 150                   | 50 - 150 (90°),<br>50 - 150 (120°) | --                        |      | 28           | 31   | 70 | 6  | 25        | 11.3             | 4                |
| SV310V                             | 35 - 50                   | 35 - 185                   | 50 - 185 (90°)                     | 35 - 185 (r)              |      | 32           | 32.5 | 80 | 6  | 25        | 16               | 4                |
| With shear head, bright finished   |                           |                            |                                    |                           |      |              |      |    |    |           |                  |                  |
| SV311AKNL                          | 6 - 35                    | 6 - 25,<br>Cu 2.5 - 50 (v) | --                                 | Cu 2.5 - 35               |      | 14           | 17.5 | 40 | 4  | 8         | 1.5              | 4                |
| SV312AKNL                          | Cu 2.5 - 50<br>Al 10 - 50 | Cu 2.5 - 50<br>Al 10 - 50  | Cu 2.5 - 35<br>Al 10 - 35          | Cu 2.5 - 35<br>Al 10 - 35 |      | 16           | 17.5 | 40 | 4  | 9         | 1.7              | 4                |
| SV309AK                            | 16 - 95                   | 16 - 95                    | 50 - 95                            | 35-95 (r), 35-70          |      | 25           | 22   | 55 | 5  | 20        | 6.6              | 4                |
| SV310AK                            | 35 - 50                   | 35 - 185                   | 50 - 185 (90°)                     | 35 - 185 (r)              |      | 32           | 32.5 | 80 | 6  | 25        | 16               | 4                |
| With shear head, tin-plated        |                           |                            |                                    |                           |      |              |      |    |    |           |                  |                  |
| SV312AKNLV                         | Cu 2.5 - 50<br>Al 10 - 50 | Cu 2.5 - 50<br>Al 10 - 50  | Cu 2.5 - 35<br>Al 10 - 35          | Cu 2.5 - 35<br>Al 10 - 35 |      | 16           | 17.5 | 40 | 4  | 9         | 1.7              | 4                |
| SV319AKNLV                         | 10 - 70                   | 10 - 70                    | 50 - 70                            | 35 - 70                   |      | 22           | 24   | 57 | 5  | 15        | 7.6              | 4                |
| SV309AKV                           | 16 - 95                   | 16 - 95                    | 50 - 95                            | 35-95 (r), 35-70          | *    | 25           | 22   | 55 | 5  | 20        | 6.6              | 4                |
| SV310AKV                           | 35 - 50                   | 35 - 185                   | 50 - 185 (90°)                     | 35 - 185 (r)              | *    | 32           | 32.5 | 80 | 6  | 25        | 16               | 4                |

## Screw connector with 4 screws



- For connecting various conductor types and materials, e.g. to DIN EN 60228 Cl. 1 and 2
- Ideal for connecting identical and different conductor cross-sections
- Reliable processing due to cable insertion control (dissimilar materials must not come into contact)

### Characteristics

- Special groove profile inside to destroy the oxidation layer when crimping
- Available with threaded pin or shear head
- Version with 4 screws

### Material

- Insulated body: high-tensile aluminium alloy
- Screws: copper alloy, tin-plated

### Surface

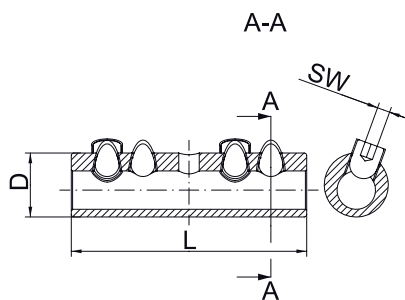
- Either bright or tin-plated

### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-8

### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded



| Part No.                           | Nominal cross section mm² |          |                                       |                           | Dimension mm |     |    | Torque Nm | Weight/pcs.<br>~kg | Packing<br>unit/pcs |
|------------------------------------|---------------------------|----------|---------------------------------------|---------------------------|--------------|-----|----|-----------|--------------------|---------------------|
|                                    | re                        | rm       | se                                    | sm                        | D            | L   | AF |           |                    |                     |
| With threaded pin, bright finished |                           |          |                                       |                           |              |     |    |           |                    |                     |
| SV305                              | 16 - 95                   | 16 - 95  | 50 - 95                               | 35-95 (r),<br>35-70       | 25           | 92  | 5  | 20        | 12                 | 4                   |
| SV306                              | 35 - 50                   | 35 - 185 | 50 - 150<br>(120°),<br>50 - 185 (90°) | 35 - 185 (r)              | 32           | 108 | 6  | 25        | 25                 | 4                   |
| With threaded pin, tin-plated      |                           |          |                                       |                           |              |     |    |           |                    |                     |
| SV305V                             | 16 - 95                   | 16 - 95  | 50 - 95                               | 35-95 (r),<br>35-70       | 25           | 92  | 5  | 20        | 12                 | 4                   |
| SV306V                             | 35 - 50                   | 35 - 185 | 50 - 150<br>(120°),<br>50 - 185 (90°) | 35 - 150,<br>35 - 185 (r) | 32           | 108 | 6  | 25        | 25                 | 4                   |
| With shear head, bright finished   |                           |          |                                       |                           |              |     |    |           |                    |                     |
| SV305AK                            | 16 - 95                   | 16 - 95  | 50 - 95                               | 35 - 70,<br>35 - 70 (r)   | 25           | 92  | 5  | 20        | 12                 | 4                   |
| SV306AK                            | 35 - 50                   | 35 - 185 | 50 - 150<br>(120°),<br>50 - 185 (90°) | 35 - 150,<br>35 - 185 (r) | 32           | 108 | 6  | 25        | 25                 | 4                   |
| With shear head, tin-plated        |                           |          |                                       |                           |              |     |    |           |                    |                     |
| SV305AKV                           | 16 - 95                   | 16 - 95  | 50 - 95                               | 35-95 (r),<br>35-70       | 25           | 92  | 5  | 20        | 12                 | 4                   |
| SV306AKV                           | 35 - 50                   | 35 - 185 | 50 - 150<br>(120°),<br>50 - 185 (90°) | 35 - 150,<br>35 - 185 (r) | 32           | 108 | 6  | 25        | 25                 | 4                   |



### Insulated screw connector



- ▶ For connecting various conductor types and materials, e.g. to DIN EN 60228 Cl. 1 and 2
- ▶ Ideal for connecting identical and different conductor cross-sections
- ▶ Reliable processing due to cable insertion control (dissimilar materials must not come into contact)

#### Characteristics

- Special groove profile inside to destroy the oxidation layer when crimping
- Insulated body
- Version with 2 screws, without barrier
- Available with threaded pin or shear head

#### Material

- Insulated body: high-tensile aluminium alloy
- Screws: copper alloy, tin-plated

#### Surface

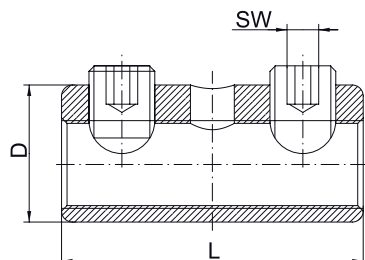
- Either bright or tin-plated

#### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-8

#### Additional information

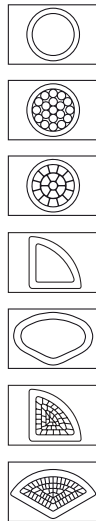
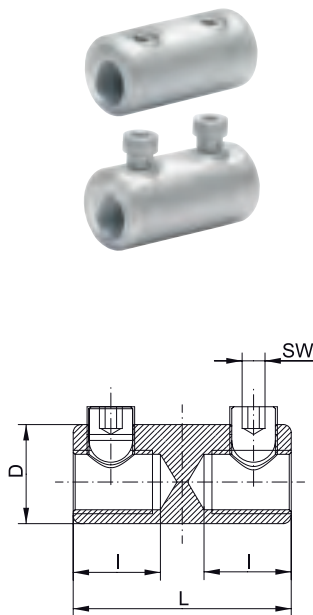
- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded



| Part No.                           | Nominal cross section mm² |          |                                       |                           | Dimension mm |      |    | Torque Nm | Weight/pcs.<br>~kg | Packing<br>unit/pcs |
|------------------------------------|---------------------------|----------|---------------------------------------|---------------------------|--------------|------|----|-----------|--------------------|---------------------|
|                                    | re                        | rm       | se                                    | sm                        | D            | L    | AF |           |                    |                     |
| With threaded pin, bright finished |                           |          |                                       |                           |              |      |    |           |                    |                     |
| SV400                              | 6 - 35                    | 6 - 25   | 50 - 70 (120°)                        | 35 - 70                   | 14           | 60   | 4  | 8         | 1.7                | 4                   |
| SV410                              | 16-95                     | 16-95    | 50-95                                 | 35-95 (r),<br>35-70       | 28.2         | 58.2 | 5  | 20        | 6                  | 4                   |
| SV420                              | 35 - 50                   | 35 - 185 | 50 - 185 (90°)                        | 35 - 185 (r)              | 36           | 84   | 6  | 25        | 14.5               | 4                   |
| With threaded pin, tin-plated      |                           |          |                                       |                           |              |      |    |           |                    |                     |
| SV405V                             | 10 - 70                   | 10 - 70  | 50 - 70,<br>50 - 150<br>(120°)        | 35 - 70,<br>35 - 150      | 25           | 87   | 5  | 15        | 5                  | 4                   |
| SV420V                             | 35 - 50                   | 35 - 185 | 50 - 185 (90°)                        | 35 - 185 (r)              | 36           | 84   | 6  | 25        | 14.5               | 4                   |
| With shear head, bright finished   |                           |          |                                       |                           |              |      |    |           |                    |                     |
| SV410AK                            | 16-95                     | 16-95    | 50-95                                 | 35-95 (r),<br>35-70       | 28.2         | 58.2 | 5  | 20        | 6                  | 4                   |
| SV420AK                            | 35 - 50                   | 35 - 185 | 50 - 150<br>(120°),<br>50 - 185 (90°) | 35 - 150,<br>35 - 185 (r) | 36           | 84   | 6  | 25        | 14.5               | 4                   |



## Screw connector with barrier



- ▶ For connecting various conductor types and materials, e.g. to DIN EN 60228 Cl. 1 and 2
- ▶ Ideal for connecting identical and different conductor cross-sections

### Characteristics

- Special groove profile inside to destroy the oxidation layer when crimping
- Either with threaded pin or shear head, shear head partly fixed
- Version with 2 screws and barrier

### Material

- Insulated body: high-tensile aluminium alloy
- Screws: copper alloy, tin-plated

### Surface

- Either bright or tin-plated

### Technical instructions

- Refer to the installation instructions in the technical appendix on page i-8

### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded, (r) = pre-rounded, (v) = compacted

| Part No.                  | Nominal cross section mm² |          |                                       |                           | Hint | Dimension mm |      |      |    | Torque Nm | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------------------|---------------------------|----------|---------------------------------------|---------------------------|------|--------------|------|------|----|-----------|------------------|------------------|
|                           | re                        | rm       | se                                    | sm                        |      | D            | I    | L    | AF |           |                  |                  |
| With threaded pin, bright |                           |          |                                       |                           |      |              |      |      |    |           |                  |                  |
| SV430                     | 16-50                     | 16-95    | 50 - 70 (120°),<br>50 - 95 (90°)      | 35 - 70,<br>35 - 95 (r)   |      | 28.2         | 23.6 | 58.2 | 5  | 20        | 6.6              | 4                |
| SV440                     | 35-50                     | 35-185   | 50 - 150<br>(120°),<br>50 - 185 (90°) | 35 - 150,<br>35 - 185 (r) |      | 36           | 34.5 | 84   | 6  | 25        | 16.0             | 4                |
| With shear head, bright   |                           |          |                                       |                           |      |              |      |      |    |           |                  |                  |
| SV430AK                   | 16 - 50                   | 16 - 95  | 50 - 70 (120°),<br>50 - 95 (90°)      | 35 - 70,<br>35 - 95 (r)   |      | 28.2         | 23.6 | 58.2 | 5  | 20        | 6.6              | 4                |
| SV440AK                   | 35 - 50                   | 35 - 185 | 50 - 150<br>(120°),<br>50 - 185 (90°) | 35 - 150,<br>35 - 185 (r) | **   | 36           | 34.5 | 84   | 6  | 25        | 16.0             | 4                |



#### Compact tap connectors with shear heads, three conductor cables



- ▶ Suitable for main and branch conductors made from Al and Cu
- ▶ No need to cut the main conductor
- ▶ For use e.g. with energy suppliers

##### Characteristics

- VDE: can be installed under voltage with corresponding fully insulated assembly tools
- With shear heads for the main conductor, fixed

##### Technical instructions

- A mounting instruction is included with every clamp

##### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded
- Creepage and elongation processes are compensated for by spring washers
- Sequence of contacting can be freely determined

| Part No.       | Main conductor |     | Tap conductor |            | Dimension mm |    |       |    | Torque Nm | Weight/pcs.<br>~kg | Packing<br>unit/pcs |
|----------------|----------------|-----|---------------|------------|--------------|----|-------|----|-----------|--------------------|---------------------|
|                | se             | sm  | se            | sm         | la           | lb | Width | AF |           |                    |                     |
| <b>KSK1503</b> | 70 - 150       | 150 | 95 (r)        | 6 - 70 (r) | 84           | 76 | 45    | 5  | 20        | 0.35               | 1                   |

#### Compact tap connectors with shear heads, four conductor cables



- ▶ Suitable for main and branch conductors made from Al and Cu
- ▶ No need to cut the main conductor
- ▶ For use e.g. with energy suppliers

##### Characteristics

- VDE: can be installed under voltage with corresponding fully insulated assembly tools
- With shear heads for the main conductor, fixed

##### Technical instructions

- A mounting instruction is included with every clamp

##### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded
- Creepage and elongation processes are compensated for by spring washers
- Sequence of contacting can be freely determined

| Part No.       | Main conductor |        | Tap conductor |          | Dimension mm |    |       |    | Torque Nm | Weight/pcs.<br>~kg | Packing<br>unit/pcs |
|----------------|----------------|--------|---------------|----------|--------------|----|-------|----|-----------|--------------------|---------------------|
|                | se             | sm     | se            | sm       | la           | lb | Width | AF |           |                    |                     |
| <b>KSK1504</b> | 70 - 150       | 150    | 95 (r)        | 6-70 (r) | 107          | 90 | 50    | 20 | 20        | 0.63               | 1                   |
| <b>KSK1854</b> | 185            | 70-150 | 50            | 6-35     | 107          | 90 | 52    | 20 | 20        | 0.58               | 1                   |

## Compact tap connectors, four conductor cables, for main conductor 25 - 50 mm<sup>2</sup>



- ▶ Suitable for main and branch conductors made from Al and Cu
- ▶ No need to cut the main conductor
- ▶ For use e.g. with energy suppliers

### Characteristics

- VDE: can be installed under voltage with corresponding fully insulated assembly tools

### Technical instructions

- A mounting instruction is included with every clamp

### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded
- Creepage and elongation processes are compensated for by spring washers
- Sequence of contacting can be freely determined

| Part No.      | Main conductor            |            |            | Tap conductor |      | Dimension mm |    |       |    | Torque Nm | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------|---------------------------|------------|------------|---------------|------|--------------|----|-------|----|-----------|------------------|------------------|
|               | se                        | sm         | rm         | se            | sm   | la           | lb | Width | AF |           |                  |                  |
| <b>KSK504</b> | Cu 25 - 50,<br>Al 35 - 50 | Cu 25 - 50 | Cu 25 - 50 | 50            | 6-35 | 88           | 75 | 50    | 5  | 15        | 0.46             | 1                |

## Compact tap connectors, four conductor cables, for main conductor 70 - 185 mm<sup>2</sup>



- ▶ Suitable for main and branch conductors made from Al and Cu
- ▶ No need to cut the main conductor
- ▶ For use e.g. with energy suppliers

### Characteristics

- VDE: can be installed under voltage with corresponding fully insulated assembly tools
- With threaded pins for the main conductor

### Technical instructions

- A mounting instruction is included with every clamp

### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded
- Creepage and elongation processes are compensated for by spring washers
- Sequence of contacting can be freely determined

| Part No.          | Main conductor |          |    | Tap conductor |            |          | Dimension mm |     |       |    | Torque Nm | Weight/ pcs. ~kg | Packing unit/pcs |
|-------------------|----------------|----------|----|---------------|------------|----------|--------------|-----|-------|----|-----------|------------------|------------------|
|                   | se             | sm       | re | se            | sm         | rm       | la           | lb  | Width | AF |           |                  |                  |
| <b>SKR1204</b>    | 120            | 70 - 95  |    | 50 (r)        | 6 - 35 (r) |          | 90           | 77  | 50    | 5  | 20        | 0.46             | 1                |
| <b>SKR150504</b>  | 150            | 70 - 150 | 50 | 50            | 6 - 35     |          | 93           | 80  | 50    | 5  | 20        | 0.46             | 1                |
| <b>SKR1504</b>    | 70 - 150       | 150      |    | 95 (r)        | 6 - 70 (r) |          | 107          | 90  | 46    | 5  | 20        | 0.62             | 1                |
| <b>SKR1501504</b> | 95 - 150       | 150      |    | 150           | 16 - 120   | 16 - 120 | 118          | 118 | 93    | 5  | 20        | 1.34             | 1                |
| <b>SKR1854</b>    | 185            | 95 - 150 |    | 95 (r)        | 6 - 70     |          | 107          | 96  | 46    | 5  | 20        | 0.58             | 1                |



#### Compact tap connectors, three conductor cables



- ▶ Suitable for main and branch conductors made from Al and Cu
- ▶ No need to cut the main conductor
- ▶ For use e.g. with energy suppliers

#### Characteristics

- VDE: can be installed under voltage with corresponding fully insulated assembly tools
- With threaded pins for the main conductor

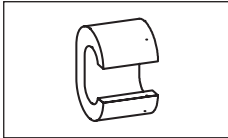
#### Technical instructions

- A mounting instruction is included with every clamp

#### Additional information

- re = round single solid wire, rm = round multi-stranded, se = sector shaped single solid wire, sm = sector shaped multi-stranded

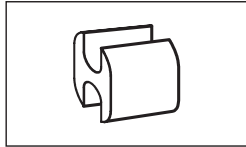
| Part No.       | Main conductor |          |          |          | Tap conductor |        | Dimension mm |    |       |                      |    | Thread<br>DIN 13 | Weight/<br>pcs. ~kg | Packing<br>unit/pcs |
|----------------|----------------|----------|----------|----------|---------------|--------|--------------|----|-------|----------------------|----|------------------|---------------------|---------------------|
|                | se             | sm       | rm       | re       | se            | sm     | la           | lb | Width | Bolts<br>Circle dia. | AF |                  |                     |                     |
| <b>SKR1503</b> | 70 - 150       | 70 - 150 | 70 - 150 | 70 - 150 | 6 - 70        | 6 - 95 | 84           | 76 | 45    | 90                   | 5  | M10x1/<br>M10    | 0.38                | 1                   |



