

■ CONDUCTOR RESISTANCE (extracted from DIN VDE 0295, IEC 60228)

The values are extracted from DIN VDE 0295 (equivalent with the international standard IEC 60228), according to cross-sections and conductor classes, beginning with nominal cross-section of 0.5 mm². The diameters of the single wires of each bunched conductor are not permitted to exceed the maximum stated values (ref. DIN VDE 0295), which are required to conform the maximum resistance value of the bunched conductors at 20° C.

Nominal cross-section mm ²	Copper conductor plain wires (Ohm/km)		Copper conductor tinned wires (Ohm/km)		Aluminium conductor (Ohm/km) Class 1 and 2
	Class 1 and 2	Class 5 and 6	Class 1 and 2	Class 5 and 6	
0.05	-	-380	-	-392	-
0.08	-	-237	-	-244	-
0.11	-	-170	-	-175	-
0.126	-	-150	-	-155	-
0.14	-	-134	-	-138	-
0.22	-	- 96	-	- 99	-
0.25	-	- 76	-	- 79	-
0.34	-	- 53	-	- 56	-
0.5	36.0	39.0	36.7	40.1	-
0.75	24.5	26.0	24.8	26.7	-
1.0	18.1	19.5	18.2	20.0	-
1.5	12.1	13.3	12.2	13.7	-
2.5	7.41	7.98	7.56	8.21	-
4.0	4.61	4.95	4.70	5.09	-
6.0	3.08	3.30	3.11	3.39	-
10.0	1.83	1.91	1.84	1.95	3.08
16.0	1.15	1.21	1.16	1.24	1.91
25.0	0.727*	0.780	0.734	0.795	1.20
35.0	0.524*	0.554	0.529	0.565	0.868
50.0	0.387*	0.386	0.391	0.393	0.641
70.0	0.268*	0.272	0.270	0.277	0.443
95.0	0.193*	0.206	0.195	0.210	0.320
120.0	0.153*	0.161	0.154	0.164	0.253
150.0	0.124*	0.129	0.126	0.132	0.206
185.0	0.0991	0.106	0.100	0.108	0.164
240.0	0.0754	0.0801	0.0762	0.0817	0.125
300.0	0.0601	0.0641	0.0607	0.0654	0.100
400.0	0.0470	0.0486	0.0475	0.0495	0.0778
500.0	0.0366	0.0384	0.0369	0.0391	0.0605
630.0	0.0283	0.0287	0.0286	0.0292	0.0469

class 1 = single core conductor for single and multi core cables

class 2 = multi core conductors for single and multi core cables

class 5 = fine wire copper conductors for single and multi core cables

class 6 = extra fine wire copper conductors for single and multi core cables

* for mineral-insulated cables (class 1 up to 150 mm²)

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