

## Conductor resistances and conductor stranding (metric)

**Conductor resistances:** up to 0.38 mm<sup>2</sup> as per DIN VDE 0812 and DIN VDE 0881 for stranded conductors, from 0.5 mm<sup>2</sup> as per IEC 60228/DIN EN 60228 (VDE 0295) for conductors made of soft-annealed copper and single and multi-core cables.

Nominal cross-section in mm <sup>2</sup>	Conductor resistances at 20 °C for 1 km in Ω (max. value)			
	made of wires with metal sheath		made of bare wires	
	Class 2	Class 5 + 6	Class 2	Class 5 + 6
0.08		252.0		243.0
0.14		148.0		138.0
0.25		79.9		79.0
0.34		57.5		57.0
0.38		52.8		48.5
0.5	36.7	40.1	36.0	39.0
0.75	24.8	26.7	24.5	26.0
1	18.2	20.0	18.1	19.5
1.5	12.2	13.7	12.1	13.3
2.5	7.56	8.21	7.41	7.98
4	4.70	5.09	4.61	4.95
6	3.11	3.39	3.08	3.30
10	1.84	1.95	1.83	1.91
16	1.16	1.24	1.15	1.21
25	0.734	0.795	0.727	0.780
35	0.529	0.565	0.524	0.554
50	0.391	0.393	0.387	0.386
70	0.270	0.277	0.268	0.272
95	0.195	0.210	0.193	0.206
120	0.154	0.164	0.153	0.161
150	0.126	0.132	0.124	0.129
185	0.100	0.108	0.0991	0.106
240	0.0762	0.0817	0.0754	0.0801
300	0.0607	0.0654	0.0601	0.0641
400	0.0475		0.0470	
500	0.0369		0.0366	
630	0.0286		0.0283	
800	0.0224		0.0221	
1000	0.0177		0.0176	

IEC 60228:2004 / nominal cross-sectional area: value that identifies a particular size of conductor but is not subject to direct measurement

### Conductor stranding (metric)

Cross-section in mm <sup>2</sup>	Multi-wire conductor Number of wires	Fine-wire conductor Single wire diameter	Extra-fine wire conductor Single wire diameter
0.14			max. 0.10 mm
0.25		max. 0.15 mm	max. 0.10 mm
0.34		max. 0.15 mm	max. 0.10 mm
0.38		max. 0.16 mm	max. 0.16 mm
0.5	min. 7 Wire	max. 0.21 mm	max. 0.16 mm
0.75	min. 7 Wire	max. 0.21 mm	max. 0.16 mm
1.0	min. 7 Wire	max. 0.21 mm	max. 0.16 mm
1.5	min. 7 Wire	max. 0.26 mm	max. 0.16 mm
2.5	min. 7 Wire	max. 0.26 mm	max. 0.16 mm
4	min. 7 Wire	max. 0.31 mm	max. 0.16 mm
6	min. 7 Wire	max. 0.31 mm	max. 0.21 mm
10	min. 7 Wire	max. 0.41 mm	max. 0.21 mm
16	min. 7 Wire	max. 0.41 mm	max. 0.21 mm
25	min. 7 Wire	max. 0.41 mm	max. 0.21 mm
35	min. 7 Wire	max. 0.41 mm	max. 0.21 mm
50	min. 19 Wire	max. 0.41 mm	max. 0.31 mm
70	min. 19 Wire	max. 0.51 mm	max. 0.31 mm
95	min. 19 Wire	max. 0.51 mm	max. 0.31 mm
120	min. 37 Wire	max. 0.51 mm	max. 0.31 mm
150	min. 37 Wire	max. 0.51 mm	max. 0.31 mm
185	min. 37 Wire	max. 0.51 mm	max. 0.41 mm
240	min. 37 Wire	max. 0.51 mm	max. 0.41 mm
300	min. 61 Wire	max. 0.51 mm	max. 0.41 mm
400	min. 61 Wire	max. 0.51 mm	
500	min. 61 Wire	max. 0.61 mm	
630	min. 91 Wire	max. 0.61 mm	

**NOTE ON STANDARDS:**

- For single-wire conductors ... (class 1), please see DIN EN 60228 (VDE 0295), table 1
- For multi-wire conductors ... (class 2), please see DIN EN 60228 (VDE 0295), table 2
- For fine-wire conductors ... (class 5), please see DIN EN 60228 (VDE 0295), table 3
- For extra-fine wire conductors ... (class 6), please see DIN EN 60228 (VDE 0295), table 4



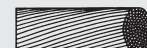
single-wire



multi-/several-wire



fine-wire



extra-fine wire