## Tool application chart

### C-Clamps

| Tool type                                                                        | Crimping range corresponds to nominal cross-section mm² | Crimping Tool |                         | Catalogue page |              |     | Crimp profile |
|----------------------------------------------------------------------------------|---------------------------------------------------------|---------------|-------------------------|----------------|--------------|-----|---------------|
|                                                                                  |                                                         | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |     |               |
| Mechanical, electrical, pneumatic crimping tools with interchangeable die / head | 4 - 35                                                  | K354          |                         | 246            | 331          | 331 | ○             |
|                                                                                  | 4 - 50                                                  | K18           |                         | 248            | 339          | 339 | ○             |
|                                                                                  |                                                         | K22           |                         | 250            | 345          | 345 | ○             |
| Hand hydraulic crimping tools                                                    | 4 - 50                                                  | HK6018        |                         | 292            | 339          | 339 | ○             |
|                                                                                  |                                                         | HK60UNV       | +UA18                   | 473            | 339          | 339 | ○             |
|                                                                                  |                                                         | HK6022        |                         | 294            | 345          | 345 | ○             |
|                                                                                  |                                                         | HK60UNV       | +UA22                   | 473            | 345          | 345 | ○             |
|                                                                                  | 10 - 70                                                 | HK12030       |                         | 298            | 351          | 351 | ○             |
|                                                                                  |                                                         | HK12042       |                         | 300            | 351          | 351 | ○             |
|                                                                                  |                                                         | HK120U        |                         | 302            | 351          | 351 | ○             |
| Battery powered crimping tools                                                   | 4 - 35                                                  | EK354ML       |                         | 262            | 331          | 331 | ○             |
|                                                                                  |                                                         | EK354         |                         | 266            | 331          | 331 | ○             |
|                                                                                  |                                                         | EK505         |                         | 268            | 335          | 335 | ○             |
|                                                                                  | 4 - 50                                                  | EK5018        |                         | 270            | 339          | 339 | ○             |
|                                                                                  |                                                         | EK60UNV       | +UA18                   | 476            | 339          | 339 | ○             |
|                                                                                  |                                                         | EKM60UNV      | +UA18                   | 475            | 339          | 339 | ○             |
|                                                                                  |                                                         | EK6022        |                         | 274            | 345          | 345 | ○             |
|                                                                                  |                                                         | EKM6022       |                         | 272            | 345          | 345 | ○             |
|                                                                                  |                                                         | EK60UNV       | +UA22                   | 476            | 345          | 345 | ○             |
|                                                                                  |                                                         | EKM60UNV      | +UA22                   | 475            | 345          | 345 | ○             |
|                                                                                  | 10 - 70                                                 | EK12032       |                         | 280            | 351          | 351 | ○             |
|                                                                                  |                                                         | EK12042       |                         | 282            | 351          | 351 | ○             |
|                                                                                  |                                                         | EK120U        |                         | 284            | 351          | 351 | ○             |
|                                                                                  |                                                         | EK135FT       | +UA15T                  | 286            | 351          | 351 | ○             |
|                                                                                  |                                                         | EK120UNV      | +UA12T                  | 477            | 351          | 351 | ○             |
| Hydraulic crimping systems                                                       | 4 - 50                                                  | THK18         |                         | 306            | 339          | 339 | ○             |
|                                                                                  |                                                         | THK22         |                         | 308            | 345          | 345 | ○             |
|                                                                                  | 10 - 70                                                 | HK122EL380    |                         | 322            | 351          | 351 | ○             |
|                                                                                  | 10 - 185                                                | HK252         |                         | 320            | 356          | 356 | ○             |
|                                                                                  |                                                         | HK252EL380    |                         | 323            | 356          | 356 | ○             |
| Hydraulic crimping heads                                                         | 4 - 50                                                  | PK18          |                         | 306            | 339          | 339 | ○             |
|                                                                                  |                                                         | PK60UNV       | +UA18                   | 474            | 339          | 339 | ○             |
|                                                                                  |                                                         | PK22          |                         | 308            | 345          | 345 | ○             |
|                                                                                  |                                                         | PK60UNV       | +UA22                   | 474            | 345          | 345 | ○             |
|                                                                                  | 10 - 70                                                 | PK12042       |                         | 312            | 351          | 351 | ○             |
|                                                                                  |                                                         | PK120U        |                         | 314            | 351          | 351 | ○             |
|                                                                                  | 10 - 185                                                | PK252         |                         | 316            | 356          | 356 | ○             |



### Tool application chart

#### H-Clamps

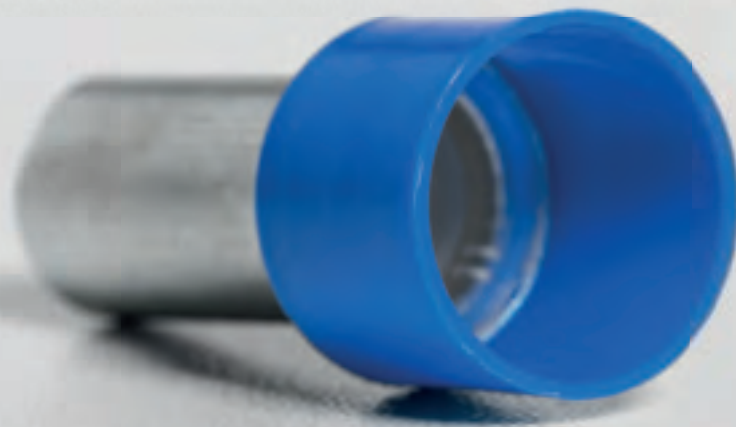
| Tool type                                                                                 | Crimping range<br>corresponds to nominal<br>cross-section mm <sup>2</sup> | Crimping Tool |                            | Catalogue page |              | Crimp profile |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------|
|                                                                                           |                                                                           | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |               |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>die / head | 70                                                                        | K22           |                            | 250            | 345          | ○             |
| Hand hydraulic<br>crimping tools                                                          | 70                                                                        | HK6022        |                            | 294            | 345          | ○             |
|                                                                                           | 70 - 120                                                                  | HK12030       |                            | 298            | 351          | ○             |
|                                                                                           |                                                                           | HK12042       |                            | 300            | 351          | ○             |
|                                                                                           |                                                                           | HK120U        |                            | 302            | 351          | ○             |
| Battery powered<br>crimping tools                                                         | 70                                                                        | EK6022        |                            | 274            | 345          | ○             |
|                                                                                           |                                                                           | EKM6022       |                            | 272            | 345          | ○             |
|                                                                                           |                                                                           | EK60UNV       | +UA22                      | 476            | 345          | ○             |
|                                                                                           | 70 - 120                                                                  | EK12032       |                            | 280            | 351          | ○             |
|                                                                                           |                                                                           | EK12042       |                            | 282            | 351          | ○             |
|                                                                                           |                                                                           | EK120U        |                            | 284            | 351          | ○             |
|                                                                                           |                                                                           | EK135FT       | +UA15T                     | 286            | 351          | ○             |
|                                                                                           |                                                                           | EK120UNV      | +UA12T                     | 477            | 351          | ○             |
| Hydraulic<br>crimping systems                                                             | 70                                                                        | THK22         |                            | 308            | 345          | ○             |
|                                                                                           | 70 - 120                                                                  | HK122EL380    |                            | 322            | 351          | ○             |
|                                                                                           |                                                                           | HK252         |                            | 320            | 356          | ○             |
|                                                                                           |                                                                           | HK252EL380    |                            | 323            | 356          | ○             |
| Hydraulic<br>crimping heads                                                               | 70                                                                        | PK22          |                            | 308            | 345          | ○             |
|                                                                                           | 70 - 120                                                                  | PK12042       |                            | 312            | 351          | ○             |
|                                                                                           |                                                                           | PK120U        |                            | 314            | 351          | ○             |
|                                                                                           |                                                                           | PK252         |                            | 316            | 356          | ○             |





# PROTECTION - CABLE END-SLEEVES, INSULATED AND NON-INSULATED

Klauke joins together what belongs together. Cable end-sleeves prevent the conductors splicing before they are connected in clamps. All wires remain together. Easy-Entry insulation speeds up the insertion of wires into the sleeve. Fine-stranded conductors in particular benefit from a special trapezoidal crimp. No splicing, no time wasted. Your conductors are protected and can be cleanly processed



## In brief

- ▶ Stops conductors splicing
- ▶ Improved contact
- ▶ No risk of short-circuit due to bent strands
- ▶ Produced from high-quality copper
- ▶ Surface treatment with tin or in special versions with silver



## ► Simple diversity

We have to admit: Cable end-sleeves are a simple product. Due to the differing crimp shapes in the range and the high-quality materials used in production, the sleeves are just incredibly good.

- Broad range: To DIN standards, for short circuit-resistant conductors, in various lengths, with and without insulating collars

- Marked to DIN colour code
- Twin cable end-sleeves for connecting in confined areas
- High-quality material for optimum conducting properties
- CSA-approved

## ► Always the right crimp shape

We give every cable end-sleeve its perfect crimp shape. No matter where the conductor is to be laid later, we have a solution for you.

- The correct crimp shape for every connecting terminal
- Crimp shapes matched to the DIN dimensions
- For compacted conductors
- Connect without risk of short-circuit

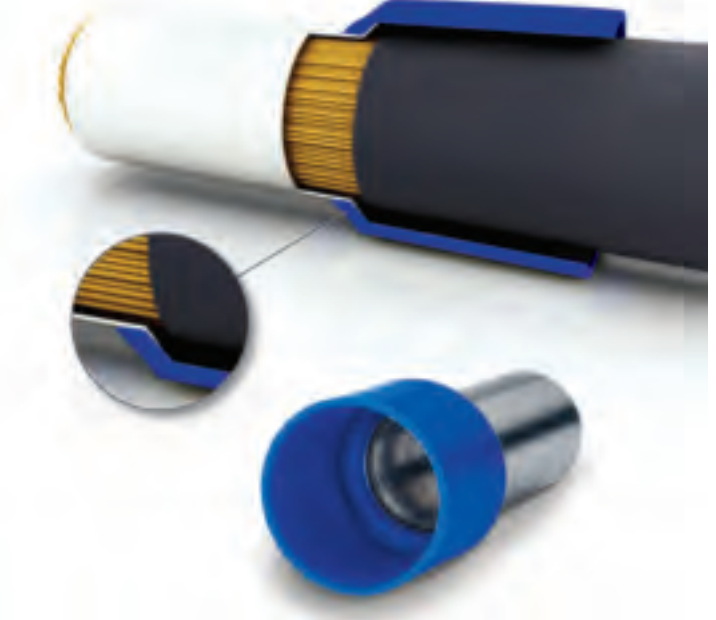


The easy-entry insulation enables fast insertion of conductors with no splicing.

## ► Easy-Entry insulation

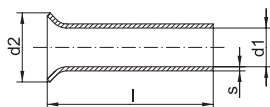
The special Easy-Entry insulation makes it easier to insert the conductor into the sleeves. In addition, the insulation is highly-resistant, to temperatures of up to 105 °C for example.

- Easy-Entry insulation for convenient insertion of the conductor
- Temperature-resistant to 105 °C
- No toxic vapours in case of fire
- Ageing-resistant plastic collars





### Cable end-sleeves to DIN, Cu



- For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- Optimal cable entry due to widened sleeve



#### Characteristics

- To DIN 46228, part 1 and similar



#### Material

- Copper (EN13600)

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 150

#### Additional information

- Silvered version also available, without Part Number appendix "V", exception: Part Number 705V in silvered version = Part No. 7050
- \* = not standardised

| Nominal cross section mm <sup>2</sup> | Part No.      | Hint | Dimension mm |     |    |      | Weight/<br>1000 pcs.<br>~ kg | Packing unit/pcs |
|---------------------------------------|---------------|------|--------------|-----|----|------|------------------------------|------------------|
|                                       |               |      | d1           | d2  | l  | s    |                              |                  |
| 0.25                                  | <b>695V</b>   | *    | 0.75         | 1.7 | 5  | 0.15 | 0.02                         | 1000             |
|                                       | <b>697V</b>   | *    | 0.75         | 1.7 | 7  | 0.15 | 0.03                         | 1000             |
| 0.34                                  | <b>705V</b>   | *    | 0.85         | 1.8 | 5  | 0.15 | 0.02                         | 1000             |
|                                       | <b>707V</b>   | *    | 0.85         | 1.8 | 7  | 0.15 | 0.03                         | 1000             |
| 0.5                                   | <b>71S6V</b>  |      | 1.00         | 2.1 | 6  | 0.15 | 0.03                         | 1000             |
|                                       | <b>71S8V</b>  | *    | 1.00         | 2.1 | 8  | 0.15 | 0.04                         | 1000             |
|                                       | <b>71S10V</b> |      | 1.00         | 2.1 | 10 | 0.15 | 0.05                         | 1000             |
| 0.75                                  | <b>716V</b>   |      | 1.20         | 2.3 | 6  | 0.15 | 0.04                         | 1000             |
|                                       | <b>718V</b>   | *    | 1.20         | 2.3 | 8  | 0.15 | 0.05                         | 1000             |
|                                       | <b>7110V</b>  |      | 1.20         | 2.3 | 10 | 0.15 | 0.06                         | 1000             |
|                                       | <b>7112V</b>  | *    | 1.20         | 2.3 | 12 | 0.15 | 0.08                         | 1000             |
|                                       | <b>7115V</b>  | *    | 1.20         | 2.3 | 15 | 0.15 | 0.09                         | 1000             |
| 1                                     | <b>72S6V</b>  |      | 1.40         | 2.5 | 6  | 0.15 | 0.04                         | 1000             |
|                                       | <b>72S8V</b>  | *    | 1.40         | 2.5 | 8  | 0.15 | 0.06                         | 1000             |
|                                       | <b>72S10V</b> |      | 1.40         | 2.5 | 10 | 0.15 | 0.07                         | 1000             |
|                                       | <b>72S12V</b> | *    | 1.40         | 2.5 | 12 | 0.15 | 0.08                         | 1000             |
|                                       | <b>72S15V</b> | *    | 1.40         | 2.5 | 15 | 0.15 | 0.10                         | 1000             |
| 1.5                                   | <b>726V</b>   | *    | 1.70         | 2.8 | 6  | 0.15 | 0.05                         | 1000             |
|                                       | <b>727V</b>   |      | 1.70         | 2.8 | 7  | 0.15 | 0.06                         | 1000             |
|                                       | <b>728V</b>   | *    | 1.70         | 2.8 | 8  | 0.15 | 0.07                         | 1000             |
|                                       | <b>7210V</b>  |      | 1.70         | 2.8 | 10 | 0.15 | 0.09                         | 1000             |
|                                       | <b>7212V</b>  |      | 1.70         | 2.8 | 12 | 0.15 | 0.10                         | 1000             |
|                                       | <b>7215V</b>  | *    | 1.70         | 2.8 | 15 | 0.15 | 0.13                         | 1000             |
|                                       | <b>7218V</b>  |      | 1.70         | 2.8 | 18 | 0.15 | 0.15                         | 1000             |
|                                       | <b>7220V</b>  | *    | 1.70         | 2.8 | 20 | 0.15 | 0.17                         | 1000             |
| 2.5                                   | <b>737V</b>   |      | 2.20         | 3.4 | 7  | 0.15 | 0.08                         | 1000             |
|                                       | <b>738V</b>   | *    | 2.20         | 3.4 | 8  | 0.15 | 0.09                         | 1000             |
|                                       | <b>7310V</b>  |      | 2.20         | 3.4 | 10 | 0.15 | 0.11                         | 1000             |
|                                       | <b>7312V</b>  |      | 2.20         | 3.4 | 12 | 0.15 | 0.13                         | 1000             |
|                                       | <b>7315V</b>  | *    | 2.20         | 3.4 | 15 | 0.15 | 0.17                         | 1000             |
|                                       | <b>7318V</b>  |      | 2.20         | 3.4 | 18 | 0.15 | 0.20                         | 1000             |
|                                       | <b>7320V</b>  | *    | 2.20         | 3.4 | 20 | 0.15 | 0.22                         | 1000             |

# Cable end-sleeves nach DIN, Cu

| Nominal cross section mm <sup>2</sup> | Part No. | Hint | Dimension mm |      |    |      | Weight/ 1000 pcs. ~ kg | Packing unit/pcs |
|---------------------------------------|----------|------|--------------|------|----|------|------------------------|------------------|
|                                       |          |      | d1           | d2   | l  | s    |                        |                  |
| 4                                     | 748V     | *    | 2.80         | 4.0  | 8  | 0.20 | 0.14                   | 1000             |
|                                       | 749V     |      | 2.80         | 4.0  | 9  | 0.20 | 0.16                   | 1000             |
|                                       | 7410V    | *    | 2.80         | 4.0  | 10 | 0.20 | 0.17                   | 1000             |
|                                       | 7412V    |      | 2.80         | 4.0  | 12 | 0.20 | 0.20                   | 1000             |
|                                       | 7415V    |      | 2.80         | 4.0  | 15 | 0.20 | 0.27                   | 1000             |
|                                       | 7418V    |      | 2.80         | 4.0  | 18 | 0.20 | 0.32                   | 1000             |
|                                       | 7420V    | *    | 2.80         | 4.0  | 20 | 0.20 | 0.35                   | 1000             |
| 6                                     | 7510V    |      | 3.50         | 4.7  | 10 | 0.20 | 0.23                   | 100              |
|                                       | 7512V    |      | 3.50         | 4.7  | 12 | 0.20 | 0.27                   | 100              |
|                                       | 7515V    |      | 3.50         | 4.7  | 15 | 0.20 | 0.34                   | 100              |
|                                       | 7518V    |      | 3.50         | 4.7  | 18 | 0.20 | 0.40                   | 100              |
|                                       | 7520V    | *    | 3.50         | 4.7  | 20 | 0.20 | 0.45                   | 100              |
|                                       | 7525V    | *    | 3.50         | 4.7  | 25 | 0.20 | 0.56                   | 100              |
| 10                                    | 7610V    | *    | 4.5          | 5.8  | 10 | 0.2  | 0.27                   | 100              |
|                                       | 7612V    |      | 4.5          | 5.8  | 12 | 0.2  | 0.33                   | 100              |
|                                       | 7615V    |      | 4.5          | 5.8  | 15 | 0.2  | 0.41                   | 100              |
|                                       | 7618V    |      | 4.5          | 5.8  | 18 | 0.2  | 0.49                   | 100              |
|                                       | 7620V    | *    | 4.5          | 5.8  | 20 | 0.2  | 0.55                   | 100              |
|                                       | 7625V    | *    | 4.5          | 5.8  | 25 | 0.2  | 0.68                   | 100              |
| 16                                    | 7712V    |      | 5.8          | 7.5  | 12 | 0.2  | 0.43                   | 100              |
|                                       | 7715V    |      | 5.8          | 7.5  | 15 | 0.2  | 0.53                   | 100              |
|                                       | 7718V    |      | 5.8          | 7.5  | 18 | 0.2  | 0.60                   | 100              |
|                                       | 7720V    | *    | 5.8          | 7.5  | 20 | 0.2  | 0.70                   | 100              |
|                                       | 7725V    |      | 5.8          | 7.5  | 25 | 0.2  | 0.87                   | 100              |
|                                       | 7732V    |      | 5.8          | 7.5  | 32 | 0.2  | 1.11                   | 100              |
| 25                                    | 7812V    | *    | 7.3          | 9.5  | 12 | 0.2  | 0.80                   | 50               |
|                                       | 7815V    |      | 7.3          | 9.5  | 15 | 0.2  | 0.99                   | 50               |
|                                       | 7818V    |      | 7.3          | 9.5  | 18 | 0.2  | 1.18                   | 50               |
|                                       | 7820V    | *    | 7.3          | 9.5  | 20 | 0.2  | 1.31                   | 50               |
|                                       | 7825V    |      | 7.3          | 9.5  | 25 | 0.2  | 1.63                   | 50               |
|                                       | 7828V    | *    | 7.3          | 9.5  | 28 | 0.2  | 1.82                   | 50               |
|                                       | 7832V    |      | 7.3          | 9.5  | 32 | 0.2  | 2.07                   | 50               |
| 35                                    | 7912V    | *    | 8.3          | 11.0 | 12 | 0.2  | 0.90                   | 50               |
|                                       | 7915V    | *    | 8.3          | 11.0 | 15 | 0.2  | 1.12                   | 50               |
|                                       | 7918V    |      | 8.3          | 11.0 | 18 | 0.2  | 1.34                   | 50               |
|                                       | 7920V    | *    | 8.3          | 11.0 | 20 | 0.2  | 1.48                   | 50               |
|                                       | 7922V    | *    | 8.3          | 11.0 | 22 | 0.2  | 1.63                   | 50               |
|                                       | 7925V    |      | 8.3          | 11.0 | 25 | 0.2  | 1.80                   | 50               |
|                                       | 7930V    | *    | 8.3          | 11.0 | 30 | 0.2  | 2.20                   | 50               |
| 50                                    | 7932V    |      | 8.3          | 11.0 | 32 | 0.2  | 2.35                   | 50               |
|                                       | 8018V    |      | 10.5         | 13.0 | 18 | 0.3  | 1.69                   | 50               |
|                                       | 8022V    | *    | 10.5         | 13.0 | 22 | 0.3  | 2.05                   | 50               |
|                                       | 8025V    |      | 10.5         | 13.0 | 25 | 0.3  | 2.32                   | 50               |
|                                       | 8030V    | *    | 10.5         | 13.0 | 30 | 0.3  | 2.77                   | 50               |
|                                       | 8032V    |      | 10.5         | 13.0 | 32 | 0.3  | 2.95                   | 50               |

