

# COPPER-WIRE INFORMATION

(Source: The ARRL Electronics Data Book, p. 2-17)

WIRE SIZE A.W.G. (B&S)	DIA. <sup>5</sup> IN MILS <sup>1</sup>	CIRC. MIL. AREA <sup>5</sup>	TURNS PER LINEAR INCH <sup>2</sup>			CONT-DUTY CURRENT <sup>3</sup> SINGLE WIRE IN	CONT-DUTY CURRENT <sup>3</sup> WIRES IN CABLES, CONDUITS, OR BUNDLES	FEET PER POUND BARE	OHMS PER 1000 FT. 25°C	CURRENT CARRYING CAPACITY <sup>4</sup> AT 700 C.M. PER AMP	DIA. IN MM.
			ENAM.	S.C.E.	D.C.C.	OPEN AIR					
1	289.3	83694	—	—	—	—	—	3.947	0.1264	119.6	7.348
2	257.6	66358	—	—	—	—	—	4.977	0.1593	94.8	6.544
3	229.4	52624	—	—	—	—	—	6.276	0.2009	75.2	5.827
4	204.3	41738	—	—	—	—	—	7.914	0.2633	59.6	5.189
5	181.9	33088	—	—	—	—	—	9.98	0.3195	47.3	4.621
6	162.0	26244	—	—	—	—	—	12.58	0.4028	37.5	4.115
7	144.3	20822	—	—	—	—	—	15.87	0.5080	29.7	3.665
8	128.5	16512	7.6	—	7.1	73	46	20.01	0.6405	23.6	3.264
9	114.4	13087	8.6	—	7.8	—	—	25.23	0.8077	18.7	2.906
10	101.9	10384	9.6	9.1	8.9	55	33	31.82	1.018	14.8	2.588
11	90.7	8226	10.7	—	9.8	—	—	40.12	1.284	11.8	2.305
12	80.8	6529	12.0	11.3	10.9	41	23	50.59	1.619	9.33	2.053
13	72.0	5184	13.5	—	12.8	—	—	63.8	2.042	7.40	1.828
14	64.1	4109	15.0	14	13.8	32	17	80.44	2.575	5.87	1.628
15	57.1	3260	16.8	—	14.7	—	—	101.4	3.247	4.65	1.450
16	50.8	2581	18.9	17.3	16.4	22	13	127.9	4.094	3.69	1.291
17	45.3	2052	21.2	—	18.1	—	—	161.3	5.163	2.93	1.150
18	40.3	1624	23.6	21.2	19.8	16	13	203.4	6.510	2.32	1.024
19	35.9	1289	26.4	—	21.8	—	—	256.5	8.210	1.84	0.912
20	32.0	1024	29.4	25.8	23.8	11	7.5	323.4	10.35	1.46	0.812
21	28.5	812	33.1	—	26.0	—	—	407.8	13.05	1.16	0.723
22	25.3	640	37.0	31.3	30.0	—	5	514.2	16.46	0.918	0.644
23	22.6	511	41.3	—	37.6	—	—	648.4	20.76	0.728	0.573
24	20.1	404	46.3	37.6	35.6	—	—	817.7	26.17	0.577	0.511
25	17.9	320	51.7	—	38.6	—	—	1031	33.00	0.458	0.455
26	15.9	253	58.0	46.1	41.8	—	—	1300	41.62	0.363	0.405
27	14.2	202	64.9	—	45.0	—	—	1639	52.48	0.280	0.361
28	12.6	159	72.7	54.6	48.5	—	—	2067	66.17	0.228	0.321
29	11.3	128	81.6	—	51.8	—	—	2607	83.4	0.181	0.286
30	10.0	100	90.5	64.1	55.5	—	—	3287	105.2	0.144	0.255
31	8.9	79	101	—	59.2	—	—	4145	132.7	0.114	0.227
32	8.0	64	113	74.1	62.6	—	—	5227	167.3	0.090	0.202
33	7.1	50	127	—	66.3	—	—	6591	211	0.072	0.180
34	6.3	40	143	86.2	70.0	—	—	8310	266	0.057	0.160
35	5.6	31	158	—	73.5	—	—	10480	335	0.045	0.143
36	5.0	25	175	103.1	77.0	—	—	13210	423	0.036	0.127
37	4.5	20	198	—	80.3	—	—	16660	533	0.028	0.113
38	4.0	16	224	116.3	83.6	—	—	21010	673	0.022	0.101
39	3.5	12	248	—	86.6	—	—	26500	848	0.018	0.090
40	3.1	10	282	131.6	89.7	—	—	33410	1070	0.014	0.080

## FOOTNOTES:

- <sup>1</sup> A mil is 0.001 inch. A circular mil (c.m.) is a square mil  $\times \pi/4$ . The circular mil area of a wire is the square of the mil diameter.
- <sup>2</sup> Figures are approximate; insulation thickness varies with manufacturer.
- <sup>3</sup> Maximum wire temperature of 212° F (100° C) and maximum ambient temperature of 135° F (57° C).
- <sup>4</sup> 700 circular mils per ampere is a satisfactory design figure for small transformers, but values from 500 to 1000 c.m. are commonly used.
- <sup>5</sup> Wire diameter and circular mil area will vary slightly from the solid wire figures shown if the wire is stranded.

