Conductor Resistance

Electrical Resistance of Copper Conductors (mm^2)

Nominal Section (mm^2)	Min. No. of Wires Class 2	Max. Wire Dia. Class 5(mm)	Max. Wire Dia. Class 6(mm)	Max. Conductor Resistance (Ohm/km at 20 °C) Class 2	Class 5 and Class 6
				Copper	Copper
0.5	7	0.21	0.16	36	39
0.75	7	0.21	0.16	24.5	26
1.0	7	0.21	0.16	18.1	19.5
1.5	7	0.26	0.16	12.1	13.3
2.5	7	0.26	0.16	7.41	7.98
4	7	0.31	0.16	4.61	4.95
6	7	0.31	0.21	3.08	3.3
10	7	0.41	0.21	1.83	1.91
16	7	0.41	0.21	1.15	1.21
25	7	0.41	0.21	0.73	0.78
35	7	0.41	0.21	0.52	0.55
50	19	0.41	0.31	0.39	0.38
70	19	0.51	0.31	0.27	0.27
95	19	0.51	0.31	0.19	0.20
120	37	0.51	0.31	0.15	0.16
150	37	0.51	0.31	0.12	0.13

Electrical Resistance of Copper Conductors (AWG)

Section (AWG)	Section (mm^2)	Conductor		Max. Conductor Resistance (Ohm at 20 °C)
		No. of Wires	Single Wire (mm)Dia.	Copper
0	52.95	1045	0.254	0.35
0	53.116	259	0.510	0.38
1	41.397	817	0.254	0.40
1	42.112	259	0.455	0.45
2	33.696	665	0.254	0.5
2	33.201	259	0.404	0.6
2	34.416	133	0.574	0.5
4	21.231	418	0.255	0.8
4	21.625	133	0.455	0.9
6	13.611	266	0.254	1.5
6	13.764	133	0.363	1.5
8	8.604	133	0.287	2.0
10	5.317	105	0.254	3.2
10	4.74	37	0.404	3.6
10	5.26	1	2.588	3.4
12	3.292	65	0.254	5.7
12	2.98	37	0.321	6.8
12	3.08	19	0.455	4.8
12	3.31	1	2.052	5.4
14	2.078	41	0.254	8.3
14	1.854	19	0.361	8.9
14	2.08	1	1.628	8.6
16	1.317	26	0.254	13.1
16	1.229	19	0.287	14.1
16	1.31	1	1.291	13.7
18	0.963	19	0.254	17.9
18	0.811	16	0.254	21.3
18	0.897	7	0.404	19.2
18	0.827	1	1.023	21.8
20	0.615	19	0.203	28.3
20	0.507	10	0.254	33.9
20	0.562	7	0.320	33.8
20	0.519	1	0.813	34.6
22	0.382	19	0.160	45.1
22	0.355	7	0.254	48.4
22	0.324	1	0.643	55.3
24	0.241	19	0.127	69.2
24	0.227	7	0.203	76.4
24	0.205	1	0.511	89.4
26	0.155	19	0.102	113.0
26	0.141	7	0.160	122.0
26	0.128	1	0.404	138.8