ACE Hardware Zimbabwe

Wire & Sheet Gauge Conversion Chart

SWG, AWG and sheet-metal gauges converted to millimetres, sheet weights, and metric cable sizes against AWG.

Workshop Reference Charts
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Gauge conversion

Gauge to millimetres

Gauge	SWG mm	SWG inch	AWG mm	US steel sheet mm	Galvanised sheet mm	Steel sheet kg/m²
0	8.23	0.324	8.251	-	-	-
1	7.62	0.3	7.348	-	-	-
2	7.01	0.276	6.544	-	-	-
3	6.401	0.252	5.827	6.073	-	47.7
4	5.893	0.232	5.189	5.695	-	44.7
5	5.385	0.212	4.621	5.314	-	41.7
6	4.877	0.192	4.115	4.935	-	38.7
7	4.47	0.176	3.665	4.554	-	35.8
8	4.064	0.16	3.264	4.176	4.27	32.8
9	3.658	0.144	2.906	3.797	3.891	29.8
10	3.251	0.128	2.588	3.416	3.51	26.8
11	2.946	0.116	2.305	3.038	3.132	23.8
12	2.642	0.104	2.053	2.657	2.751	20.9
13	2.337	0.092	1.828	2.278	2.372	17.9
14	2.032	0.08	1.628	1.897	1.991	14.9
15	1.829	0.072	1.45	1.709	1.803	13.4
16	1.626	0.064	1.291	1.519	1.613	11.9
17	1.422	0.056	1.15	1.367	1.46	10.7
18	1.219	0.048	1.024	1.214	1.308	9.5
19	1.016	0.04	0.912	1.062	1.156	8.3
20	0.914	0.036	0.812	0.912	1.006	7.2
21	0.813	0.032	0.723	0.836	0.93	6.6
22	0.711	0.028	0.644	0.759	0.853	6
23	0.61	0.024	0.573	0.683	0.777	5.4
24	0.559	0.022	0.511	0.607	0.701	4.8
25	0.508	0.02	0.455	0.531	0.625	4.2
26	0.457	0.018	0.405	0.455	0.549	3.6
27	0.417	0.0164	0.361	0.417	0.511	3.3
28	0.376	0.0148	0.321	0.378	0.472	3
29	0.345	0.0136	0.286	0.343	0.437	2.7
30	0.315	0.0124	0.255	0.305	0.399	2.4
31	0.295	0.0116	0.227	-	-	-
32	0.274	0.0108	0.202	-	-	-
33	0.254	0.01	0.18	-	-	-
34	0.234	0.0092	0.16	-	-	-
35	0.213	0.0084	0.143	-	-	-
36	0.193	0.0076	0.127	-	-	-

Notes and electrical wire

- **SWG** (Imperial Standard Wire Gauge) is used for steel wire, fencing wire and older British sheet.
- **AWG** (American Wire Gauge) is used for electrical copper and aluminium wire. AWG and SWG are *not* the same: 16 SWG = 1.63 mm but 16 AWG = 1.29 mm.
- **US steel sheet** (Manufacturers' Standard Gauge) is based on weight, so galvanised sheet of the same gauge is about 0.09 mm thicker.
- Larger gauge numbers mean **thinner** material.
- When ordering, give the thickness in mm. Gauge numbers mean different sizes in different systems.

AWG copper wire

AWG	Diameter mm	Area mm²	Copper Ω/km at 20 °C
0	8.251	53.475	0.322
2	6.544	33.631	0.513
4	5.189	21.151	0.815
6	4.115	13.302	1.296
8	3.264	8.366	2.061
10	2.588	5.261	3.277
12	2.053	3.309	5.211
14	1.628	2.081	8.285
16	1.291	1.309	13.174
18	1.024	0.823	20.948
20	0.812	0.518	33.308
22	0.644	0.326	52.962
24	0.511	0.205	84.213
26	0.405	0.129	133.904
28	0.321	0.081	212.916
30	0.255	0.051	338.55

Metric cable sizes and AWG

Metric cable mm²	Solid dia. mm	Exact AWG	Nearest AWG
0.5	0.8	20.1	20
0.75	0.98	18.4	18
1	1.13	17.2	17
1.5	1.38	15.4	15
2.5	1.78	13.2	13
4	2.26	11.2	11
6	2.76	9.4	9
10	3.57	7.2	7
16	4.51	5.2	5
25	5.64	3.3	3
35	6.68	1.8	2
50	7.98	0.3	0

Copper resistance is for solid conductors at 20 °C (resistivity 0.017241 Ω·mm²/m). For cable current ratings use the cable maker's tables or SANS / IEC 60364: rating depends on insulation, installation method and ambient temperature.

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