See next page



### Cable end-sleeves nach DIN, Cu

| Nominal cross section mm <sup>2</sup> | Part No.     | Hint | Dimension mm |      |    |     | Weight/<br>1000 pcs.<br>~ kg | Packing unit/pcs |
|---------------------------------------|--------------|------|--------------|------|----|-----|------------------------------|------------------|
|                                       |              |      | d1           | d2   | l  | s   |                              |                  |
| 70                                    | <b>8122V</b> | *    | 12.7         | 15.0 | 22 | 0.4 | 3.31                         | 25               |
|                                       | <b>8125V</b> | *    | 12.7         | 15.0 | 25 | 0.4 | 3.75                         | 25               |
|                                       | <b>8130V</b> | *    | 12.7         | 15.0 | 30 | 0.4 | 4.48                         | 25               |
|                                       | <b>8132V</b> | *    | 12.7         | 15.0 | 32 | 0.4 | 4.78                         | 25               |
| 95                                    | <b>8225V</b> | *    | 14.7         | 17.0 | 25 | 0.4 | 4.32                         | 25               |
|                                       | <b>8230V</b> | *    | 14.7         | 17.0 | 30 | 0.4 | 5.17                         | 25               |
|                                       | <b>8232V</b> | *    | 14.7         | 17.0 | 32 | 0.4 | 5.17                         | 25               |
|                                       | <b>8234V</b> | *    | 14.7         | 17.0 | 34 | 0.4 | 5.84                         | 25               |
| 120                                   | <b>8330V</b> | *    | 16.7         | 19.0 | 30 | 0.5 | 7.35                         | 25               |
|                                       | <b>8332V</b> | *    | 16.7         | 19.0 | 32 | 0.5 | 7.83                         | 25               |
|                                       | <b>8334V</b> | *    | 16.7         | 19.0 | 34 | 0.5 | 8.31                         | 25               |
|                                       | <b>8338V</b> | *    | 16.7         | 19.0 | 38 | 0.5 | 9.28                         | 25               |
|                                       | <b>8340V</b> | *    | 16.7         | 19.0 | 40 | 0.5 | 9.76                         | 25               |
| 150                                   | <b>8432V</b> | *    | 18.7         | 21.0 | 32 | 0.5 | 8.75                         | 25               |
|                                       | <b>8434V</b> | *    | 18.7         | 21.0 | 34 | 0.5 | 9.28                         | 25               |
|                                       | <b>8438V</b> | *    | 18.7         | 21.0 | 38 | 0.5 | 10.36                        | 25               |
|                                       | <b>8440V</b> | *    | 18.7         | 21.0 | 40 | 0.5 | 10.89                        | 25               |
| 185                                   | <b>8532V</b> | *    | 20.2         | 23.5 | 32 | 0.6 | 11.38                        | 25               |
|                                       | <b>8540V</b> | *    | 20.2         | 23.5 | 40 | 0.6 | 14.17                        | 25               |
| 240                                   | <b>8634V</b> | *    | 23.0         | 26.0 | 34 | 0.5 | 11.25                        | 25               |
|                                       | <b>8640V</b> | *    | 23.0         | 26.0 | 40 | 0.5 | 13.23                        | 25               |

## Insulated cable end-sleeves to DIN, with Easy-Entry



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Easy-Entry insulation for splice-free cable insertion
- ▶ Halogen-free

### Characteristics

- Colour-coding and tube dimension to DIN 46228, part 4
- Heat resistant to 105° C

### Material

- Copper (EN13600)
- Synthetic material: polypropylene

### Surface

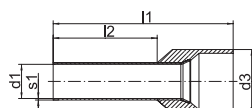
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 150

### Additional information

- \* = not standardised
- \*\*\* = quantities in one bag



| Nominal cross section mm² | Part No. | Colour | Hint | Dimension mm |     |    |    |      | Weight/ 1000 pcs. ~ kg | Packing unit/ pcs |
|---------------------------|----------|--------|------|--------------|-----|----|----|------|------------------------|-------------------|
|                           |          |        |      | d1           | d3  | l1 | l2 | s1   |                        |                   |
| 0.5                       | 4696     |        |      | 1.0          | 3.1 | 12 | 6  | 0.15 | 0.070                  | 1000              |
|                           | 4698     |        |      | 1.0          | 3.1 | 14 | 8  | 0.15 | 0.070                  | 1000              |
|                           | GR4698   |        | ***  | 1.0          | 3.1 | 14 | 8  | 0.15 | 0.070                  | 500               |
|                           | 46910    |        |      | 1.0          | 3.1 | 16 | 10 | 0.15 | 0.085                  | 1000              |
| 0.75                      | 4706     |        |      | 1.2          | 3.3 | 12 | 6  | 0.15 | 0.080                  | 1000              |
|                           | 4708     |        |      | 1.2          | 3.3 | 14 | 8  | 0.15 | 0.080                  | 1000              |
|                           | GR4708   |        | ***  | 1.2          | 3.3 | 14 | 8  | 0.15 | 0.080                  | 500               |
|                           | 47010    |        |      | 1.2          | 3.3 | 16 | 10 | 0.15 | 0.100                  | 1000              |
| 1                         | 47012    |        |      | 1.2          | 3.3 | 18 | 12 | 0.15 | 0.105                  | 1000              |
|                           | 4716     |        |      | 1.4          | 3.5 | 12 | 6  | 0.15 | 0.090                  | 1000              |
|                           | 4718     |        |      | 1.4          | 3.5 | 14 | 8  | 0.15 | 0.100                  | 1000              |
|                           | GR4718   |        | ***  | 1.4          | 3.5 | 14 | 8  | 0.15 | 0.100                  | 500               |
| 1.5                       | 47110    |        |      | 1.4          | 3.5 | 16 | 10 | 0.15 | 0.120                  | 1000              |
|                           | 47112    |        |      | 1.4          | 3.5 | 18 | 12 | 0.15 | 0.125                  | 1000              |
|                           | 4726     |        | *    | 1.7          | 4.0 | 12 | 6  | 0.15 | 0.105                  | 1000              |
|                           | 4728     |        |      | 1.7          | 4.0 | 14 | 8  | 0.15 | 0.110                  | 1000              |
|                           | GR4728   |        | ***  | 1.7          | 4.0 | 14 | 8  | 0.15 | 0.110                  | 500               |
|                           | 47210    |        |      | 1.7          | 4.0 | 16 | 10 | 0.15 | 0.130                  | 1000              |
| 2.5                       | 47212    |        |      | 1.7          | 4.0 | 18 | 12 | 0.15 | 0.150                  | 1000              |
|                           | 47218    |        |      | 1.7          | 4.0 | 24 | 18 | 0.15 | 0.190                  | 1000              |
|                           | 4738     |        |      | 2.2          | 4.7 | 14 | 8  | 0.15 | 0.150                  | 1000              |
|                           | GR4738   |        | ***  | 2.2          | 4.7 | 14 | 8  | 0.15 | 0.150                  | 500               |
| 4                         | 47312    |        |      | 2.2          | 4.7 | 18 | 12 | 0.15 | 0.200                  | 1000              |
|                           | 47318    |        |      | 2.2          | 4.7 | 24 | 18 | 0.15 | 0.250                  | 1000              |
|                           | 47410    |        |      | 2.8          | 5.4 | 17 | 10 | 0.20 | 0.210                  | 100               |
|                           | 47412    |        |      | 2.8          | 5.4 | 20 | 12 | 0.20 | 0.250                  | 100               |
| 6                         | 47418    |        |      | 2.8          | 5.4 | 26 | 18 | 0.20 | 0.320                  | 100               |
|                           | 47512    |        |      | 3.5          | 6.9 | 20 | 12 | 0.20 | 0.350                  | 100               |
| 10                        | 47518    |        |      | 3.5          | 6.9 | 26 | 18 | 0.20 | 0.460                  | 100               |
|                           | 47612    |        |      | 4.5          | 8.4 | 22 | 12 | 0.20 | 0.450                  | 100               |
|                           | 47618    |        |      | 4.5          | 8.4 | 28 | 18 | 0.20 | 0.650                  | 100               |

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### Insulated cable end-sleeves to DIN, with Easy-Entry

| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Hint | Dimension mm |      |    |    |      | Weight/ 1000 pcs. ~ kg | Packing unit/ pcs |
|---------------------------------------|----------|--------|------|--------------|------|----|----|------|------------------------|-------------------|
|                                       |          |        |      | d1           | d3   | l1 | l2 | s1   |                        |                   |
| 16                                    | 47712    | ■      |      | 5.8          | 9.6  | 24 | 12 | 0.20 | 0.650                  | 100               |
|                                       | 47718    | ■      |      | 5.8          | 9.6  | 28 | 18 | 0.20 | 0.800                  | 100               |
| 25                                    | 47816    | ■      |      | 7.3          | 12.0 | 30 | 16 | 0.20 | 1.600                  | 50                |
|                                       | 47818    | ■      |      | 7.3          | 12.0 | 30 | 18 | 0.20 | 1.700                  | 50                |
|                                       | 47822    | ■      |      | 7.3          | 12.0 | 36 | 22 | 0.20 | 2.000                  | 50                |
| 35                                    | 47916    | ■      |      | 8.3          | 13.5 | 30 | 16 | 0.20 | 1.900                  | 50                |
|                                       | 47918    | ■      |      | 8.3          | 13.5 | 30 | 18 | 0.20 | 2.100                  | 50                |
|                                       | 47925    | ■      |      | 8.3          | 13.5 | 39 | 25 | 0.20 | 2.500                  | 50                |
| 50                                    | 48020    | ■      |      | 10.3         | 16.0 | 36 | 20 | 0.30 | 3.300                  | 50                |
|                                       | 48025    | ■      |      | 10.3         | 16.0 | 40 | 25 | 0.30 | 3.600                  | 50                |
| 70                                    | 48121    | ■      | *    | 13.5         | 17.2 | 37 | 21 | 0.40 | 4.620                  | 25                |
| 95                                    | 48225    | ■      | *    | 14.5         | 19.2 | 44 | 25 | 0.40 | 6.000                  | 25                |
| 120                                   | 48327    | ■      | *    | 16.7         | 21.4 | 48 | 27 | 0.45 | 7.850                  | 25                |
| 150                                   | 48432    | ■      | *    | 19.5         | 25.0 | 58 | 32 | 0.50 | 12.330                 | 25                |

### Insulated cable end-sleeves to DIN with Easy-Entry, colour code 1



- For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- Easy-Entry insulation for splice-free cable insertion
- Halogen-free

#### Characteristics

- To DIN 46228, part 4, (0.5 - 50 mm<sup>2</sup>)
- Heat resistant to 105° C

#### Material

- Copper (EN13600)
- Synthetic material: polypropylene

#### Surface

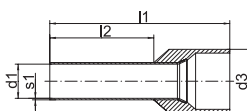
- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 150

#### Additional information

- \* = not standardised
- \*\* = quantities in one bag



| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Hint | Dimension mm |     |      |    |      | Weight/ 1000 pcs. ~ kg | Packing unit/ pcs |
|---------------------------------------|----------|--------|------|--------------|-----|------|----|------|------------------------|-------------------|
|                                       |          |        |      | d1           | d3  | l1   | l2 | s1   |                        |                   |
| 0.14                                  | 166GR    | ■      | *    | 0.7          | 2.1 | 10.0 | 6  | 0.15 | 0.035                  | 1000              |
|                                       | 166GRL   | ■      | *    | 0.7          | 2.1 | 12.0 | 8  | 0.15 | 0.040                  | 1000              |
| 0.25                                  | 167H     | ■      | *    | 0.8          | 2.3 | 10.0 | 6  | 0.15 | 0.045                  | 1000              |
|                                       | 167HL    | ■      | *    | 0.8          | 2.3 | 12.0 | 8  | 0.15 | 0.050                  | 1000              |
| 0.34                                  | 168T     | ■      | *    | 0.8          | 2.5 | 10.0 | 6  | 0.15 | 0.045                  | 1000              |
|                                       | 168TL    | ■      | *    | 0.8          | 2.5 | 12.0 | 8  | 0.15 | 0.050                  | 1000              |
| 0.5                                   | 1690K    | ■      |      | 1.0          | 3.1 | 12.0 | 6  | 0.15 | 0.070                  | 1000              |
|                                       | 1690     | ■      |      | 1.0          | 3.1 | 14.0 | 8  | 0.15 | 0.070                  | 1000              |
|                                       | GR1690   | ■      | **   | 1.0          | 3.1 | 14.0 | 8  | 0.15 | 0.070                  | 500               |
|                                       | 1690H    | ■      |      | 1.0          | 3.1 | 16.0 | 10 | 0.15 | 0.085                  | 1000              |

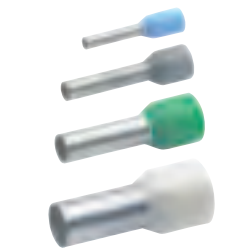
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## Insulated cable end-sleeves to DIN with Easy-Entry, colour code 1

| Nominal cross section mm <sup>2</sup> | Part No. | Colour                                                                              | Hint | Dimension mm |      |      |    |      | Weight/ 1000 pcs. ~ kg | Packing unit/ pcs |
|---------------------------------------|----------|-------------------------------------------------------------------------------------|------|--------------|------|------|----|------|------------------------|-------------------|
|                                       |          |                                                                                     |      | d1           | d3   | l1   | l2 | s1   |                        |                   |
| 0.75                                  | 170WK    |    |      | 1.2          | 3.3  | 12.0 | 6  | 0.15 | 0.080                  | 1000              |
|                                       | 170W     |    |      | 1.2          | 3.3  | 14.0 | 8  | 0.15 | 0.080                  | 1000              |
|                                       | GR170W   |    | **   | 1.2          | 3.3  | 14.0 | 8  | 0.15 | 0.080                  | 500               |
|                                       | 170WH    |    |      | 1.2          | 3.3  | 16.0 | 10 | 0.15 | 0.100                  | 1000              |
|                                       | 170WL    |    |      | 1.2          | 3.3  | 18.0 | 12 | 0.15 | 0.105                  | 1000              |
| 1                                     | 171GK    |    |      | 1.4          | 3.5  | 12.0 | 6  | 0.15 | 0.090                  | 1000              |
|                                       | 171G     |    |      | 1.4          | 3.5  | 14.0 | 8  | 0.15 | 0.100                  | 1000              |
|                                       | GR171G   |    | **   | 1.4          | 3.5  | 14.0 | 8  | 0.15 | 0.100                  | 500               |
|                                       | 171GH    |    |      | 1.4          | 3.5  | 16.0 | 10 | 0.15 | 0.120                  | 1000              |
|                                       | 171GL    |    |      | 1.4          | 3.5  | 18.0 | 12 | 0.15 | 0.125                  | 1000              |
| 1.5                                   | 172RK    |    |      | 1.7          | 4.0  | 12.0 | 6  | 0.15 | 0.105                  | 1000              |
|                                       | 172RO    |    |      | 1.7          | 4.0  | 14.0 | 8  | 0.15 | 0.110                  | 1000              |
|                                       | GR172RO  |    | **   | 1.7          | 4.0  | 14.0 | 8  | 0.15 | 0.110                  | 500               |
|                                       | 172RH    |    |      | 1.7          | 4.0  | 16.0 | 10 | 0.15 | 0.130                  | 1000              |
|                                       | 172RM    |    |      | 1.7          | 4.0  | 18.0 | 12 | 0.15 | 0.140                  | 1000              |
| 2.5                                   | 172RL    |    |      | 1.7          | 4.0  | 24.0 | 18 | 0.15 | 0.190                  | 1000              |
|                                       | 173B     |   |      | 2.2          | 4.7  | 14.0 | 8  | 0.15 | 0.150                  | 1000              |
|                                       | GR173B   |  | **   | 2.2          | 4.7  | 14.0 | 8  | 0.15 | 0.150                  | 500               |
|                                       | 173BH    |  |      | 2.2          | 4.7  | 18.0 | 12 | 0.15 | 0.200                  | 1000              |
|                                       | 173BL    |  |      | 2.2          | 4.7  | 24.0 | 18 | 0.15 | 0.250                  | 1000              |
| 4                                     | 174GR    |  |      | 2.8          | 5.4  | 17.0 | 10 | 0.20 | 0.210                  | 100               |
|                                       | 174GRH   |  |      | 2.8          | 5.4  | 20.0 | 12 | 0.20 | 0.250                  | 100               |
|                                       | 174GRL   |  |      | 2.8          | 5.4  | 26.0 | 18 | 0.20 | 0.320                  | 100               |
| 6                                     | 175S     |  |      | 3.5          | 6.9  | 20.0 | 12 | 0.20 | 0.350                  | 100               |
|                                       | 175SL    |  |      | 3.5          | 6.9  | 26.0 | 18 | 0.20 | 0.460                  | 100               |
| 10                                    | 176E     |  |      | 4.5          | 8.4  | 22.0 | 12 | 0.20 | 0.450                  | 100               |
|                                       | 176EL    |  |      | 4.5          | 8.4  | 28.0 | 18 | 0.20 | 0.650                  | 100               |
| 16                                    | 177GR    |  |      | 5.8          | 9.6  | 24.0 | 12 | 0.20 | 0.650                  | 100               |
|                                       | 177GRL   |  |      | 5.8          | 9.6  | 28.0 | 18 | 0.20 | 0.800                  | 100               |
| 25                                    | 178BR    |  |      | 7.3          | 12.0 | 30.0 | 16 | 0.20 | 1.600                  | 50                |
|                                       | 178BRL   |  |      | 7.3          | 12.0 | 36.0 | 22 | 0.20 | 2.000                  | 50                |
| 35                                    | 179B     |  |      | 8.3          | 13.5 | 30.0 | 16 | 0.20 | 1.900                  | 50                |
|                                       | 179BL    |  |      | 8.3          | 13.5 | 39.0 | 25 | 0.20 | 2.500                  | 50                |
| 50                                    | 1800     |  |      | 10.3         | 16.0 | 36.0 | 20 | 0.30 | 3.300                  | 50                |
|                                       | 1800L    |  |      | 10.3         | 16.0 | 40.0 | 25 | 0.30 | 4.000                  | 50                |



