



Conductor Resistance

Conductor resistance data according to VDE 0295 and IEC 60228

Conductor dimensions	High-voltage cables						Welding cable	
	Cu conductors				Al conductors		Cu conductors	
	consisting of tin-plated wires		consisting of bright wires		consisting of bright wires		consisting of bright wires	consisting of tin-plated wires
	Class 1 Class 2	Class 5 Class 6	Class 1 Class 2	Class 5 Class 6	Class 1	Class 2	Ω/km	Ω/km
Nominal cross-section mm ²	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	
0.05	-	~380.0	-	~360.0	-	-	-	-
0.08	-	~240.0	-	~230.0	-	-	-	-
0.09	-	~230.0	-	~215.0	-	-	-	-
0.14	-	~140.0	-	~138.0	-	-	-	-
0.22	-	~96.8	-	~95.0	-	-	-	-
0.25	-	~79.3	-	~77.8	-	-	-	-
0.34	-	~57.1	-	~56.0	-	-	-	-
0.5	36.7	40.1	36.0	39.0	-	-	-	-
0.75	24.8	26.7	24.5	26.0	-	-	-	-
1.0	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	-	-	-	-
4.0	4.70	5.09	4.61	4.95	-	-	-	-
6.0	3.11	3.39	3.08	3.30	-	-	-	-
10.0	1.84	1.95	1.83	1.91	-	-	-	-
16.0	1.16	1.24	1.15	1.21	-	1.91 ²⁾	1.16	1.19
25.0	0.734	0.795	0.727 ¹⁾	0.780	1.20	1.20	0.758	0.780
35.0	0.529	0.565	0.524 ¹⁾	0.554	0.868	0.868	0.536	0.552
50.0	0.391	0.393	0.387 ¹⁾	0.386	0.641	0.641	0.379	0.390
70.0	0.270	0.277	0.268 ¹⁾	0.272	0.443	0.443	0.268	0.276
95.0	0.195	0.210	0.193 ¹⁾	0.206	0.320	0.320	0.198	0.204
120.0	0.154	0.164	0.153 ¹⁾	0.161	0.253	0.253	0.155	0.159
150.0	0.126	0.132	0.124 ¹⁾	0.129	0.206	0.206	0.125	0.129
185.0	0.100	0.108	0.0991	0.106	0.164	0.164	0.102	0.105
240.0	0.0762	0.0817	0.0754	0.0801	0.125	0.125	-	-
300.0	0.0607	0.0654	0.0601	0.0641	0.100	0.100	-	-
400.0	0.0475	0.0495	0.0470	0.0486	-	0.0778	-	-
500.0	0.0369	0.0391	0.0366	0.0384	-	0.0605	-	-
630.0	0.0286	0.0292	0.0283	0.0287	-	0.0469	-	-

¹⁾ applies to mineral insulated Class 1 cables

²⁾ applies only to conductors with reduced cross-section for NAYCWY 4 x 25/16