

# Conductor resistance (extracted from DIN VDE 0295, IEC 60228 and HD 383)

The values are extracted from DIN VDE 0295 (equivalent with the international standard IEC 60228 and HD 383), according to cross-sections and conductor classes, beginning with nominal cross-section of 0,5 mm<sup>2</sup>. 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 <sup>2</sup>	Copper conductor <b>plain</b> wires (Ohm/km)		Copper conductor <b>tinned</b> wires (Ohm/km)	
	<b>class 1 and 2</b>	<b>Class 5 and 6</b>	<b>Class 1 and 2</b>	<b>Class 5 and 6</b>
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
16,0	1,15	1,21	1,16	1,24
25,0	0,727*	0,780	0,734	0,795
35,0	0,524*	0,554	0,529	0,565
50,0	0,387*	0,386	0,391	0,393
70,0	0,268*	0,272	0,270	0,277
95,0	0,193*	0,206	0,195	0,210
120,0	0,153*	0,161	0,154	0,164
150,0	0,124*	0,129	0,126	0,132
185,0	0,0991	0,106	0,100	0,108
240,0	0,0754	0,0801	0,0762	0,0817
300,0	0,0601	0,0641	0,0607	0,0654
400,0	0,0470	0,0486	0,0475	0,0495
500,0	0,0366	0,0384	0,0369	0,0391
630,0	0,0283	0,0287	0,0286	0,0292

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 mm<sup>2</sup>)