### Insulated cable end-sleeves to DIN with Easy-Entry, colour code 2



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Easy-Entry insulation for splice-free cable insertion
- ▶ Halogen-free

#### Characteristics

- To DIN 46228, part 4, (0.5 - 25 mm<sup>2</sup>)
- Heat resistant to 105° C

#### Material

- Copper (EN13600)
- Synthetic material: polypropylene

#### Surface

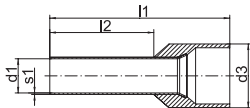
- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 150

#### Additional information

- \* = not standardised
- \*\* = quantities in one bag



| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Hint | Dimension mm |     |      |    |      | Weight/ 1000 pcs. ~ kg | Packing unit/ pcs |
|---------------------------------------|----------|--------|------|--------------|-----|------|----|------|------------------------|-------------------|
|                                       |          |        |      | d1           | d3  | l1   | l2 | s1   |                        |                   |
| 0.14                                  | 1666     |        | *    | 0.7          | 2.1 | 10.0 | 6  | 0.15 | 0.035                  | 1000              |
|                                       | 1668     |        | *    | 0.7          | 2.1 | 12.0 | 8  | 0.15 | 0.040                  | 1000              |
| 0.25                                  | 1676     |        | *    | 0.8          | 2.3 | 10.0 | 6  | 0.15 | 0.045                  | 1000              |
|                                       | 1678     |        | *    | 0.8          | 2.3 | 12.0 | 8  | 0.15 | 0.050                  | 1000              |
| 0.34                                  | 1686     |        | *    | 0.8          | 2.5 | 10.0 | 6  | 0.15 | 0.045                  | 1000              |
|                                       | 1688     |        | *    | 0.8          | 2.5 | 12.0 | 8  | 0.15 | 0.050                  | 1000              |
| 0.5                                   | 1696     |        |      | 1.0          | 3.1 | 12.0 | 6  | 0.15 | 0.070                  | 1000              |
|                                       | 1698     |        |      | 1.0          | 3.1 | 14.0 | 8  | 0.15 | 0.080                  | 1000              |
|                                       | GR1698   |        | **   | 1.0          | 3.1 | 14.0 | 8  | 0.15 | 0.080                  | 500               |
| 0.75                                  | 1706     |        |      | 1.2          | 3.3 | 12.0 | 6  | 0.15 | 0.080                  | 1000              |
|                                       | 1708     |        |      | 1.2          | 3.3 | 14.0 | 8  | 0.15 | 0.095                  | 1000              |
|                                       | GR1708   |        | **   | 1.2          | 3.3 | 14.0 | 8  | 0.15 | 0.095                  | 500               |
| 1                                     | 1716     |        |      | 1.4          | 3.5 | 12.0 | 6  | 0.15 | 0.085                  | 1000              |
|                                       | 1718     |        |      | 1.4          | 3.5 | 14.0 | 8  | 0.15 | 0.100                  | 1000              |
|                                       | GR1718   |        | **   | 1.4          | 3.5 | 14.0 | 8  | 0.15 | 0.100                  | 500               |
| 1.5                                   | 1726     |        |      | 1.7          | 4.0 | 12.0 | 6  | 0.15 | 0.100                  | 1000              |
|                                       | 1728     |        |      | 1.7          | 4.0 | 14.0 | 8  | 0.15 | 0.120                  | 1000              |
|                                       | GR1728   |        | **   | 1.7          | 4.0 | 14.0 | 8  | 0.15 | 0.120                  | 500               |
|                                       | 17210    |        |      | 1.7          | 4.0 | 16.0 | 10 | 0.15 | 0.130                  | 1000              |
|                                       | 17212    |        |      | 1.7          | 4.0 | 18.0 | 12 | 0.15 | 0.140                  | 1000              |
|                                       | 17218    |        |      | 1.7          | 4.0 | 24.0 | 18 | 0.15 | 0.220                  | 1000              |
| 2.5                                   | 1738     |        |      | 2.2          | 4.7 | 14.0 | 8  | 0.15 | 0.140                  | 1000              |
|                                       | GR1738   |        | **   | 2.2          | 4.7 | 14.0 | 8  | 0.15 | 0.140                  | 500               |
|                                       | 17312    |        |      | 2.2          | 4.7 | 18.0 | 12 | 0.15 | 0.200                  | 1000              |
|                                       | 17318    |        |      | 2.2          | 4.7 | 24.0 | 18 | 0.15 | 0.280                  | 1000              |
| 4                                     | 17410    |        |      | 2.8          | 5.4 | 17.0 | 10 | 0.20 | 0.260                  | 100               |
|                                       | 17412    |        |      | 2.8          | 5.4 | 20.0 | 12 | 0.20 | 0.300                  | 100               |
|                                       | 17418    |        |      | 2.8          | 5.4 | 26.0 | 18 | 0.20 | 0.390                  | 100               |
| 6                                     | 17512    |        |      | 3.5          | 6.9 | 20.0 | 12 | 0.20 | 0.410                  | 100               |
|                                       | 17518    |        |      | 3.5          | 6.9 | 26.0 | 18 | 0.20 | 0.530                  | 100               |

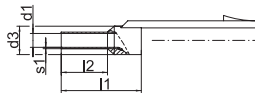
See next page



## Insulated cable end-sleeves to DIN with Easy-Entry, colour code 2

| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Hint | Dimension mm |      |      |    |      | Weight/ 1000 pcs. ~ kg | Packing unit/ pcs |
|---------------------------------------|----------|--------|------|--------------|------|------|----|------|------------------------|-------------------|
|                                       |          |        |      | d1           | d3   | l1   | l2 | s1   |                        |                   |
| 10                                    | 17612    | ■      |      | 4.5          | 8.4  | 22.0 | 12 | 0.20 | 0.550                  | 100               |
|                                       | 17618    | ■      |      | 4.5          | 8.4  | 28.0 | 18 | 0.20 | 0.710                  | 100               |
| 16                                    | 17712    | ■      |      | 5.8          | 9.6  | 24.0 | 12 | 0.20 | 0.660                  | 100               |
|                                       | 17718    | ■      |      | 5.8          | 9.6  | 28.0 | 18 | 0.20 | 0.850                  | 100               |
| 25                                    | 17816    | ■      |      | 7.3          | 12.0 | 30.0 | 16 | 0.20 | 1.500                  | 50                |
|                                       | 17818    | ■      |      | 7.3          | 12.0 | 30.0 | 18 | 0.20 | 1.550                  | 50                |
|                                       | 17822    | ■      |      | 7.3          | 12.0 | 36.0 | 22 | 0.20 | 2.000                  | 50                |

## Insulated cable end-sleeves with lug



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ With identification system for max. 6 identification rings
- ▶ Halogen-free

### Characteristics

- Dimensions to DIN 46228, part 4
- Heat resistant to 105° C

### Material

- Copper (EN13600)
- Synthetic material: polypropylene

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 150

| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Dimension mm |     |      |    |      | Weight/ 1000 pcs. ~ kg | Packing unit/ pcs |
|---------------------------------------|----------|--------|--------------|-----|------|----|------|------------------------|-------------------|
|                                       |          |        | d1           | d3  | l1   | l2 | s1   |                        |                   |
| 0.5                                   | 3698     | ■      | 1.0          | 3.1 | 13.0 | 8  | 0.15 | 0.16                   | 1000              |
| 0.75                                  | 3708     | ■      | 1.2          | 3.2 | 13.5 | 8  | 0.15 | 0.16                   | 1000              |
| 1                                     | 3718     | ■      | 1.4          | 3.4 | 13.5 | 8  | 0.15 | 0.18                   | 1000              |
| 1.5                                   | 3728     | ■      | 1.7          | 3.9 | 13.5 | 8  | 0.15 | 0.20                   | 1000              |
| 2.5                                   | 3738     | ■      | 2.2          | 4.7 | 14.5 | 8  | 0.15 | 0.22                   | 1000              |



### Designation ring and insert fork



► For identifying the insulated cable end-sleeves with lugs

#### Characteristics

- Differing numbers / letters in the designation rings
- Packaging unit in booklet format, 200 of each symbol
- Insert fork A300 for inserting in the designation ring on the insulated cable end-sleeves with tabs

#### Additional information

- \* = without letters "I" and "O"

| Part No.          | Colour | Hint | Packing unit/pcs |
|-------------------|--------|------|------------------|
| Designation rings |        |      |                  |
| 380/-             | ■      |      | 1 booklet        |
| 380/+             | ■      |      | 1 booklet        |
| 380/0 to 9        | ■      |      | 1 booklet        |
| 380/A to Z        | ■      | *    | 1 booklet        |
| Insert fork       |        |      |                  |
| A300              |        |      | 1                |

### Insulated cable end-sleeves for short circuit resistant conductors



- For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- For short circuit resistant conductors (e.g. NSGAFÖU)
- Halogen-free

#### Characteristics

- Heat resistant to 105° C
- Easy-Entry insulation for simple cable insertion
- Colour-coded cross-section assignment

#### Material

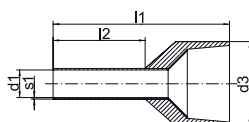
- Copper (EN13600)
- Synthetic material: polypropylene

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 150



| Nominal cross section mm² | Part No. | Colour | Dimension mm |      |      |    |      | Weight/ 1000 pcs. ~ kg | Packing unit/pcs |
|---------------------------|----------|--------|--------------|------|------|----|------|------------------------|------------------|
|                           |          |        | d1           | d3   | l1   | l2 | s1   |                        |                  |
| 1.5                       | 4328     | ■      | 1.7          | 8.1  | 17.5 | 8  | 0.15 | 0.22                   | 100              |
|                           | 43210    | ■      | 1.7          | 8.1  | 19.5 | 10 | 0.15 | 0.27                   | 100              |
| 2.5                       | 4338     | ■      | 2.2          | 8.6  | 17.5 | 8  | 0.15 | 0.24                   | 100              |
|                           | 43312    | ■      | 2.2          | 8.6  | 21.5 | 12 | 0.15 | 0.36                   | 100              |
| 4                         | 43410    | ■      | 2.9          | 10.5 | 19.5 | 10 | 0.20 | 0.36                   | 100              |
| 6                         | 43512    | ■      | 3.5          | 11.0 | 23.0 | 12 | 0.20 | 0.49                   | 100              |
| 10                        | 43612    | ■      | 4.5          | 12.5 | 24.0 | 12 | 0.20 | 0.65                   | 100              |
| 16                        | 43712    | ■      | 5.8          | 14.5 | 25.5 | 12 | 0.20 | 0.93                   | 100              |

## Insulated twin cable end-sleeves



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ For looping of clamps
- ▶ Colour-coding following DIN 46228 part 4 (0.5 - 16 mm<sup>2</sup>)
- ▶ Halogen-free

### Characteristics

- Heat resistant to 105° C

### Material

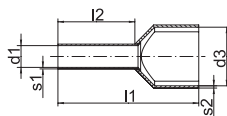
- Copper (EN13600)
- Synthetic material: polypropylene

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

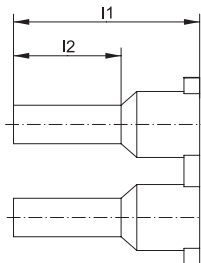
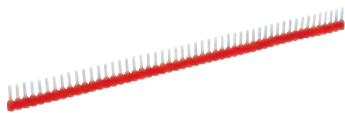
- Tool: see page 153



| Nominal cross section mm <sup>2</sup> | Part No.     | Colour | Dimension mm |           |      |    |      |      | Weight/ 1000 pcs. ~ kg | Packing unit/ pcs |
|---------------------------------------|--------------|--------|--------------|-----------|------|----|------|------|------------------------|-------------------|
|                                       |              |        | d1           | d3        | l1   | l2 | s1   | s2   |                        |                   |
| 2 x 0.25                              | <b>8678</b>  |        | 1.20         | 2.3/3.9   | 15.0 | 8  | 0.15 | 0.25 | 0.110                  | 1000              |
| 2 x 0.34                              | <b>8688</b>  |        | 1.20         | 2.3/3.9   | 15.0 | 8  | 0.15 | 0.25 | 0.110                  | 1000              |
| 2 x 0.5                               | <b>8698</b>  |        | 1.40         | 3.0/5.2   | 15.0 | 8  | 0.15 | 0.25 | 0.110                  | 1000              |
| 2 x 0.75                              | <b>8708</b>  |        | 1.70         | 3.3/5.5   | 15.0 | 8  | 0.15 | 0.25 | 0.130                  | 1000              |
|                                       | <b>87010</b> |        | 1.70         | 3.3/5.5   | 17.0 | 10 | 0.15 | 0.25 | 0.150                  | 1000              |
| 2 x 1                                 | <b>8718</b>  |        | 2.00         | 4.0/6.0   | 15.0 | 8  | 0.15 | 0.30 | 0.170                  | 1000              |
|                                       | <b>87110</b> |        | 2.00         | 4.0/6.0   | 17.0 | 10 | 0.15 | 0.30 | 0.170                  | 1000              |
| 2 x 1.5                               | <b>8728</b>  |        | 2.20         | 4.2/7.2   | 16.0 | 8  | 0.15 | 0.30 | 0.183                  | 1000              |
|                                       | <b>87212</b> |        | 2.20         | 4.2/7.2   | 20.0 | 12 | 0.15 | 0.30 | 0.237                  | 1000              |
| 2 x 2.5                               | <b>87310</b> |        | 2.80         | 4.8/8.4   | 18.5 | 10 | 0.20 | 0.30 | 0.312                  | 100               |
|                                       | <b>87313</b> |        | 2.80         | 4.8/8.4   | 21.5 | 13 | 0.20 | 0.30 | 0.340                  | 100               |
| 2 x 4                                 | <b>87412</b> |        | 3.70         | 5.7/9.6   | 23.0 | 12 | 0.20 | 0.40 | 0.467                  | 100               |
| 2 x 6                                 | <b>87514</b> |        | 4.80         | 7.7/10.8  | 26.0 | 14 | 0.20 | 0.40 | 0.730                  | 100               |
| 2 x 10                                | <b>87614</b> |        | 6.40         | 8.0/13.8  | 26.0 | 14 | 0.20 | 0.40 | 0.884                  | 100               |
| 2 x 16                                | <b>87714</b> |        | 8.20         | 10.4/19.2 | 30.0 | 14 | 0.20 | 0.40 | 1.273                  | 100               |



### Insulated cable end-sleeves, strip form



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Crimped cable end-sleeves for simple mounting to cable clamps
- ▶ Halogen-free

#### Characteristics

- Colour-coding and tube dimension to DIN 46228, part 4
- Heat resistant to 105° C

#### Material

- Copper (EN13600)
- Synthetic material: polypropylene

#### Surface

- Tin-plated to protect against corrosion

| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Dimension mm |    | Weight/<br>1000 pcs.<br>~ kg | Packing unit/pcs |
|---------------------------------------|----------|--------|--------------|----|------------------------------|------------------|
|                                       |          |        | l1           | l2 |                              |                  |
| 0.5                                   | ST9698   |        | 14           | 8  | 0.100                        | 500              |
| 0.75                                  | ST9708   |        | 14           | 8  | 0.100                        | 500              |
| 1                                     | ST9718   |        | 14           | 8  | 0.100                        | 500              |
| 1.5                                   | ST9728   |        | 14           | 8  | 0.100                        | 500              |
| 2.5                                   | ST9738   |        | 14           | 8  | 0.100                        | 500              |

### Insulated cable end-sleeves, small coil



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Easy-Entry insulation for optimal cable insertion
- ▶ Automatic processing due to coil shape
- ▶ Halogen-free

#### Characteristics

- Colour-coding and tube dimension to DIN 46228, part 4
- Heat resistant to 105° C

#### Material

- Copper (EN13600)
- Synthetic material: polypropylene

#### Surface

- Tin-plated to protect against corrosion

| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Dimension mm |    | Weight/<br>1000 pcs.<br>~ kg | Packing unit/pcs |
|---------------------------------------|----------|--------|--------------|----|------------------------------|------------------|
|                                       |          |        | l1           | l2 |                              |                  |
| 0.5                                   | BAK9698  |        | 14           | 8  | 0.136                        | 1100             |
| 0.75                                  | BAK9708  |        | 14           | 8  | 0.154                        | 1100             |
| 1                                     | BAK9718  |        | 14           | 8  | 0.187                        | 800              |
| 1.5                                   | BAK9728  |        | 14           | 8  | 0.200                        | 800              |
| 2.5                                   | BAK9738  |        | 14           | 8  | 0.300                        | 500              |

## Insulated cable end-sleeves, large coil



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Easy-Entry insulation for splice-free cable insertion
- ▶ Automatic processing due to coil shape
- ▶ Halogen-free

### Characteristics

- Colour-coding and tube dimension to DIN 46228, part 4
- Heat resistant to 105° C

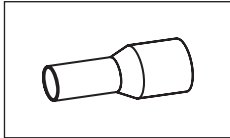
### Material

- Copper (EN13600)
- Synthetic material: polypropylene

### Surface

- Tin-plated to protect against corrosion

| Nominal cross section<br>mm <sup>2</sup> | Part No.       | Colour | Dimension mm |    | Weight/<br>1000 pcs.<br>~ kg | Packing unit/pcs |
|------------------------------------------|----------------|--------|--------------|----|------------------------------|------------------|
|                                          |                |        | I1           | I2 |                              |                  |
| 0.5                                      | <b>BAG9698</b> |        | 14           | 8  | 0.120                        | 10000            |
| 0.75                                     | <b>BAG9708</b> |        | 14           | 8  | 0.130                        | 10000            |
| 1                                        | <b>BAG9718</b> |        | 14           | 8  | 0.160                        | 7500             |
| 1.5                                      | <b>BAG9728</b> |        | 14           | 8  | 0.173                        | 7500             |
| 2.5                                      | <b>BAG9738</b> |        | 14           | 8  | 0.230                        | 5000             |

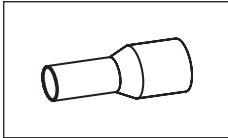


### Tool application chart

**Cable end-sleeves to DIN 46228, part 1 and DIN 46228, part 4**  
**Insulated cable end-sleeves for short circuit resistant conductors**

