

Copper Magnet Wire Data

SIZE (AWG)	BARE COPPER									SIZE (AWG)
	DIAMETER * (INCHES)			RESISTANCE** (OHMS PER 1000 FT. AT 20°C)			FEET PER POUND	POUNDS PER 1000 FT.	CIRCULAR MILS NOMINAL	
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.				
6	.1604	.1620	.1633	.3875	.3952	.4031	12.59	79.44	26240	6
7	.1429	.1443	.1454	.4885	.4981	.5079	15.87	63.03	20820	7
8	.1272	.1285	.1294	.6156	.6281	.6410	20.01	49.98	16510	8
9	.1133	.1144	.1153	.7774	.7924	.8079	25.24	39.62	13090	9
10	.1009	.1019	.1027	.9795	.9988	1.019	31.82	31.43	10380	10
11	.0898	.0907	.0916	1.236	1.261	1.286	40.2	24.9	8226	11
12	.0800	.0808	.0816	1.558	1.589	1.620	50.6	19.8	6529	12
13	.0713	.0720	.0727	1.962	2.001	2.040	63.7	15.7	5184	13
14	.0635	.0641	.0647	2.477	2.524	2.572	80.4	12.4	4109	14
15	.0565	.0571	.0577	3.115	3.181	3.249	101	9.87	3260	15
16	.0503	.0508	.0513	3.941	4.019	4.099	128	7.81	2581	16
17	.0448	.0453	.0458	4.944	5.054	5.167	161	6.21	2052	17
18	.0399	.0403	.0407	6.261	6.386	6.514	203	4.92	1624	18
19	.0355	.0359	.0363	7.871	8.047	8.229	256	3.90	1289	19
20	.0317	.0320	.0323	9.941	10.13	10.32	323	3.10	1024	20
21	.0282	.0285	.0288	12.50	12.77	13.04	407	2.46	812.3	21
22	.0250	.0253	.0256	15.82	16.20	16.59	516	1.94	640.1	22
23	.0224	.0226	.0228	19.95	20.31	20.67	647	1.55	510.8	23
24	.0199	.0201	.0203	25.17	25.67	26.19	818	1.22	404.0	24
25	.0177	.0179	.0181	31.66	32.37	33.10	1030	.970	320.4	25
26	.0157	.0159	.0161	40.01	41.02	42.07	1310	.765	252.8	26
27	.0141	.0142	.0143	50.72	51.43	52.17	1640	.610	201.6	27
28	.0125	.0126	.0127	64.30	65.33	66.37	2080	.481	158.8	28
29	.0112	.0113	.0114	79.80	81.22	82.68	2590	.387	127.7	29
30	.0099	.0100	.0101	101.7	103.7	105.8	3300	.303	100.0	30
31	.0088	.0089	.0090	128.0	130.9	133.9	4170	.240	79.21	31
32	.0079	.0080	.0081	158.1	162.0	166.2	5160	.194	64.00	32
33	.0070	.0071	.0072	200.1	205.7	211.7	6550	.153	50.41	33
34	.0062	.0063	.0064	253.2	261.3	269.8	8320	.120	39.69	34
35	.0055	.0056	.0057	319.2	330.7	342.8	10500	.0949	31.36	35
36	.0049	.0050	.0051	398.7	414.8	431.9	13200	.0757	25.00	36
37	.0044	.0045	.0046	490.1	512.1	535.7	16300	.0613	20.25	37
38	.0039	.0040	.0041	617.0	648.2	681.9	20600	.0484	16.00	38
39	.0034	.0035	.0036	800.2	846.6	897.1	27000	.0371	12.25	39
40	.0030	.0031	.0032	1013	1079	1152	34400	.0291	9.61	40
41	.0027	.0028	.0029	1233	1323	1423	42100	.0237	7.84	41
42	.0024	.0025	.0026	1534	1659	1801	52900	.0189	6.25	42
43	.0021	.0022	.0023	1960	2143	2352	68300	.0147	4.84	43
44	.0019	.0020	.0021	2352	2593	2873	82600	.0121	4.00	44
45	.00169	.00176	.00183	3080	3348	3616	106,500	.00939	3.10	45
46	.00151	.00157	.00164	3870	4207	4544	134,400	.00744	2.47	46
47	.00135	.00140	.00146	4868	5291	5714	169,200	.00591	1.96	47
48	.00119	.00124	.00129	6205	6745	7285	213,400	.00469	1.54	48
49	.00107	.00111	.00116	7744	8417	9090	269,700	.00371	1.23	49
50	.00095	.00099	.00103	9734	10580	11430	339,700	.00294	.98	50
51	.00085	.00088	.00092	12320	13390	14460	428,400	.00233	.775	51
52	.00075	.00078	.00081	15690	17050	18410	540,000	.00185	.608	52
53	.00067	.00070	.00073	19480	21170	22860	681,200	.00147	.490	53
54	.00060	.00062	.00065	24820	26980	29140	859,100	.00116	.384	54
55	.00053	.00055	.00057	31540	34280	37020	1,083,000	.000923	.303	55

* Minimum and maximum dimensions are based on tolerances specified by ASTM Standard B3 and NEMA MW1000-2015 for sizes 6 - 44 AWG. Sizes 45 - 55 AWG dimensions calculated from DC resistance.
 ** Values are based on a resistivity of 10.371 ohms per circular mil/ft at 20°C. (100% IACS conductivity). Minimum resistance values are based on maximum bare diameter. Maximum resistance values are based on minimum bare diameter.
 6 - 44 AWG magnet wire will be furnished to dimensional standard with resistance values as a guideline.
 45 - 55 AWG magnet wire will be furnished to resistance with the dimensions as a guideline.