

## WIRE GAUGE

Metals and alloys used for wire making are chosen for high tensile strength and ductility or for their electrical conductivity, weight, melting point, or other properties, depending upon the use to which the wire is to be put.

The size of a wire is the measure of its diameter. For convenience, the different wires are numbered in order of decreasing size, the number being known as the gauge, or gage; the higher the gauge the smaller the diameter. The number of gauges used and their sizes differ according to the kind of wire and the country's standards of measurement.

In the United States the American wire gauge, known also as the Brown & Sharpe wire gauge (abbr. B. & S.), is used; in Great Britain and Canada the British, or imperial, standard wire gauge (S.W.G.) is employed.

For steel wire the steel wire gauge (also known as the Washburn & Moen, the Roebbling, or the American Steel & Wire Co.'s wire gauge) is employed.

Wire is widely used in conducting electricity and in making fencing, screens, netting, springs, and mesh or cloth. Very thin wire is used in various scientific instruments. A wire mesh is often used in glass (wire glass) to prevent shattering and to increase strength and safety. Wire rope (cable) is made by forming wires into strands that are then wound on a core.

Wire has been used since the third millennium B.C. In early times the metal was hammered into sheets, then cut in strips and shaped with hammer and file. The modern method of drawing wire is believed to have originated in Europe late in the 13th century.

In this process the metal is pulled, or drawn, through a number of holes, each smaller than the one preceding, until finally it is passed through the hole having the desired diameter. It is commonly believed that the gauge of the wire was determined by how many holes the wire was drawn through to achieve the desired diameter.

Metal plates with such holes are known as drawplates or dies. Success in drawing wire through the drawplate formerly depended upon the physical strength of the wire drawer (or wire smith), since machinery was not used until the introduction of power-driven cylinder blocks to pull and coil the wire.

For your convenience, please see below for a Wire Gauge Conversion Chart

# HOW TO...

## WIRE GAUGE

NO.	S W G	
	mm	inch
00	8.839	0.348
0	8.229	0.324
1	7.620	0.300
2	7.010	0.276
3	6.401	0.252
4	5.893	0.232
5	5.385	0.212
6	4.877	0.192
7	4.470	0.176
8	4.064	0.160
9	3.658	0.144
10	3.251	0.128
11	2.946	0.116
12	2.642	0.104
13	2.337	0.092
14	2.032	0.080
15	1.829	0.072
16	1.626	0.064
17	1.422	0.056
18	1.219	0.048
19	1.016	0.040
20	0.9144	0.036
21	0.8128	0.032
22	0.7112	0.028
23	0.6092	0.024
24	0.5588	0.022
25	0.5080	0.020
26	0.4572	0.018
27	0.4166	0.016
28	0.3759	0.015
29	0.3453	0.013
30	0.3150	0.0124
31	0.2946	0.0116
32	0.2743	0.0108
33	0.2540	0.010
34	0.2337	0.0092
35	0.2134	0.0084
36	0.1930	0.0076
37	0.1727	0.0068
38	0.1524	0.0060
39	0.1321	0.0052
40	0.1219	0.0048
41	0.112	0.0044
42	0.102	0.0040
43	0.091	0.0036
44	0.081	0.0032
45	0.071	0.0028
46	0.061	0.0024
47	0.051	0.0020
48	0.041	0.0016
49	0.030	0.0012
50	0.025	0.0010