#### Part 1 of 2

| Tool type                                                                                 | Crimping range<br>corresponds to nominal<br>cross-section mm <sup>2</sup> | Crimping Tool |                            | Catalogue page |              | Crimp profile |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------|
|                                                                                           |                                                                           | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |               |
| Mechanical<br>crimping tools                                                              | 0.08 - 10                                                                 | K303          |                            | 217            |              | ◇             |
|                                                                                           | 0.08 - 16                                                                 | K304K         |                            | 217            |              | ◇             |
|                                                                                           |                                                                           | K306K         |                            | 217            |              | ◇             |
|                                                                                           | 0.14 - 2.5                                                                | K1            |                            | 212            |              | □             |
|                                                                                           |                                                                           | K48           |                            | 212            |              | □             |
|                                                                                           | 0.14 - 6                                                                  | K32           |                            | 213            |              | □             |
|                                                                                           |                                                                           | K37           |                            | 214            |              | □             |
|                                                                                           | 0.14 - 10                                                                 | K3014K        |                            | 218            |              | ◇             |
|                                                                                           | 0.5 - 2.5                                                                 | K4            |                            | 210            |              | ◇             |
|                                                                                           | 0.5 - 6                                                                   | K36           |                            | 213            |              | □             |
|                                                                                           |                                                                           | K382          |                            | 215            |              | ◇             |
|                                                                                           | 0.5 - 16                                                                  | K3            |                            | 211            |              | ◇             |
|                                                                                           | 1.5 - 6                                                                   | K46           |                            | 210            |              | ◇             |
|                                                                                           | 6 - 16                                                                    | K34           |                            | 214            |              | □             |
|                                                                                           | 10 - 25                                                                   | K39           |                            | 215            |              | □             |
|                                                                                           | 10 - 35                                                                   | K35           |                            | 211            |              | ◇             |
|                                                                                           | 10 - 50                                                                   | K271          |                            | 218            |              | ◇             |
|                                                                                           |                                                                           | K28           |                            | 219            |              | □             |
|                                                                                           | 50 - 95                                                                   | K272          |                            | 219            |              | ◇             |
|                                                                                           |                                                                           | K29           |                            | 220            |              | □             |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>die / head | 0.14 - 10                                                                 | K507          |                            | 243            |              | □             |
|                                                                                           |                                                                           | KP1           | +KP303                     | 240            |              | ◇             |
|                                                                                           |                                                                           | KP1L          | +KP303                     | 240            |              | ◇             |
|                                                                                           | 0.14 - 50                                                                 | K50           |                            | 244            | 326          | □             |
|                                                                                           |                                                                           | EK50ML        |                            | 254            | 326          | □             |
|                                                                                           | 1.5 - 6                                                                   | KP1           | +KP351                     | 240            |              | ○             |
|                                                                                           |                                                                           | KP1L          | +KP351                     | 240            |              | ○             |
|                                                                                           | 2.5 - 16                                                                  | KP1           | +KP304                     | 240            |              | ◇             |
|                                                                                           |                                                                           | KP1L          | +KP304                     | 240            |              | ◇             |
|                                                                                           | 10 - 16                                                                   | KP1           | +KP352                     | 240            |              | ○             |
|                                                                                           |                                                                           | KP1L          | +KP352                     | 240            |              | ○             |
|                                                                                           | 10 - 50                                                                   | K354          |                            | 246            | 332          | □             |
|                                                                                           | 10 - 95                                                                   | K18           |                            | 248            | 340          | □ ◇           |
|                                                                                           | 10 - 240                                                                  | K22           |                            | 250            | 346          | □ ◇           |



## Tool application chart

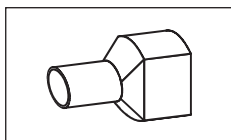
**Cable end-sleeves to DIN 46228, part 1 and DIN 46228, part 4**  
**Insulated cable end-sleeves for short circuit resistant conductors**

### Part 2 of 2

| Tool type                         | Crimping range<br>corresponds to nominal<br>cross-section mm² | Crimping Tool |                            | Catalogue page |              | Crimp profile |  |
|-----------------------------------|---------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------|--|
|                                   |                                                               | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |               |  |
| Hand hydraulic<br>crimping tools  | 10 - 95                                                       | HK6018        |                            | 292            | 340          |               |  |
|                                   |                                                               | HK60UNV       | +UA18                      | 473            | 340          |               |  |
|                                   | 10 - 240                                                      | HK6022        |                            | 294            | 346          |               |  |
|                                   |                                                               | HK60UNV       | +UA22                      | 473            | 351          |               |  |
|                                   | 25 - 240                                                      | HK12030       |                            | 298            | 351          |               |  |
|                                   |                                                               | HK12042       |                            | 300            | 351          |               |  |
|                                   |                                                               | HK120U        |                            | 302            |              |               |  |
| Battery powered<br>crimping tools | 0.14 - 50                                                     | EK1550ML      |                            | 258            |              |               |  |
|                                   | 10 - 50                                                       | EK354ML       |                            | 262            | 332          |               |  |
|                                   |                                                               | EK354         |                            | 266            | 332          |               |  |
|                                   |                                                               | EK505         |                            | 268            | 326          |               |  |
|                                   | 10 - 95                                                       | EK5018        |                            | 270            | 340          |               |  |
|                                   |                                                               | EK60UNV       | +UA18                      | 476            | 340          |               |  |
|                                   |                                                               | EKM60UNV      | +UA18                      | 475            | 340          |               |  |
|                                   | 10 - 240                                                      | EK6022        |                            | 274            | 346          |               |  |
|                                   |                                                               | EKM6022       |                            | 272            | 346          |               |  |
|                                   |                                                               | EK60UNV       | +UA22                      | 476            | 346          |               |  |
|                                   |                                                               | EKM60UNV      | +UA22                      | 475            | 346          |               |  |
|                                   | 25 - 240                                                      | EK12032       |                            | 280            | 351          |               |  |
|                                   |                                                               | EK12042       |                            | 282            | 351          |               |  |
|                                   |                                                               | EK120U        |                            | 284            | 351          |               |  |
|                                   |                                                               | EK135FT       | +UA15T                     | 286            | 351          |               |  |
|                                   |                                                               | EK120UNV      | +UA12T                     | 284            | 351          |               |  |
| Hydraulic<br>crimping systems     | 10 - 95                                                       | THK18         |                            | 306            | 340          |               |  |
|                                   | 10 - 150                                                      | THK22         |                            | 308            | 346          |               |  |
|                                   | 25 - 240                                                      | HK252         |                            | 320            | 357          |               |  |
| Hydraulic<br>crimping heads       | 10 - 95                                                       | PK18          |                            | 306            | 340          |               |  |
|                                   |                                                               | PK60UNV       | +UA18                      | 474            | 340          |               |  |
|                                   | 10 - 240                                                      | PK22          |                            | 308            | 346          |               |  |
|                                   |                                                               | PK60UNV       | +UA22                      | 474            | 346          |               |  |
|                                   | 25 - 240                                                      | PK12042       |                            | 312            | 351          |               |  |
|                                   |                                                               | PK120U        |                            | 314            | 351          |               |  |
|                                   |                                                               | PK252         |                            | 316            | 357          |               |  |







## Tool application chart

### Insulated twin cable end-sleeves

| Tool type                                                                                 | Crimping range<br>corresponds to nominal<br>cross-section mm² | Crimping Tool |                            | Catalogue page |              | Crimp profile                                                                         |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------|----------------------------|----------------|--------------|---------------------------------------------------------------------------------------|
|                                                                                           |                                                               | Part No.      | Crimping head /<br>adapter | Crimping Tool  | Crimping die |                                                                                       |
| Mechanical<br>crimping tools                                                              | 2x0.5 - 2x2.5                                                 | K32           |                            | 213            |              |    |
|                                                                                           |                                                               | K382          |                            | 215            |              |    |
|                                                                                           | 2x0.5 - 2x4                                                   | K303          |                            | 217            |              |    |
|                                                                                           |                                                               | K36           |                            | 213            |              |    |
|                                                                                           | 2x0.5 - 2x6                                                   | K306K         |                            | 217            |              |    |
|                                                                                           |                                                               | K304K         |                            | 217            |              |    |
|                                                                                           |                                                               | K3014K        |                            | 218            |              |    |
|                                                                                           | 2x4 - 2x6                                                     | K34           |                            | 214            |              |    |
|                                                                                           | 2x4 - 2x16                                                    | K271          |                            | 218            |              |    |
|                                                                                           |                                                               | K28           |                            | 219            |              |    |
| Mechanical, electrical,<br>pneumatic crimping tools<br>with interchangeable<br>die / head | 2x0.5 - 2x4                                                   | KP1           | +KP303                     | 240            |              |    |
|                                                                                           |                                                               | KP1L          | +KP303                     | 240            |              |    |
|                                                                                           | 2x4 - 2x6                                                     | KP1           |                            | 240            |              |    |
|                                                                                           | 2x4 - 2x16                                                    | K354          |                            | 246            | 332          |   |
|                                                                                           |                                                               | K18           |                            | 248            | 340          |  |
|                                                                                           |                                                               | K22           |                            | 250            | 346          |  |
| Hand hydraulic<br>crimping tools                                                          | 2x4 - 2x16                                                    | HK6018        |                            | 292            | 340          |  |
|                                                                                           |                                                               | HK60UNV       | +UA18                      | 473            | 340          |  |
|                                                                                           |                                                               | HK6022        |                            | 294            | 346          |  |
|                                                                                           |                                                               | HK60UNV       | +UA22                      | 473            | 346          |  |
| Battery powered<br>crimping tools                                                         | 2x4 - 2x16                                                    | EK354ML       |                            | 262            | 346          |  |
|                                                                                           |                                                               | EK354         |                            | 266            | 346          |  |
|                                                                                           |                                                               | EK505         |                            | 268            | 336          |  |
|                                                                                           |                                                               | EK5018        |                            | 270            | 340          |  |
|                                                                                           |                                                               | EK60UNV       | +UA18                      | 476            | 340          |  |
|                                                                                           |                                                               | EKM60UNV      | +UA18                      | 475            | 340          |  |
|                                                                                           |                                                               | EK6022        |                            | 274            | 346          |  |
|                                                                                           |                                                               | EKM6022       |                            | 272            | 346          |  |
|                                                                                           |                                                               | EK60UNV       | +UA22                      | 476            | 346          |  |
|                                                                                           |                                                               | EKM60UNV      | +UA22                      | 475            | 346          |  |
| Hydraulic<br>crimping systems                                                             | 2x4-2x16                                                      | THK18         |                            | 306            | 340          |  |
|                                                                                           |                                                               | THK22         |                            | 308            | 346          |  |
| Hydraulic<br>crimping heads                                                               | 2x4-2x16                                                      | PK18          |                            | 306            | 340          |  |
|                                                                                           |                                                               | PK60UNV       | +UA18                      | 474            | 340          |  |
|                                                                                           |                                                               | PK22          |                            | 308            | 346          |  |
|                                                                                           |                                                               | PK60UNV       | + UA22                     | 474            | 346          |  |



# PRECISION - CABLE CONNECTIONS, INSULATED AND NON-INSULATED

Electrical power is the product of voltage and current strength. An optimum connection guarantees to transfer this power without thermal losses. This requires materials, design and tool to be correctly processed and matched to one another. If you want optimum power at all times, you can rely on Klauke's best work.



### In brief

- ▶ High requirements in detail
- ▶ Solutions available for small cross-sections
- ▶ Broad range of versions
- ▶ Optimum connection without thermal loss
- ▶ Grooved profile for improved conductor hold

### ► Easy insulation

All insulation is produced in the Easy-Entry version, for simple cable insertion without splicing. For small ranges with big effect.

- Cable connections with nominal cross-sections from 0.1 mm<sup>2</sup> to 6 mm<sup>2</sup>
- Resistant to temperatures of up to 105 °C

- Flame retardant polyamide insulation: No toxic vapours in case of fire
- Halogen-free
- Insensitive to corrosion due to tinning under the insulation
- Simple processing thanks to Easy-Entry
- Grooved profile on the inside for improved contacting

### ► More hold with grooved profile

The detail is key. Not only are there numerous models of Klauke tabs and receptacles, they are also equipped with special features. No matter whether as a standardised connector or with grooved profile for improved contacting - Klauke will always provide the right feature for your requirements.

- Broad range of models
- All-purpose
- Also as standardised connectors with various tab widths
- Available with strain relief
- Fully-insulated receptacles
- Grooved profile and additional copper ring in the insulation area for higher stresses



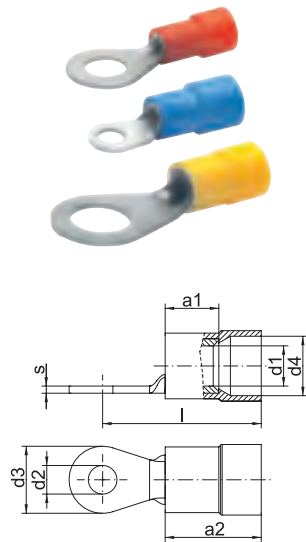
### ► Quality in detail

In a machine, everything has to pull together. For the machine to run, every component has to function. Even when it comes to small parts, better to go for high quality products with a high capacity, for our receptacles with snap-in point for example. The snap-in point guarantees a reliable connection even after repeated insertions.

- High conductivity and reliable insulation thanks to high-quality materials
- Improved spring properties by the use of bronze



## Insulated solderless terminals



- For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- To DIN 46237
- High-quality brazing process in the crimp area
- Insulation sleeve halogen-free

### Characteristics

- Heat resistant to 105° C
- Easy-Entry insulation for simple cable insertion
- Cross-section-dependent colour-coding

### Material

- Copper (ETP)
- Insulation sleeve: PA

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

### Additional information

- \* = not standardised
- 0.1 - 0.4 mm² not CSA-tested

| Nominal cross section mm² | Nominal size to DIN | Part No. | Colour | Hint | Dimension mm |      |     |      |      |     |      |     | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------------------|---------------------|----------|--------|------|--------------|------|-----|------|------|-----|------|-----|------------------|------------------|
|                           |                     |          |        |      | a1           | a2   | d1  | d2   | d3   | d4  | l    | s   |                  |                  |
| 0.1 - 0.4                 | --                  | 6192     | □      | *    | --           | --   | 1.0 | 2.3  | 5.0  | 2.2 | 14.0 | 0.5 | 0.020            | 100              |
|                           | --                  | 61925    | □      | *    | --           | --   | 1.0 | 2.6  | 5.0  | 2.2 | 14.0 | 0.5 | 0.020            | 100              |
|                           | --                  | 6193     | □      | *    | --           | --   | 1.0 | 3.3  | 5.0  | 2.2 | 14.0 | 0.5 | 0.020            | 100              |
|                           | --                  | 61935    | □      | *    | --           | --   | 1.0 | 3.8  | 6.5  | 2.2 | 16.0 | 0.5 | 0.025            | 100              |
|                           | --                  | 6194     | □      | *    | --           | --   | 1.0 | 4.4  | 7.0  | 2.2 | 16.0 | 0.5 | 0.025            | 100              |
|                           | --                  | 6195     | □      | *    | --           | --   | 1.0 | 5.4  | 8.0  | 2.2 | 15.0 | 0.5 | 0.025            | 100              |
| 0.5 - 1                   | 2.5 - 1             | 62025    | ■      |      | 5            | 10.5 | 1.6 | 2.8  | 6.0  | 4.5 | 16.5 | 0.8 | 0.060            | 100              |
|                           | 3.0 - 1             | 6203     | ■      |      | 5            | 10.5 | 1.6 | 3.2  | 6.0  | 4.5 | 16.5 | 0.8 | 0.060            | 100              |
|                           | 3.5 - 1             | 62035    | ■      |      | 5            | 10.5 | 1.6 | 3.7  | 6.0  | 4.5 | 16.5 | 0.8 | 0.550            | 100              |
|                           | 4.0 - 1             | 6204     | ■      |      | 5            | 10.5 | 1.6 | 4.3  | 8.0  | 4.5 | 17.5 | 0.8 | 0.070            | 100              |
|                           | 5.0 - 1             | 6205     | ■      |      | 5            | 10.5 | 1.6 | 5.3  | 10.0 | 4.5 | 18.5 | 0.8 | 0.090            | 100              |
|                           | --                  | 6206     | ■      | *    | 5            | 10.5 | 1.6 | 6.5  | 11.0 | 4.5 | 20.5 | 0.8 | 0.080            | 100              |
|                           | --                  | 6208     | ■      | *    | 5            | 10.5 | 1.6 | 8.4  | 14.0 | 4.5 | 22.5 | 0.8 | 0.130            | 100              |
|                           | --                  | 62010    | ■      | *    | 5            | 10.5 | 1.6 | 10.5 | 18.0 | 4.5 | 24.5 | 0.8 | 0.130            | 100              |
| 1.5 - 2.5                 | 3.0 - 2.5           | 6303     | ■      |      | 5            | 11.5 | 2.3 | 3.2  | 6.0  | 5.1 | 17.5 | 0.8 | 0.065            | 100              |
|                           | 3.5 - 2.5           | 63035    | ■      |      | 5            | 11.5 | 2.3 | 3.7  | 6.0  | 5.1 | 17.5 | 0.8 | 0.065            | 100              |
|                           | 4.0 - 2.5           | 6304     | ■      |      | 5            | 11.5 | 2.3 | 4.3  | 8.0  | 5.1 | 18.5 | 0.8 | 0.080            | 100              |
|                           | 5.0 - 2.5           | 6305     | ■      |      | 5            | 11.5 | 2.3 | 5.3  | 10.0 | 5.1 | 20.5 | 0.8 | 0.090            | 100              |
|                           | 6.0 - 2.5           | 6306     | ■      |      | 5            | 11.5 | 2.3 | 6.5  | 11.0 | 5.1 | 22.5 | 0.8 | 0.110            | 100              |
|                           | 8.0 - 2.5           | 6308     | ■      |      | 5            | 11.5 | 2.3 | 8.4  | 14.0 | 5.1 | 23.5 | 0.8 | 0.130            | 100              |
|                           | --                  | 63010    | ■      | *    | 5            | 11.5 | 2.3 | 10.5 | 18.0 | 5.1 | 25.5 | 0.8 | 0.160            | 100              |
| 4 - 6                     | 4.0 - 6             | 6504     | ■      |      | 6            | 12.5 | 3.6 | 4.3  | 8.0  | 6.5 | 20.5 | 1.0 | 0.140            | 100              |
|                           | 5.0 - 6             | 6505     | ■      |      | 6            | 12.5 | 3.6 | 5.3  | 10.0 | 6.5 | 21.5 | 1.0 | 0.160            | 100              |
|                           | 6.0 - 6             | 6506     | ■      |      | 6            | 12.5 | 3.6 | 6.5  | 11.0 | 6.5 | 22.5 | 1.0 | 0.170            | 100              |
|                           | 8.0 - 6             | 6508     | ■      |      | 6            | 12.5 | 3.6 | 8.4  | 14.0 | 6.5 | 25.5 | 1.0 | 0.220            | 100              |
|                           | 10.0 - 6            | 65010    | ■      |      | 6            | 12.5 | 3.6 | 10.5 | 18.0 | 6.5 | 27.5 | 1.0 | 0.290            | 100              |

## Insulated solderless terminals, fork type



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Dimensions in the crimp area to DIN 46237
- ▶ High-quality brazing process in the crimp area
- ▶ Simple fork-type mounting
- ▶ Insulation sleeve halogen-free

### Characteristics

- Heat resistant to 105° C
- Easy-Entry insulation for simple cable insertion
- Cross-section-dependent colour-coding

