



Material properties

Information on materials used for copper and aluminum cable lugs and connectors

- All copper tubular cable lugs, solderless terminals, pin terminals and the corresponding connectors are manufactured from Cu to DIN 13600.
- Cable end-sleeves to DIN 46228 part 1 and part 4 are manufactured from Cu to DIN EN 13600.
- Aluminum compression cable lugs and connectors are manufactured from E-Al 99.5 to DIN 1712.

Electrical properties

- Our cable connections can be loaded with the currents defined in VDE 0298. For higher current loads, we ask for consultation. The current values of VDE 0298 can be found in the table below.

Nominal cross-section mm ²	Group 1 One or more single-core conductors laid in conduits		Group 2 Multi-core conductors, e. g. sheathed conductors, conduit wires, lead-sheathed conductors, flat webbed conductors, flexible cables		Group 3 Overhead single-core conductors with clearance of at least their diameter	
	Cu (A)	Al (A)	Cu (A)	Al (A)	Cu (A)	Al (A)
0.75	–	–	12	–	15	–
1	11	–	15	–	19	–
1.5	15	–	18	–	24	–
2.5	20	–	26	–	32	–
4	25	–	34	–	42	–
6	33	–	44	–	54	–
10	45	–	61	48	73	57
16	61	48	82	64	98	77
25	83	65	108	85	129	103
35	103	81	135	105	158	124
50	132	103	168	132	198	155
70	165	–	207	163	245	193
95	197	–	250	197	292	230
120	235	–	292	230	344	268
150	–	–	335	263	391	310
185	–	–	383	301	448	353
240	–	–	453	357	528	414
300	–	–	504	409	608	479
400	–	–	–	–	726	569
500	–	–	–	–	830	649

Values applicable only at an ambient temperature of 30 °C

Mechanical properties

- The connections produced according to the assembly instructions with our tools comply with the tensile strength requirements of the standards IEC 61238-1, DIN EN 60999 and DIN EN 60352-2.

i **Please note,** that crimping solderless cable connections using tools from other manufactures does not guarantee a proper connection. We recommend only the use of solderless cable connections from **Klauke®** using **Klauke®** tools.

Assignment of cables and conductors

a) Copper

- Our copper cable lugs and connectors are suitable for connecting copper cables according to DIN EN 60228 and copper conductors DIN 48201 part 1. Please use the table below.

b) Aluminium

- Our aluminium cable lugs and connectors are suitable for connecting aluminium cables according to DIN EN 60228 and aluminium conductors according to DIN EN 50182. Please use the table below.



Sector-shaped conductors must be rounded with pre-rounding tools before assembly.

Cross-section compatibility chart for cable lugs and connectors for copper and aluminum conductors

- With the help of this table you can determine the cross-section of your conductor in case of doubt. The minimum diameter of the conductor is for the classes 1 and 2 (not compacted). For classes 5 and 6 are defined by the conductance rather than the minimum diameter. Therefore, no specification can be made regarding the minimum diameter.

Nominal cross-section mm ²	Type of conductor acc. to DIN EN 60228									
	Copper conductors					Aluminium conductors				
	Round conductor solid, class 1	Round conductor multi-stranded, class 2	Round conductor multi-stranded compacted, class 2		Round conductor fine and superfine, class 5 and class 6	Round conductor solid, class 1		Round conductor multi-stranded compacted, class 2		
	Max. conductor dia. mm	Max. conductor dia. mm	Max. conductor dia. mm	Max. conductor dia. mm	Max. conductor dia. mm	Max. conductor dia. mm	Max. conductor dia. mm	Max. conductor dia. mm	Max. conductor dia. mm	Max. conductor dia. mm
0.5	0.9	1.1	–	–	1.1	–	–	–	–	
0.75	1	1.2	–	–	1.3	–	–	–	–	
1	1.2	1.4	–	–	1.5	–	–	–	–	
1.5	1.5	1.7	–	–	1.8	–	–	–	–	
2.5	1.9	2.2	–	–	2.4	–	–	–	–	
4	2.4	2.7	–	–	3	–	–	–	–	
6	2.9	3.3	–	–	3.9	–	–	–	–	
10	3.7	4.2	3.6	4	5.1	3.4	3.7	3.6	4	
16	4.6	5.3	4.6	5.2	6.3	4.1	4.6	4.6	5.2	
25	5.7	6.6	5.6	6.5	7.8	5.2	5.7	5.6	6.5	
35	6.7	7.9	6.6	7.5	9.2	6.1	6.7	6.6	7.5	
50	7.8	9.1	7.7	8.6	11	7.2	7.8	7.7	8.6	
70	9.4	11	9.3	10.2	13.1	8.7	9.4	9.3	10.2	
95	11	12.9	11	12	15.1	10.3	11	11	12	
120	12.4	14.5	12.3	13.5	17	11.6	12.4	12.3	13.5	
150	13.8	16.2	13.7	15	19	12.9	13.8	13.7	15	
185	15.4	18	15.3	16.8	21	14.5	15.4	15.3	16.8	
240	17.6	20.6	17.6	19.2	24	16.7	17.6	17.6	19.2	
300	19.8	23.1	19.7	21.6	27	18.8	19.8	19.7	21.6	
400	22.2	26.1	22.3	24.6	31	21.2	22.2	22.3	24.6	
500	–	29.2	25.3	27.6	35	24	25.1	25.3	27.6	
630	–	33.2	28.7	32.5	39	27.3	28.4	28.7	32.5	
800	–	37.6	–	–	–	30.9	32.1	–	–	
1000	–	42.2	–	–	–	34.8	36	–	–	