

Resistance of Annealed Copper Wire

Brown & Sharps Gauge (AWG)	Wire Diameter (mm)	Resistance (Ω /cm)
10	2.558	0.0000328
12	2.053	0.0000521
14	1.628	0.0000828
16	1.291	0.000132
18	1.024	0.000209
20	0.8118	0.000333
22	0.6438	0.000530
24	0.5106	0.000842
26	0.4049	0.00134
27	0.3606	0.00169
28	0.3211	0.00213
30	0.2546	0.00339
33	0.2019	0.00538
34	0.1601	0.00856
36	0.1270	0.0136
40	0.07987	0.0344

Taken from *Handbook of Chemistry and Physics*, 74th edition, 1993-1994. Part of a larger table. These values are approximations since the purity of industrial grade copper can vary a lot. There is also a large temperature dependence for the resistance of copper. Aluminum does better. Resistance of metals increases with temperature.