### Material

- Copper (ETP)
- Insulation sleeve: PA

### Surface

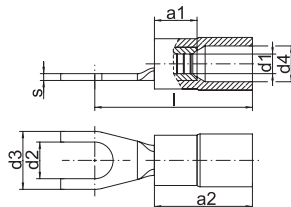
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

### Additional information

- 0.1 - 0.4 mm² not CSA-tested
- \* = not standardised



| Nominal cross section mm² | Nominal size to DIN | Part No.      | Colour | Hint | Dimension mm |      |     |      |      |     |      |     | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------------------|---------------------|---------------|--------|------|--------------|------|-----|------|------|-----|------|-----|------------------|------------------|
|                           |                     |               |        |      | a1           | a2   | d1  | d2   | d3   | d4  | l    | s   |                  |                  |
| 0.1 - 0.4                 | --                  | <b>619C3</b>  | ■      | *    | --           | --   | --  | 3.2  | 5.0  | --  | 14.0 | 0.5 | 0.020            | 100              |
|                           | 3.0 - 1             | <b>620C3</b>  | ■      |      | 5            | 10.5 | 1.6 | 3.2  | 6.0  | 4.5 | 16.5 | 0.8 | 0.060            | 100              |
|                           | 3.5 - 1             | <b>620C35</b> | ■      |      | 5            | 10.5 | 1.6 | 3.7  | 6.8  | 4.5 | 17.5 | 0.8 | 0.060            | 100              |
| 0.5 - 1                   | 4.0 - 1             | <b>620C4</b>  | ■      |      | 5            | 10.5 | 1.6 | 4.3  | 6.8  | 4.5 | 17.5 | 0.8 | 0.070            | 100              |
|                           | 5.0 - 1             | <b>620C5</b>  | ■      |      | 5            | 10.5 | 1.6 | 5.3  | 10.0 | 4.5 | 18.5 | 0.8 | 0.090            | 100              |
|                           | --                  | <b>620C6</b>  | ■      | *    | 5            | 10.5 | 1.6 | 6.5  | 11.0 | 4.5 | 20.5 | 0.8 | 0.080            | 100              |
| 1.5 - 2.5                 | 3.0 - 2.5           | <b>630C3</b>  | ■      |      | 5            | 11.5 | 2.3 | 3.2  | 6.0  | 5.1 | 17.5 | 0.8 | 0.060            | 100              |
|                           | 3.5 - 2.5           | <b>630C35</b> | ■      |      | 5            | 11.5 | 2.3 | 3.7  | 6.8  | 5.1 | 18.5 | 0.8 | 0.065            | 100              |
|                           | 4.0 - 2.5           | <b>630C4</b>  | ■      |      | 5            | 11.5 | 2.3 | 4.3  | 6.8  | 5.1 | 18.5 | 0.8 | 0.080            | 100              |
|                           | 5.0 - 2.5           | <b>630C5</b>  | ■      |      | 5            | 11.5 | 2.3 | 5.3  | 10.0 | 5.1 | 20.5 | 0.8 | 0.090            | 100              |
|                           | 6.0 - 2.5           | <b>630C6</b>  | ■      |      | 5            | 11.5 | 2.3 | 6.5  | 11.0 | 5.1 | 22.5 | 0.8 | 0.110            | 100              |
| 4 - 6                     | 4.0 - 6             | <b>650C4</b>  | ■      |      | 6            | 12.5 | 3.6 | 4.3  | 8.0  | 6.5 | 20.5 | 1.0 | 0.140            | 100              |
|                           | 5.0 - 6             | <b>650C5</b>  | ■      |      | 6            | 12.5 | 3.6 | 5.3  | 10.0 | 6.5 | 21.5 | 1.0 | 0.160            | 100              |
|                           | 6.0 - 6             | <b>650C6</b>  | ■      |      | 6            | 12.5 | 3.6 | 6.5  | 11.0 | 6.5 | 22.5 | 1.0 | 0.170            | 100              |
|                           | 8.0 - 6             | <b>650C8</b>  | ■      |      | 6            | 12.5 | 3.6 | 8.4  | 14.0 | 6.5 | 25.5 | 1.0 | 0.220            | 100              |
|                           | 10.0 - 6            | <b>650C10</b> | ■      |      | 6            | 12.5 | 3.6 | 10.5 | 18.0 | 6.5 | 27.5 | 1.0 | 0.280            | 100              |



## Insulated pin terminals



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ To DIN 46231
- ▶ High-quality brazing process in the crimp area
- ▶ Insulation sleeve halogen-free

### Characteristics

- Cross-section-dependent colour-coding
- Heat resistant to 105° C
- Easy-Entry insulation for simple cable insertion

### Material

- Copper (ETP)
- Insulation sleeve: PA

### Surface

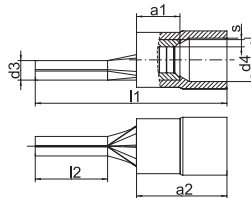
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

### Additional information

- 0.1 - 0.4 mm<sup>2</sup> not CSA-tested
- \* = not standardised



| Nominal cross section mm <sup>2</sup> | Nominal size to DIN | Part No.    | Colour | Hint | Dimension mm |      |     |     |      |      | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------------------------------|---------------------|-------------|--------|------|--------------|------|-----|-----|------|------|------------------|------------------|
|                                       |                     |             |        |      | a1           | a2   | d3  | d4  | l1   | l2   |                  |                  |
| 0.1 - 0.4                             | --                  | <b>704</b>  |        | *    | --           | --   | 1.4 | --  | 18.0 | 9.0  | 0.020            | 100              |
| 0.5 - 1                               | 1                   | <b>705</b>  |        |      | 5            | 10.5 | 1.9 | 4.5 | 22.0 | 10.0 | 0.065            | 100              |
|                                       |                     | <b>705K</b> |        | *    | 5            | 10.5 | 1.9 | 4.5 | 18.0 | 6.0  | 0.060            | 100              |
|                                       |                     | <b>710</b>  |        |      | 5            | 11.5 | 1.9 | 5.1 | 23.0 | 10.0 | 0.065            | 100              |
| 1.5 - 2.5                             | 2.5                 | <b>710K</b> |        | *    | 5            | 11.5 | 1.9 | 5.1 | 19.5 | 6.5  | 0.060            | 100              |
|                                       |                     | <b>710L</b> |        | *    | 5            | 11.5 | 1.9 | 5.1 | 27.5 | 16.0 | 0.100            | 100              |
| 4 - 6                                 | 6                   | <b>715</b>  |        |      | 6            | 12.5 | 2.7 | 6.5 | 26.0 | 11.0 | 0.160            | 100              |

## Insulated pin receptacles



- For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- High quality bronze material provides optimum spring characteristic and improved contact strength

### Characteristics

- Cross-section-dependent colour-coding
- Heat resistant to 70° C

### Material

- Bronze (CuSnZn)
- Insulation sleeve: PVC

### Surface

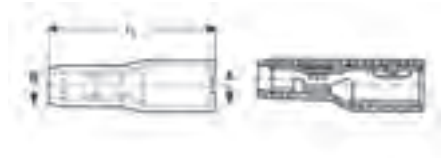
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

### Additional information

- 1.5 - 2.5 mm² and 4 - 6 mm² not CSA-tested



| Nominal cross section mm² | Part No. | Colour | Dimension mm |    | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------|----------|--------|--------------|----|-----------------|------------------|
|                           |          |        | Pin dia.     | L1 |                 |                  |
| 0.5 - 1                   | 920      | Red    | 4            | 22 | 0.060           | 100              |
| 1.5 - 2.5                 | 930      | Blue   | 5            | 22 | 0.120           | 100              |
| 4 - 6                     | 950      | Yellow | 5            | 22 | 0.125           | 100              |

## Insulated pin receptacles



- For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6

### Characteristics

- Cross-section-dependent colour-coding
- Heat resistant to 70° C

### Material

- Brass (CuZn)
- Insulation sleeve: PVC

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

### Additional information

- 1.5 - 2.5 mm² and 4 - 6 mm² not CSA-tested



| Nominal cross section mm² | Part No. | Colour | Dimension mm |    |    | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------|----------|--------|--------------|----|----|-----------------|------------------|
|                           |          |        | Pin dia.     | L1 | L2 |                 |                  |
| 0.5 - 1                   | 1020     | Red    | 4            | 22 | 9  | 0.060           | 100              |
| 1.5 - 2.5                 | 1030     | Blue   | 5            | 22 | 9  | 0.075           | 100              |
| 4 - 6                     | 1050     | Yellow | 5            | 22 | 9  | 0.110           | 100              |



## Insulated pin receptacles, fully insulated



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ High quality bronze material provides optimum spring characteristic and improved contact strength
- ▶ Fast processing as no additional insulation of the crimped connection is required
- ▶ Insulation sleeve halogen-free

### Characteristics

- Cross-section-dependent colour-coding
- Heat resistant to 105° C

### Material

- Bronze (CuSnZn)
- Insulation sleeve: PA

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

### Additional information

- 4 - 6 mm<sup>2</sup> not CSA-tested

| Nominal cross section<br>mm <sup>2</sup> | Part<br>No. | Colour | Dimension mm |    |      | Weight/pcs. ~kg | Packing unit/pcs |
|------------------------------------------|-------------|--------|--------------|----|------|-----------------|------------------|
|                                          |             |        | Pin dia.     | l1 | s    |                 |                  |
| 0.5 - 1                                  | <b>920V</b> |        | 4            | 24 | 0.38 | 0.065           | 100              |
| 4 - 6                                    | <b>950V</b> |        | 5            | 27 | 0.40 | 0.150           | 100              |

## Insulated pin receptacles, fully insulated



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ High quality bronze material provides optimum spring characteristic and improved contact strength
- ▶ Fast processing as no additional insulation of the crimped connection is required
- ▶ Insulation sleeve halogen-free

### Characteristics

- Cross-section-dependent colour-coding
- Heat resistant to 105° C

### Material

- Bronze (CuSnZn)
- Insulation sleeve: PA

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

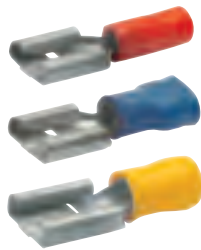
### Additional information

- 1.5 - 2.5 mm<sup>2</sup> and 4 - 6 mm<sup>2</sup> not CSA-tested

| Nominal cross section<br>mm <sup>2</sup> | Part<br>No.  | Colour | Dimension mm |    |    | Weight/pcs. ~kg | Packing unit/pcs |
|------------------------------------------|--------------|--------|--------------|----|----|-----------------|------------------|
|                                          |              |        | Pin dia.     | l1 | l2 |                 |                  |
| 0.5 - 1                                  | <b>1020V</b> |        | 4            | 25 | 11 | 0.065           | 100              |
| 1.5 - 2.5                                | <b>1030V</b> |        | 5            | 25 | 11 | 0.080           | 100              |
| 4 - 6                                    | <b>1050V</b> |        | 5            | 27 | 13 | 0.120           | 100              |



## Insulated receptacles, tinned brass



► For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6

### Characteristics

- To DIN 46245, part 1 – 3 and similar versions
- Cross-section-dependent colour-coding
- Temperature resistance: PVC to 70° C, PA to 105° C

### Material

- Brass (CuZn)
- Insulation sleeve: PVC/PA

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175



| Nominal cross section mm <sup>2</sup> | Nominal size to DIN | Part No. | Colour | Tab Thickn. | Tab Width | Dimension mm |      | Insulation material | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------------------|---------------------|----------|--------|-------------|-----------|--------------|------|---------------------|-----------------|------------------|
|                                       |                     |          |        |             |           | l1           | l2   |                     |                 |                  |
| 0.5 - 1                               |                     | 8201     | ■      | 0.5         | 2.8       | 17.5         | 8.0  | PVC                 | 0.035           | 100              |
|                                       |                     | 8201A    | ■      | 0.8         | 2.8       | 17.5         | 8.0  | PVC                 | 0.045           | 100              |
|                                       |                     | 8202     | ■      | 0.5         | 4.8       | 18.0         | 6.0  | PVC                 | 0.065           | 100              |
|                                       | 4.8 - 1             | 8203     | ■      | 0.8         | 4.8       | 18.0         | 6.0  | PVC                 | 0.065           | 100              |
|                                       | 6.3 - 1             | 720      | ■      | 0.8         | 6.3       | 22.0         | 7.5  | PVC                 | 0.090           | 100              |
|                                       |                     | 7208     | ■      | 0.8         | 7.7       | 25.0         | 9.5  | PVC                 | 0.110           | 100              |
| 1.5 - 2.5                             |                     | 8301     | ■      | 0.5         | 2.8       | 18.0         | 8.0  | PA                  | 0.050           | 100              |
|                                       |                     | 8301A    | ■      | 0.8         | 2.8       | 18.0         | 8.0  | PA                  | 0.060           | 100              |
|                                       |                     | 8302     | ■      | 0.5         | 4.8       | 18.0         | 6.0  | PVC                 | 0.070           | 100              |
|                                       | 4.8 - 2.5           | 8303     | ■      | 0.8         | 4.8       | 18.0         | 6.0  | PVC                 | 0.070           | 100              |
|                                       | 6.3 - 2.5           | 730      | ■      | 0.8         | 6.3       | 21.0         | 7.4  | PVC                 | 0.090           | 100              |
|                                       |                     | 7308     | ■      | 0.8         | 7.7       | 25.0         | 9.5  | PVC                 | 0.115           | 100              |
| 4 - 6                                 |                     | 8503     | ■      | 0.8         | 4.8       | 23.0         | 7.5  | PA                  | 0.138           | 100              |
|                                       | 6.3 - 6             | 750      | ■      | 0.8         | 6.3       | 21.0         | 7.5  | PVC                 | 0.100           | 100              |
|                                       |                     | 7509     | ■      | 1.2         | 9.5       | 26.5         | 12.0 | PVC                 | 0.150           | 100              |



## Electrical connection systems

Cable connections, insulated and non insulated

### Insulated receptacles, tinned bronze



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ High quality bronze material provides optimum spring characteristic and improved contact strength

#### Characteristics

- To DIN 46245, part 3
- Cross-section-dependent colour-coding
- Heat resistant to 70° C

#### Material

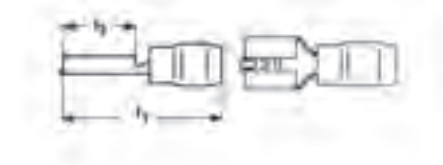
- Bronze (CuSnZn)
- Insulation sleeve: PVC

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 175



| Nominal cross section mm <sup>2</sup> | Nominal size to DIN | Part No.     | Colour | Tab Thickn. | Tab Width | Dimension mm |     | Insulation material | Weight/pcs. ~kg | Packing unit/ pcs |
|---------------------------------------|---------------------|--------------|--------|-------------|-----------|--------------|-----|---------------------|-----------------|-------------------|
|                                       |                     |              |        |             |           | I1           | I2  |                     |                 |                   |
| 0.5 - 1                               | 6.3 - 1             | <b>720BZ</b> |        | 0.8         | 6.3       | 22           | 7.5 | PVC                 | 0.09            | 100               |
| 1.5 - 2.5                             | 6.3 - 2.5           | <b>730BZ</b> |        | 0.8         | 6.3       | 21           | 7.4 | PVC                 | 0.09            | 100               |
| 4 - 6                                 | 6.3 - 6             | <b>750BZ</b> |        | 0.8         | 6.3       | 21           | 7.5 | PVC                 | 0.10            | 100               |

### Insulated receptacles, multiple type



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6

#### Characteristics

- Cross-section-dependent colour-coding
- Heat resistant to 70° C

#### Material

- Brass (CuZn)
- Insulation sleeve: PVC

#### Surface

- Tin-plated to protect against corrosion

#### Technical instructions

- Tool: see page 175



| Nominal cross section mm <sup>2</sup> | Part No.     | Colour | Tab Thickn. | Tab Width | Dimension mm |     |    | Insulation material | Weight/pcs. ~kg | Packing unit/ pcs |
|---------------------------------------|--------------|--------|-------------|-----------|--------------|-----|----|---------------------|-----------------|-------------------|
|                                       |              |        |             |           | I1           | I2  | I3 |                     |                 |                   |
| 0.5 - 1                               | <b>720AZ</b> |        | 0.8         | 6.3       | 22           | 7.5 | 8  | PVC                 | 0.11            | 100               |
| 1.5 - 2.5                             | <b>730AZ</b> |        | 0.8         | 6.3       | 22           | 7.5 | 8  | PVC                 | 0.11            | 100               |
| 4 - 6                                 | <b>750AZ</b> |        | 0.8         | 6.3       | 25           | 8.0 | 8  | PVC                 | 0.18            | 100               |

## Insulated receptacles, fully insulated



- For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- Fast processing as no additional insulation of the crimped connection is required

### Characteristics

- Cross-section-dependent colour-coding
- Temperature resistance: PVC to 70° C, PA to 105° C

### Material

- Brass (CuZn)
- Insulation sleeve: PVC/PA

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Tab Thickn. | Tab Width | Dimension mm |      | Insulation material | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------------------|----------|--------|-------------|-----------|--------------|------|---------------------|-----------------|------------------|
|                                       |          |        |             |           | I1           | I2   |                     |                 |                  |
| 0.5 - 1                               | 8201V    | ■      | 0.5         | 2.8       | 19.0         | 5.5  | PA                  | 0.07            | 100              |
|                                       | 8201AV   | ■      | 0.8         | 2.8       | 19.0         | 5.5  | PA                  | 0.07            | 100              |
|                                       | 8202V    | ■      | 0.5         | 4.8       | 20.0         | 7.0  | PVC                 | 0.10            | 100              |
|                                       | 8203V    | ■      | 0.8         | 4.8       | 20.0         | 7.0  | PVC                 | 0.10            | 100              |
|                                       | 720V     | ■      | 0.8         | 6.3       | 21.0         | 7.5  | PVC                 | 0.08            | 100              |
| 1.5 - 2.5                             | 8301V    | ■      | 0.5         | 2.8       | 20.0         | 8.0  | PVC                 | 0.14            | 100              |
|                                       | 8301AV   | ■      | 0.8         | 2.8       | 20.0         | 8.0  | PVC                 | 0.14            | 100              |
|                                       | 8302V    | ■      | 0.5         | 4.8       | 20.5         | 7.0  | PVC                 | 0.11            | 100              |
|                                       | 8303V    | ■      | 0.8         | 4.8       | 20.5         | 7.0  | PVC                 | 0.11            | 100              |
|                                       | 730V     | ■      | 0.8         | 6.3       | 21.0         | 7.5  | PVC                 | 0.15            | 100              |
| 4 - 6                                 | 8502V    | ■      | 0.5         | 4.8       | 20.5         | 9.5  | PVC                 | 0.15            | 100              |
|                                       | 8503V    | ■      | 0.8         | 4.8       | 20.5         | 9.5  | PVC                 | 0.15            | 100              |
|                                       | 750V     | ■      | 0.8         | 6.3       | 25.5         | 11.5 | PVC                 | 0.16            | 100              |



## Insulated tabs



► For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6

### Characteristics

- Cross-section-dependent colour-coding
- Temperature resistance: PVC to 70° C, PA to 105° C

