

Cable Size & Conversion from American Wire Gauge (AWG) to Inches / mm

To convert AWG to Inches

The diameter of a Number n AWG wire in inches is given by

$$d_n = 0.005 \times 92^{\left(\frac{36-n}{39}\right)}$$

For example, 36AWG

$$d_n = 0.005 \times 92^{\left(\frac{36-36}{39}\right)}$$

$$d_n = 0.005 \times 92^0$$

$$d_n = 0.005 \times 1$$

$$d_n = 0.005 \text{ inches}$$

Wire Gauge	American Wire Gauge (AWG)	Imperial Standard Wire Gauge (SWG)
0000000	0.651 (16.5mm)	0.500 (12.7mm)
000000	0.580 (14.7mm)	0.464 (11.8mm)
00000	0.517 (13.1mm)	0.432 (11.0mm)
0000	0.460 (11.7mm)	0.400 (10.2mm)
000	0.410 (10.4mm)	0.372 (9.45mm)
00	0.365 (9.27mm)	0.348 (8.84mm)
0	0.325 (8.25mm)	0.324 (8.23mm)
1	0.289 (7.35mm)	0.300 (7.62mm)
2	0.258 (6.54mm)	0.276 (7.01mm)
3	0.229 (5.83mm)	0.252 (6.40mm)
4	0.204 (5.19mm)	0.232 (5.89mm)
5	0.182 (4.62mm)	0.212 (5.38mm)
6	0.162 (4.12mm)	0.192 (4.88mm)
7	0.144 (3.66mm)	0.176 (4.47mm)
8	0.128 (3.26mm)	0.160 (4.06mm)
9	0.114 (2.91mm)	0.144 (3.66mm)
10	0.102 (2.59mm)	0.128 (3.25mm)
11	0.0907 (2.30mm)	0.116 (2.95mm)
12	0.0808 (2.05mm)	0.104 (2.64mm)
13	0.0720 (1.83mm)	0.0920 (2.34mm)
14	0.0641 (1.63mm)	0.0800 (2.03mm)
15	0.0571 (1.45mm)	0.0720 (1.83mm)
16	0.0508 (1.29mm)	0.0640 (1.63mm)
17	0.0453 (1.15mm)	0.0560 (1.42mm)
18	0.0403 (1.02mm)	0.0480 (1.22mm)
19	0.0359 (0.912mm)	0.0400 (1.02mm)
20	0.0320 (0.812mm)	0.0360 (0.914mm)
21	0.0285 (0.723mm)	0.0320 (0.813mm)
22	0.0253 (0.644mm)	0.0280 (0.711mm)

Wire Gauge	American Wire Gauge (AWG)	Imperial Standard Wire Gauge (SWG)
23	0.0226 (0.573mm)	0.0240 (0.610mm)
24	0.0201 (0.511mm)	0.0220 (0.559mm)
25	0.0179 (0.455mm)	0.0200 (0.508mm)
26	0.0159 (0.405mm)	0.0180 (0.457mm)
27	0.0142 (0.361mm)	0.0164 (0.417mm)
28	0.0126 (0.321mm)	0.0148 (0.376mm)
29	0.0113 (0.286mm)	0.0136 (0.345mm)
30	0.0100 (0.255mm)	0.0124 (0.315mm)
31	0.00893 (0.227mm)	0.0116 (0.295mm)
32	0.00795 (0.202mm)	0.0108 (0.274mm)
33	0.00708 (0.180mm)	0.010 (0.254mm)
34	0.00630 (0.160mm)	0.0092 (0.234mm)
35	0.00561 (0.143mm)	0.0084 (0.213mm)
36	0.00500 (0.127mm)	0.0076 (0.193mm)
37	0.00445 (0.113mm)	0.0068 (0.173mm)
38	0.00397 (0.101mm)	0.0060 (0.152mm)
39	0.00353 (0.0897mm)	0.0052 (0.132mm)
40	0.00314 (0.0799mm)	0.0048 (0.122mm)
41	0.00280 (0.0711mm)	0.0044 (0.112mm)
42	0.00249 (0.0633mm)	0.0040 (0.102mm)
43	0.00222 (0.0564mm)	0.0036 (0.0914mm)
44	0.00198 (0.0502mm)	0.0032 (0.0813mm)
45	0.00176 (0.0447mm)	0.0028 (0.0711mm)
46	0.00157 (0.0398mm)	0.0024 (0.0610mm)
47	0.00140 (0.0355mm)	0.0020 (0.0508mm)
48	0.00124 (0.0316mm)	0.0016 (0.0406mm)
49	0.00111 (0.0281mm)	0.0012 (0.0305mm)
50	0.000986 (0.0251mm)	0.0010 (0.0254mm)

Table 3: Wire Gauge to Wire Diameter – inches (mm in brackets)