### Material

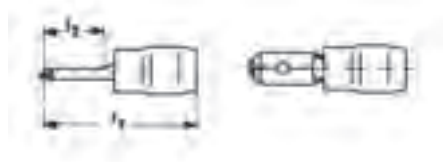
- Brass (CuZn)
- Insulation sleeve: PVC/PA

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175



| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Tab Thickn. | Tab Width | Dimension mm |      | Insulation material | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------------------|----------|--------|-------------|-----------|--------------|------|---------------------|-----------------|------------------|
|                                       |          |        |             |           | l1           | l2   |                     |                 |                  |
| 0.5 - 1                               | 8201C    | ■      | 0.5         | 2.8       | 22.0         | 11.5 | PA                  | 0.040           | 100              |
|                                       | 8201B    | ■      | 0.8         | 2.8       | 14.6         | 5.5  | PVC                 | 0.060           | 100              |
|                                       | 8202B    | ■      | 0.5         | 4.8       | 22.0         | 11.5 | PA                  | 0.070           | 100              |
|                                       | 8203B    | ■      | 0.8         | 4.8       | 22.0         | 11.5 | PA                  | 0.070           | 100              |
|                                       | 820      | ■      | 0.8         | 6.3       | 22.0         | 8.0  | PVC                 | 0.060           | 100              |
| 1.5 - 2.5                             | 8302B    | ■      | 0.5         | 4.8       | 22.0         | 11.5 | PA                  | 0.070           | 100              |
|                                       | 8303B    | ■      | 0.8         | 4.8       | 22.0         | 11.5 | PA                  | 0.070           | 100              |
|                                       | 830      | ■      | 0.8         | 6.3       | 22.0         | 8.0  | PVC                 | 0.065           | 100              |
| 4 - 6                                 | 8502B    | ■      | 0.5         | 4.8       | 24.5         | 10.5 | PA                  | 0.120           | 100              |
|                                       | 8503B    | ■      | 0.8         | 4.8       | 24.5         | 10.5 | PA                  | 0.120           | 100              |
|                                       | 850      | ■      | 0.8         | 6.3       | 22.0         | 8.0  | PVC                 | 0.110           | 100              |

## Insulated end-splices



► For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6

► Safe sealing of open conductors

► Insulation sleeve halogen-free

### Characteristics

- Cross-section-dependent colour-coding
- Heat resistant to 105° C

### Material

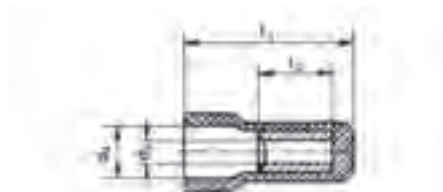
- Copper (ETP)
- Insulation sleeve: PA

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175



| Nominal cross section mm <sup>2</sup> | Part No. | Colour | Dimension mm |     |    |    | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------------------|----------|--------|--------------|-----|----|----|-----------------|------------------|
|                                       |          |        | d1           | d2  | l1 | l2 |                 |                  |
| 1.5 - 2.5                             | 1130     | ■      | 2.3          | 5.2 | 16 | 7  | 0.05            | 100              |
| 4 - 6                                 | 1150     | ■      | 3.6          | 7.0 | 18 | 7  | 0.14            | 100              |

## Insulated butt connectors



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Simple and safe connecting owed to butt mark
- ▶ Fast processing as no additional insulation of the crimped connection is required
- ▶ Insulation sleeve halogen-free

### Characteristics

- Cross-section-dependent colour-coding
- Heat resistant to 105° C

### Material

- Copper (ETP)
- Insulation sleeve: PA

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

### Additional information

- 0.1 - 0.4 mm² not CSA-tested

| Nominal cross section<br>mm² | Part<br>No. | Colour | Dimension mm |    |    | Weight/pcs. ~kg | Packing unit/pcs |
|------------------------------|-------------|--------|--------------|----|----|-----------------|------------------|
|                              |             |        | d1           | l1 | l2 |                 |                  |
| 0.1 - 0.4                    | <b>669</b>  | Yellow | 1.2          | 20 | 12 | 0.030           | 100              |
| 0.5 - 1                      | <b>670</b>  | Red    | 1.6          | 25 | 15 | 0.090           | 100              |
| 1.5 - 2.5                    | <b>680</b>  | Blue   | 2.3          | 25 | 15 | 0.115           | 100              |
| 4 - 6                        | <b>700</b>  | Yellow | 3.6          | 27 | 15 | 0.250           | 100              |

## Insulated butt connectors with heat shrink insulation



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Simple and safe processing due to butt mark
- ▶ Fast processing as no additional insulation of the crimped connection is required
- ▶ Insulation sleeve halogen-free

### Characteristics

- Cross-section-dependent colour-coding
- Special crimping tool required
- Heat resistant to 105° C

### Material

- Copper (ETP)
- Insulation sleeve: PE

### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

| Nominal cross section<br>mm² | Part<br>No.  | Colour | Dimension mm |    |    | Weight/pcs. ~kg | Packing unit/pcs |
|------------------------------|--------------|--------|--------------|----|----|-----------------|------------------|
|                              |              |        | d1           | l1 | l2 |                 |                  |
| 0.5 - 1                      | <b>670WS</b> | Red    | 1.6          | 36 | 15 | 0.12            | 100              |
| 1.5 - 2.5                    | <b>680WS</b> | Blue   | 2.3          | 36 | 15 | 0.15            | 100              |
| 4 - 6                        | <b>700WS</b> | Yellow | 3.4          | 41 | 15 | 0.25            | 100              |



## Insulated parallel connectors



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Fast processing as no additional insulation of the crimped connection is required
- ▶ Insulation sleeve halogen-free

### Characteristics

- Cross-section-dependent colour-coding
- Heat resistant to 105° C

### Material

- Copper (ETP)
- Insulation sleeve: PA

### Surface

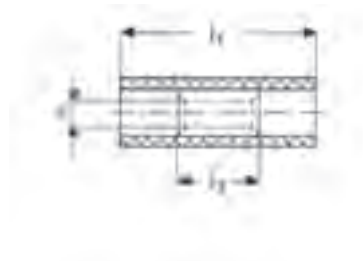
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 175

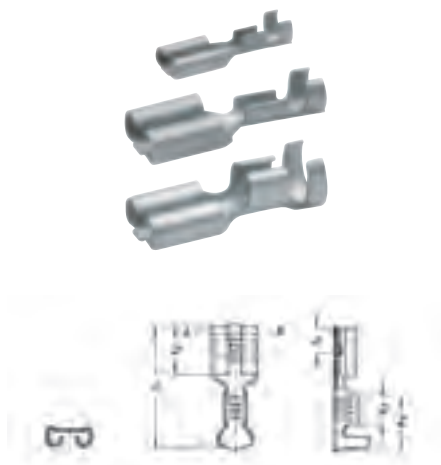
### Additional information

- 0.1 - 0.4 mm<sup>2</sup> not CSA-tested



| Nominal cross section<br>mm <sup>2</sup> | Part<br>No. | Colour | Dimension mm |    |    | Weight/pcs. ~kg | Packing unit/pcs |
|------------------------------------------|-------------|--------|--------------|----|----|-----------------|------------------|
|                                          |             |        | d1           | l1 | l2 |                 |                  |
| 0.1 - 0.4                                | <b>769</b>  |        | 1.2          | 13 | 5  | 0.020           | 100              |
| 0.5 - 1                                  | <b>770</b>  |        | 1.6          | 17 | 7  | 0.030           | 100              |
| 1.5 - 2.5                                | <b>780</b>  |        | 2.3          | 17 | 7  | 0.035           | 100              |
| 4 - 6                                    | <b>790</b>  |        | 3.6          | 21 | 7  | 0.105           | 100              |

## Non-insulated receptacles



► For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6



### Characteristics

- To DIN 46247, part 1 – 3 and similar versions
- Improved contact properties due to grooved profile



### Material

- Brass (CuZn)



### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 176

### Additional information

- \* = nickel-plated steel version also available, Part Number appendix "ST"

| Nominal cross section mm <sup>2</sup> | Nominal size to DIN | Part No.      | Tab Thickn. | Tab Width | Dimension mm |     |      |     |     |      | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------------------------------|---------------------|---------------|-------------|-----------|--------------|-----|------|-----|-----|------|------------------|------------------|
|                                       |                     |               |             |           | a1           | a2  | l1   | l2  | l3  | s    |                  |                  |
| 0.5 - 1                               | --                  | <b>18251</b>  | 0.5         | 2.8       | 5.0          | 2.8 | 12.5 | 5.0 | 3.3 | 0.30 | 0.025            | 100              |
|                                       |                     | <b>18251A</b> | 0.8         | 2.8       | 5.5          | 2.5 | 12.5 | 5.0 | 3.3 | 0.30 | 0.025            | 100              |
|                                       | B 2.8 - 1           | <b>18201A</b> | 0.8         | 2.8       | 5.5          | 2.5 | 14.0 | 6.3 | 3.3 | 0,35 | 0.025            | 100              |
|                                       | --                  | <b>18202</b>  | 0.5         | 4.8       | 6.0          | 3.4 | 15.6 | 6.0 | 3.8 | 0.35 | 0.050            | 100              |
|                                       | 4.8 - 1             | <b>18203</b>  | 0.8         | 4.8       | 6.0          | 3.4 | 15.6 | 6.0 | 3.8 | 0.35 | 0.050            | 100              |
| 1.5 - 2.5                             | 6.3 - 1             | <b>1720</b>   | 0.8         | 6.3       | 8.5          | 4.5 | 19.0 | 7.4 | 4.0 | 0.45 | 0.085            | 100              |
|                                       | 4.8 - 2.5           | <b>18303</b>  | 0.8         | 4.8       | 6.0          | 3.4 | 15.6 | 6.0 | 3.8 | 0.35 | 0.055            | 100              |
|                                       | 6.3 - 2.5           | <b>*1730</b>  | 0.8         | 6.3       | 8.5          | 4.5 | 19.0 | 7.4 | 4.0 | 0.45 | 0.082            | 100              |
| 4 - 6                                 | 6.3 - 6             | <b>*1750</b>  | 0.8         | 6.3       | 8.5          | 4.5 | 19.0 | 7.4 | 4.0 | 0.45 | 0.100            | 100              |

## Non-insulated receptacles, multiple type



► For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6



### Characteristics

- To DIN 46247, part 1 – 3 and similar versions
- Improved contact properties due to grooved profile



### Material

- Brass (CuZn)



### Surface

- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 176

### Additional information

- \* = corresponds to DIN 46345

| Nominal cross section mm <sup>2</sup> | Part No.       | Tab Thickn. | Tab Width | Hint | Dimension mm |     |      |    |     |      | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------------------------------|----------------|-------------|-----------|------|--------------|-----|------|----|-----|------|------------------|------------------|
|                                       |                |             |           |      | a1           | a2  | l1   | l2 | l3  | s    |                  |                  |
| 0.5 - 1                               | <b>18203AZ</b> | 0.8         | 4.8       |      | 6.0          | 3.4 | 15.6 | 7  | 6.0 | 0.38 | 0.09             | 100              |
| 1.5 - 2.5                             | <b>18303AZ</b> | 0.8         | 4.8       |      | 6.0          | 3.4 | 15.6 | 7  | 6.0 | 0.38 | 0.09             | 100              |
|                                       | <b>1730AZ</b>  | 0.8         | 6.3       | *    | 8.5          | 4.5 | 19.2 | 8  | 7.5 | 0.38 | 0.13             | 100              |



## Non-insulated receptacles with locking latch



► For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6



### Characteristics

- To DIN 46340, sheet 3
- With latch to engage in housing
- Improved contact properties due to grooved profile



### Material

- Brass (CuZn)



### Surface

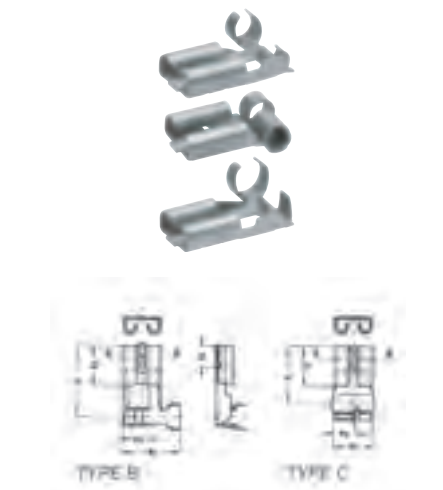
- Tin-plated to protect against corrosion

### Technical instructions

- Tool: see page 176

| Nominal cross section mm <sup>2</sup> | Part No.    | Tab Thickn. | Tab Width | Dimension mm |     |      |     |    |      | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------------------|-------------|-------------|-----------|--------------|-----|------|-----|----|------|-----------------|------------------|
|                                       |             |             |           | a1           | a2  | l1   | l2  | l3 | s    |                 |                  |
| 0.5 - 1                               | <b>2720</b> | 0.8         | 6.3       | 8.5          | 4.5 | 19.2 | 7.4 | 7  | 0.38 | 0.070           | 100              |
| 1.5 - 2.5                             | <b>2730</b> | 0.8         | 6.3       | 8.5          | 4.5 | 19.2 | 7.4 | 7  | 0.38 | 0.075           | 100              |
| 4 - 6                                 | <b>2750</b> | 0.8         | 6.3       | 8.5          | 4.5 | 19.2 | 7.4 | 7  | 0.38 | 0.090           | 100              |

## Non-insulated receptacles with lateral conductor connector



► For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6  
► Improved contact properties due to grooved profile



### Material

- Brass (CuZn)



### Surface

- Tin-plated to protect against corrosion



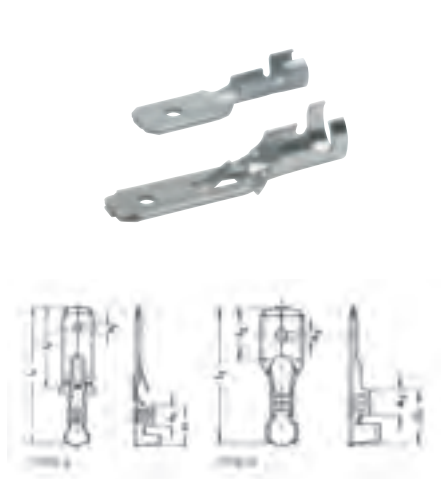
### Technical instructions

- Tool: see page 176

| Nominal cross section mm <sup>2</sup> | Part No.    | Tab Thickn. | Tab Width | Typ | Dimension mm |     |       |     |     |     | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------------------------|-------------|-------------|-----------|-----|--------------|-----|-------|-----|-----|-----|-----------------|------------------|
|                                       |             |             |           |     | a1           | a2  | l1    | l2  | l3  | l4  |                 |                  |
| 0.5 - 1                               | <b>3720</b> | 0.8         | 6.3       | B   | 11.0         | 3.0 | 12.5  | 7.4 | 4.0 | 7.2 | 0.080           | 100              |
| 0.5 - 1.5                             | <b>3725</b> | 0.8         | 6.3       | C   | 7.5          | 4.0 | 11.00 | 7.4 | 4.0 | 7.2 | 0.085           | 100              |
| 1.5 - 2.5                             | <b>3735</b> | 0.8         | 6.3       | B   | 11.0         | 3.0 | 13.5  | 7.0 | 4.0 | 7.2 | 0.085           | 100              |



## Non-insulated tabs



- ▶ For fine and superfine stranded conductors, e.g. to DIN EN 60228 Cl. 5 and 6
- ▶ Improved contact properties due to grooved profile



### Material

- Brass (CuZn)



### Surface

- Tin-plated to protect against corrosion



### Technical instructions

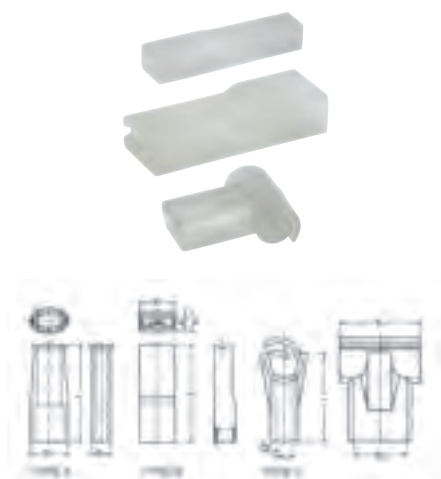
- Tool: see page 176

### Additional information

- \* = dimensions in the plug sector to DIN 46244

| Nominal cross section mm² | Nominal size to DIN | Part No.    | Tab Thickn. | Tab Width | Typ | Hint | Dimension mm |     |      |      |      | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------------------|---------------------|-------------|-------------|-----------|-----|------|--------------|-----|------|------|------|------------------|------------------|
|                           |                     |             |             |           |     |      | a1           | a2  | d2   | l1   | l2   |                  |                  |
| 0.5 - 1                   |                     | <b>2235</b> | 0.8         | 2.8       | A   | *    | 6.0          | 3.2 | 1.30 | 22.5 | 12.7 | 0.045            | 100              |
|                           | 46343 B6.3 - 1      | <b>2220</b> | 0.8         | 6.3       | A   |      | 8.2          | 4.0 | 1.65 | 28.0 | 16.0 | 0.085            | 100              |
| 1.5 - 2.5                 | 46248 A6.3 - 2.5    | <b>1830</b> | 0.8         | 6.3       | B   |      | 9.0          | 4.5 | 1.65 | 20.0 | 8.0  | 0.065            | 100              |
|                           | 46343 B6.3 - 2.5    | <b>2230</b> | 0.8         | 6.3       | A   |      | 8.2          | 4.0 | 1.65 | 28.0 | 16.0 | 0.090            | 100              |
| 4 - 6                     | 46343 B6.3 - 6      | <b>2250</b> | 0.8         | 6.3       | A   |      | 8.2          | 4.0 | 1.65 | 28.0 | 16.0 | 0.100            | 100              |

## Insulation sleeves



- ▶ For non-insulated tabs
- ▶ Perfectly-matched to the different versions

### Characteristics

- For post-insulation of crimped non-insulated receptacles

### Material

- PA / PE / PVC

| Nominal cross section mm² | Nominal size to DIN | Part No.    | Colour | Typ | Dimension mm |      |     | Insulation material | for item              | Weight/ pcs. ~kg | Packing unit/pcs |
|---------------------------|---------------------|-------------|--------|-----|--------------|------|-----|---------------------|-----------------------|------------------|------------------|
|                           |                     |             |        |     | b1           | l    | h1  |                     |                       |                  |                  |
| 0.5 - 1                   | 2.8                 | <b>2755</b> | □      | A   | 6.5          | 20.0 | 4.0 | PE                  | 18251, 18251A, 18201A | 0.015            | 100              |
| 0.5 - 1.5                 | 4.8                 | <b>2760</b> | □      | A   | 7.0          | 20.0 | 5.0 | PE                  | 18202, 18203          | 0.015            | 100              |



## Insulation sleeves

| Nominal cross section<br>mm² | Nominal size to DIN | Part No. | Colour                                                                            | Typ | Dimension mm |      |     | Insulation material | for item                       | Weight/pcs.<br>~kg | Packing unit/pcs |
|------------------------------|---------------------|----------|-----------------------------------------------------------------------------------|-----|--------------|------|-----|---------------------|--------------------------------|--------------------|------------------|
|                              |                     |          |                                                                                   |     | b1           | l    | h1  |                     |                                |                    |                  |
| 0.5 - 2.5                    | 6.3                 | 2770     |  | A   | 12.5         | 23.0 | 8.5 | PE                  | 1720,1730                      | 0.035              | 100              |
|                              |                     | 2775     |  | A   | 9.5          | 25.0 | 5.0 | PE                  | 1820,1830                      | 0.030              | 100              |
| 0.5 - 4                      |                     | 2780     |  | A   | 9.5          | 25.0 | 6.0 | PE                  | 1720,1730, 1820,1830           | 0.030              | 100              |
| 0.5 - 6                      |                     | 2785     |  | B   | 9.2          | 24.5 | 5.6 | PA                  | 1720,1730,1750, 2720,2730,2750 | 0.055              | 100              |
|                              |                     | 2790     |  | C   | 13.5         | 15.0 | 3.1 | PVC                 | 3720,3725, 3735                | 0.060              | 100              |

## Non-insulated tabs, angled version



### Characteristics

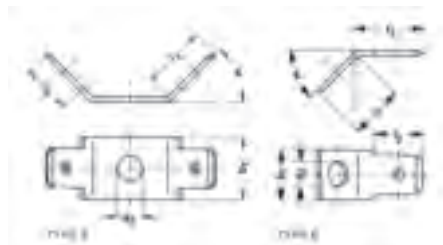
- To DIN 46342, part 1 and similar versions
- Dimensions in the plug sector to DIN 46244

### Material

- Brass (CuZn)

### Surface

- Tin-plated to protect against corrosion



| Nominal size to DIN | Part No. | Tab Thickn. | Tab Width | Typ | Dimension mm |     |     |      |      |     | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------|----------|-------------|-----------|-----|--------------|-----|-----|------|------|-----|-----------------|------------------|
|                     |          |             |           |     | b1           | d2  | l2  | l3   | l4   | w   |                 |                  |
| --                  | 2040     | 0.8         | 2.8       | A   | 5.0          | 3.2 | 5.5 | 6.5  | --   | 60° | 0.040           | 100              |
|                     | 2045     | 0.8         | 6.3       | A   | 10.0         | 4.3 | 8.0 | 10.0 | --   | 45° | 0.160           | 100              |
|                     | 2060     | 0.8         | 6.3       | B   | 8.0          | 4.3 | 8.0 | 8.0  | 10.7 | 30° | 0.085           | 100              |
|                     | 2070     | 0.8         | 6.3       | B   | 8.0          | 3.2 | 8.0 | 8.0  | 10.7 | 45° | 0.085           | 100              |
|                     | 2075     | 0.8         | 6.3       | B   | 8.0          | 4.1 | 8.0 | 8.0  | 10.7 | 45° | 0.085           | 100              |
| B 6.3 - 0.8         | 2080     | 0.8         | 6.3       | B   | 8.0          | 4.3 | 8.0 | 8.5  | 10.7 | 45° | 0.085           | 100              |
| --                  | 2083     | 0.8         | 6.3       | B   | 8.0          | 5.3 | 8.0 | 8.5  | 10.7 | 45° | 0.080           | 100              |
|                     | 2090     | 0.8         | 6.3       | B   | 8.0          | 5.3 | 8.0 | 8.0  | 10.7 | 45° | 0.080           | 100              |
|                     | 2100     | 0.8         | 6.3       | B   | 7.5          | 2.5 | 8.0 | 5.7  | 11.5 | 90° | 0.075           | 100              |
|                     | 2105     | 0.8         | 6.3       | B   | 8.0          | 3.2 | 8.0 | 8.0  | 11.5 | 90° | 0.085           | 100              |
| C 6.3 - 0.8         | 2115     | 0.8         | 6.3       | B   | 8.0          | 4.3 | 8.0 | 8.5  | 11.5 | 90° | 0.090           | 100              |

## Non-insulated tabs, straight version



### Characteristics

- To DIN 46342, part 1 and similar versions
- Dimensions in the plug sector to DIN 46244

### Material

- Brass (CuZn)

### Surface

- Tin-plated to protect against corrosion

| Nominal size to DIN | Part No.    | Tab Thickn. | Tab Width | Typ | Dimension mm |     |      |     |     | Weight/pcs. ~kg | Packing unit/pcs |
|---------------------|-------------|-------------|-----------|-----|--------------|-----|------|-----|-----|-----------------|------------------|
|                     |             |             |           |     | b1           | d2  | l1   | l2  | s   |                 |                  |
| --                  | <b>2123</b> | 0.8         | 2.8       | A   | 4.5          | 3.1 | 13.0 | 5.5 | 0.8 | 0.028           | 100              |
| A 6.3 - 0.8         | <b>2140</b> | 0.8         | 6.3       | A   | 8.0          | 4.3 | 19.0 | 8.0 | 0.8 | 0.086           | 100              |
| --                  | <b>2145</b> | 0.8         | 6.3       | A   | 8.0          | 5.3 | 19.0 | 8.0 | 0.8 | 0.080           | 100              |

## Non-insulated tabs for soldering



► Material used offers very good soldering characteristics

### Characteristics

- Dimensions in the plug sector to DIN 46244
- For soldering in printed circuits

### Material

- Brass (CuZn)

### Surface

- Tin-plated to protect against corrosion

| Part No.    | Tab Thickn. | Tab Width | Typ | Dimension mm |    |     |      |     |    |      |     | Weight/pcs. ~kg | Packing unit/pcs |
|-------------|-------------|-----------|-----|--------------|----|-----|------|-----|----|------|-----|-----------------|------------------|
|             |             |           |     | b1           | b2 | b3  | l1   | l2  | l3 | l4   | s   |                 |                  |
| <b>2010</b> | 0.8         | 2.8       | A   | --           | -- | --  | 10.5 | 6.5 | -- | --   | 0.8 | 0.015           | 100              |
| <b>2020</b> | 0.5         | 2.8       | C   | 1.0          | 5  | --  | --   | 7.1 | 8  | 13.4 | 0.5 | 0.025           | 100              |
| <b>2025</b> | 0.8         | 2.8       | C   | 1.0          | 5  | --  | --   | 7.1 | 8  | 13.4 | 0.8 | 0.040           | 100              |
| <b>2030</b> | 0.8         | 6.3       | D   | 3.5          | 5  | 6.4 | 16.0 | 8.0 | 4  | 12.0 | 0.8 | 0.065           | 100              |
| <b>2035</b> | 0.8         | 6.3       | E   | 3.8          | 5  | 6.2 | 16.0 | 8.0 | 3  | 12.0 | 0.8 | 0.085           | 100              |



## Non-insulated multiple tabs



### Characteristics

- Dimensions in the plug sector to DIN 46244

### Material

- Brass (CuZn)

### Surface

- Tin-plated to protect against corrosion



| Part No. | Tab Thickn. | Tab Width | Typ | Dimension mm |     |     |      |     |     |     |     |      | Weight/ pcs. ~kg | Packing unit/pcs |
|----------|-------------|-----------|-----|--------------|-----|-----|------|-----|-----|-----|-----|------|------------------|------------------|
|          |             |           |     | a1           | b2  | b3  | l1   | l2  | l3  | h   | w   | s    |                  |                  |
| 735      | 0.8         | 2.8       | A   | 5            | 3.2 | 3.1 | 16.0 | 6.7 | --  | --  | --  | 0.38 | 0.060            | 100              |
| 755      | 0.8         | 4.8       | C   | --           | 4.4 | --  | 20.0 | 7.0 | 7.0 | 8.0 | --  | 0.38 | 0.155            | 100              |
| 725      | 0.8         | 6.3       | D   | --           | --  | --  | --   | 8   | 7.5 | --  | 15° | 0.38 | 0.115            | 100              |
| 775      | 0.8         | 6.3       | C   | --           | --  | --  | 20.5 | 12  | 7.5 | 9.6 | --  | 0.38 | 0.200            | 100              |

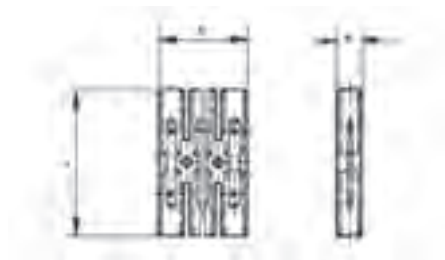
## Flexible connector, tab width 2.8 mm, 4.8 mm and 6.3 mm

► No additional insulation required



### Characteristics

- With tabs 2.8, 4.8 or 6.3 x 0.8 mm
- 1, 2 and 12-poles
- Further poles on request



| Part No.         | Tab Thickn. | Tab Width | Poles | Dimension mm |    |     |     | Insulation material | Bolt size mm |          | Weight/ pcs. ~kg | Packing unit/pcs |
|------------------|-------------|-----------|-------|--------------|----|-----|-----|---------------------|--------------|----------|------------------|------------------|
|                  |             |           |       | b            | l  | h   | s   |                     | Distance     | Diameter |                  |                  |
| Tab Width 2.8 mm |             |           |       |              |    |     |     |                     |              |          |                  |                  |
| 8101             | 0.8         | 2.8       | 1     | 7.5          | 35 | 5.5 | 0.8 | PVC                 | --           | --       | 0.2              | 100              |
| 8102             | 0.8         | 2.8       | 2     | 15.0         | 35 | 5.5 | 0.8 | PVC                 | --           | 2.7      | 0.3              | 50               |
| 81012            | 0.8         | 2.8       | 12    | 88.0         | 35 | 5.5 | 0.8 | PVC                 | 75           | 2.7      | 1.6              | 10               |
| Tab Width 4.8 mm |             |           |       |              |    |     |     |                     |              |          |                  |                  |
| 8051             | 0.8         | 4.8       | 1     | 12.5         | 28 | 6.6 | 0.8 | PVC                 | --           | --       | 0.25             | 100              |
| 8052             | 0.8         | 4.8       | 2     | 25.0         | 28 | 6.6 | 0.8 | PVC                 | --           | 3.2      | 0.50             | 50               |
| 80512            | 0.8         | 4.8       | 12    | 142.0        | 28 | 6.6 | 0.8 | PVC                 | 120          | 3.2      | 2.80             | 10               |
| Tab Width 6.3 mm |             |           |       |              |    |     |     |                     |              |          |                  |                  |
| 8001             | 0.8         | 6.3       | 1     | 12.5         | 28 | 6.6 | 0.8 | PVC                 | --           | --       | 0.30             | 100              |
| 8002             | 0.8         | 6.3       | 2     | 25.0         | 28 | 6.6 | 0.8 | PVC                 | --           | 3.7      | 0.55             | 50               |
| 80012            | 0.8         | 6.3       | 12    | 142.0        | 28 | 6.6 | 0.8 | PVC                 | 120          | 3.7      | 3.20             | 10               |

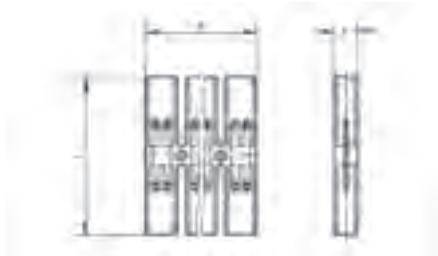
## Polyamide connector, tab width 2.8 and 6.3 mm

► No additional insulation required



### Characteristics

- With tabs 2.8 x 0.8 mm and 6.3 x 0.8 mm
- 1, 2 and 12-poles
- Further poles on request



| Part No.     | Tab Thickn. | Tab Width       | Poles | Dimension mm |    |     |     | Insulation material | Bolt size mm |          | Weight/ pcs. ~kg | Packing unit/pcs |
|--------------|-------------|-----------------|-------|--------------|----|-----|-----|---------------------|--------------|----------|------------------|------------------|
|              |             |                 |       | b            | l  | h   | s   |                     | Distance     | Diameter |                  |                  |
| <b>8011</b>  | 0.8         | 6.3 and 2 x 2.8 | 1     | 10.0         | 50 | 7.5 | 0.8 | PA                  | --           | --       | 0.25             | 100              |
| <b>8012</b>  | 0.8         | 6.3 and 2 x 2.8 | 2     | 22.5         | 50 | 7.5 | 0.8 | PA                  | --           | 3.1      | 0.50             | 50               |
| <b>80112</b> | 0.8         | 6.3 and 2 x 2.8 | 12    | 147.5        | 50 | 7.5 | 0.8 | PA                  | 125          | 3.1      | 3.10             | 10               |

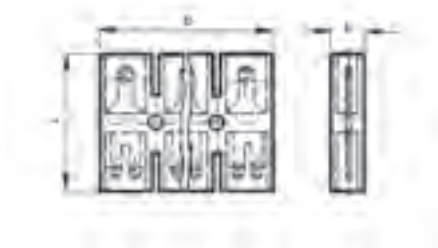
## Flexible circuit distributor, tab width 2.8 mm

► No additional insulation required



### Characteristics

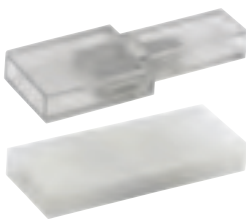
- With tabs 2.8 x 0.8 mm
- 1 and 12-poles
- Further poles on request



| Part No.     | Tab Thickn. | Tab Width | Poles | Dimension mm |    |   |     | Insulation material | Bolt size mm |          | Weight/ pcs. ~kg | Packing unit/pcs |
|--------------|-------------|-----------|-------|--------------|----|---|-----|---------------------|--------------|----------|------------------|------------------|
|              |             |           |       | b            | l  | h | s   |                     | Distance     | Diameter |                  |                  |
| <b>8151</b>  | 0.8         | 2.8       | 1     | 12.5         | 28 | 7 | 0.8 | PVC                 | --           | --       | 0.25             | 100              |
| <b>81512</b> | 0.8         | 2.8       | 12    | 147.0        | 28 | 7 | 0.8 | PVC                 | 123          | 3.2      | 2.80             | 10               |



### Flexible circuit distributor, tab width 6.3 mm



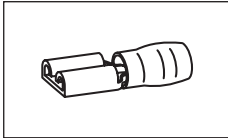
► No additional insulation required

#### Characteristics

- With tabs 6.3 x 0.8 mm



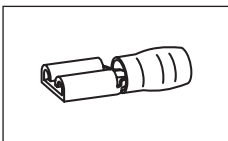
| Part No. | Tab Thickn. | Tab Width | Typ | Dimension mm |      |    |    |    |     |     | Insulation material | Weight/ pcs. ~kg | Packing unit/pcs |
|----------|-------------|-----------|-----|--------------|------|----|----|----|-----|-----|---------------------|------------------|------------------|
|          |             |           |     | b            | b1   | b2 | l  | l1 | h   | s   |                     |                  |                  |
| 816      | 0.8         | 6.3       | A   | 21           | 11.3 | 9  | 53 | 15 | 7.5 | 0.8 | PVC                 | 0.60             | 10               |
| 817      | 0.8         | 6.3       | B   | 20           | 11.3 | 9  | 51 | 13 | 7.0 | 0.8 | PVC                 | 0.65             | 10               |



## Tool application chart

### Insulated cable connections

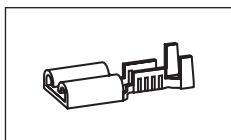
| Tool type                                                                        | Crimping range corresponds to nominal cross-section mm <sup>2</sup> | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                  |                                                                     | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical crimping tools                                                        | 0.1 - 1                                                             | K80           |                         | 220            |              | ○             |
|                                                                                  | 0.5 - 6                                                             | K82           |                         | 221            |              | ○             |
| Mechanical, electrical, pneumatic crimping tools with interchangeable die / head | 0.1 - 1                                                             | KP1           | +KP80                   | 240            |              | ○             |
|                                                                                  |                                                                     | KP1L          | +KP80                   | 240            |              | ○             |
|                                                                                  | 0.5 - 2.5                                                           | KP1           | +KP81                   | 240            |              | ○             |
|                                                                                  |                                                                     | KP1L          | +KP81                   | 240            |              | ○             |
|                                                                                  | 0.5 - 6                                                             | K50           |                         | 244            | 327          | ○             |
|                                                                                  |                                                                     | EK50ML        |                         | 254            | 327          | ○             |
|                                                                                  | 4 - 6                                                               | KP1           | +KP83                   | 240            |              | ○             |
|                                                                                  |                                                                     | KP1L          | +KP83                   | 240            |              | ○             |
| Battery powered crimping tools                                                   | 0.5 - 6                                                             | EK1550ML      |                         | 258            | 327          | ○             |



## Tool application chart

### Butt connectors with heat shrink insulation

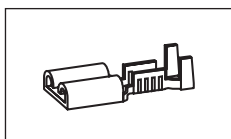
| Tool type                                                                        | Crimping range corresponds to nominal cross-section mm <sup>2</sup> | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                  |                                                                     | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical, electrical, pneumatic crimping tools with interchangeable die / head | 0.5 - 6                                                             | K50           |                         | 244            | 327          | ○             |
|                                                                                  |                                                                     | EK50ML        |                         | 254            | 327          | ○             |
| Battery powered crimping tools                                                   | 0.5 - 6                                                             | EK1550ML      |                         | 258            | 327          | ○             |



### Tool application chart

#### Non-insulated receptacles, straight type

| Tool type                                                                        | Crimping range corresponds to nominal cross-section mm <sup>2</sup> | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                  |                                                                     | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical crimping tools                                                        | 0.1 - 1                                                             | K572          |                         | 224            |              | ☺             |
|                                                                                  |                                                                     | K67           |                         | 225            |              | ☺             |
|                                                                                  | 0.5 - 2.5                                                           | K582          |                         | 224            |              | ☺             |
|                                                                                  |                                                                     | K65           |                         | 226            |              | ☺             |
|                                                                                  | 0.5 - 6                                                             | K592          |                         | 225            |              | ☺             |
|                                                                                  |                                                                     | K60           |                         | 223            |              | ☺             |
| Mechanical, electrical, pneumatic crimping tools with interchangeable die / head | 0.25 - 6                                                            | K50           |                         | 244            | 327          | ☺             |
|                                                                                  |                                                                     | EK50ML        |                         | 254            | 327          | ☺             |
| Battery powered crimping tools                                                   | 0.25 - 6                                                            | EK1550ML      |                         | 258            | 327          | ☺             |



### Tool application chart

#### Non-insulated receptacles, with lateral conductor connector

| Tool type                                                                        | Crimping range corresponds to nominal cross-section mm <sup>2</sup> | Crimping Tool |                         | Catalogue page |              | Crimp profile |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------|-------------------------|----------------|--------------|---------------|
|                                                                                  |                                                                     | Part No.      | Crimping head / adapter | Crimping Tool  | Crimping die |               |
| Mechanical, electrical, pneumatic crimping tools with interchangeable die / head | 3720, 3735                                                          | K50           |                         | 244            | 327          | ☺             |
|                                                                                  |                                                                     | EK50ML        |                         | 254            | 327          | ☺             |
|                                                                                  |                                                                     | SKP6          |                         | 242            |              | ☺             |
|                                                                                  | 3725                                                                | K50           |                         | 244            | 327          | ☺             |
|                                                                                  |                                                                     | EK50ML        |                         | 254            | 327          | ☺             |
|                                                                                  |                                                                     | SKP6          |                         | 242            |              | ☺             |
| Battery powered crimping tools                                                   | 3720, 3735                                                          | EK1550ML      |                         | 258            | 327          | ☺             |
|                                                                                  | 3725                                                                | EK1550ML      |                         | 258            | 327          | ☺             |