# COPPER WIRE AWG / METRIC CONDUCTOR CHART (page 1 of 2)

AWG	STRANDING	DIAMETER		CIRCULAR MIL AREA	WEIGHT LBS./ 1000 FT.	WEIGHT KG/KM	D. C. RES. OHMS 1000 FT.	D. C. RES. OHMS/ K/M
		INCHES	MM					
36	Solid	.0050	0.127	25.0	.076	.113	445.0	1460.0
36	7/44	.006	0.152	28.0	.085	.126	371.0	1271.0
34	Solid	.0063	0.160	39.7	.120	.179	280.0	918.0
34	7/42	.0075	0.192	43.8	.132	.196	237.0	777.0
32	Solid	.008	0.203	67.3	.194	.289	174.0	571.0
32	7/40	.008	0.203	67.3	.203	.302	164.0	538.0
32	19/44	.009	0.229	76.0	.230	.342	136.0	448.0
30	Solid	.010	0.254	100.0	.300	.450	113.0	365.0
30	7/38	.012	0.305	112.0	.339	.504	103.0	339.0
30	19/42	.012	0.305	118.8	.359	.534	87.3	286.7
28	Solid	.013	0.330	159.0	.480	.720	70.8	232.0
28	7/36	.015	0.381	175.0	.529	.787	64.9	213.0
28	19/40	.016	0.406	182.6	.553	.823	56.7	186.0
27	7/35	.018	0.457	219.5	.664	.988	54.5	179.0
26	Solid	.016	0.409	256.0	.770	1.140	43.6	143.0
26	10/36	.021	0.533	250.0	.757	1.130	41.5	137.0
26	19/38	.020	0.508	304.0	.920	1.370	34.4	113.0
26	7/34	.019	0.483	277.8	.841	1.250	37.3	122.0
24	Solid	.020	0.511	404.0	1.22	1.820	27.3	89.4
24	7/32	.024	0.610	448.0	1.36	2.020	23.3	76.4
24	10/34	.023	0.582	396.9	1.20	1.790	26.1	85.6
24	19/36	.024	0.610	475.0	1.43	2.130	21.1	69.2
24	41/40	.023	0.582	384.4	1.16	1.730	25.6	84.0
22	Solid	.025	0.643	640.0	1.95	2.910	16.8	55.3
22	7/30	.030	0.762	700.0	2.12	3.160	14.7	48.4
22	19/34	.031	0.787	754.1	2.28	3.390	13.7	45.1
22	26/36	.030	0.762	650.0	1.97	2.930	15.9	52.3
20	Solid	.032	0.813	1020.0	3.10	4.610	10.5	34.6
20	7/28	.038	0.965	1111.0	3.49	5.190	10.3	33.8
20	10/30	.035	0.889	1000.0	3.03	4.050	10.3	33.9
20	19/32	.037	0.940	1216.0	3.70	5.480	8.6	28.3
20	26/34	.036	0.914	1031.9	3.12	4.640	10.0	33.0
20	41/36	.036	0.914	1025.0	3.10	4.610	10.0	32.9
18	Solid	.040	1.020	1620.0	4.92	7.320	6.6	21.8
18	7/26	.048	1.219	1769.6	5.36	7.980	5.9	19.2
18	16/30	.047	1.194	1600.0	4.84	7.200	8.5	21.3
18	19/30	.049	1.245	1900.0	5.75	8.560	5.5	17.9
18	41/34	.047	1.194	1627.3	4.92	7.320	6.4	20.9
18	65/36	.047	1.194	1625.0	4.91	7.310	6.4	21.0
16	Solid	.051	1.290	2580.0	7.81	11.600	4.2	13.7
16	7/24	.060	1.524	2828.0	8.56	12.740	3.7	12.0
16	65/34	.059	1.499	2579.9	7.81	11.620	4.0	13.2
16	26/30	.059	1.499	2600.0	7.87	11.710	4.0	13.1
16	19/29	.058	1.473	2426.3	7.35	10.940	4.3	14.0
16	105/36	.059	1.499	2625.0	7.95	11.830	4.0	13.1
14	Solid	.064	1.630	4110.0	12.40	18.500	2.6	8.6
14	7/22	.073	1.854	4480.0	13.56	20.180	2.3	7.6
14	19/27	.073	1.854	3830.4	11.59	17.250	2.7	8.9
14	41/30	.073	1.854	4100.0	12.40	18.450	2.5	8.3
14	105/34	.073	1.854	4167.5	12.61	18.770	2.5	8.2
12	Solid	.081	2.050	6,530.0	19.80	29.50	1.7	5.4
12	7/20	.096	2.438	7,168.0	21.69	32.28	1.5	4.8
12	19/25	.093	2.369	6,087.6	18.43	27.43	1.7	5.6
12	65/30	.095	2.413	6,500.0	19.66	29.26	1.8	5.7
12	165/34	.095	2.413	6,548.9	19.82	29.49	1.6	5.2
10	Solid	.102	2.590	1,038.0	31.40	46.80	1.0	3.4
10	37/26	.115	2.921	9,353.6	28.31	41.13	1.1	3.6
10	49/27	.116	2.946	9,878.4	29.89	44.48	1.1	3.6
10	105/30	.116	2.946	10,530.0	31.76	47.26	0.98	3.2

# COPPER WIRE AWG / METRIC CONDUCTOR CHART (page 2 of 2)

AWG	STRANDING	DIAMETER		CIRCULAR MIL AREA	WEIGHT LBS./ 1000 FT.	WEIGHT KG/KM	D. C. RES. OHMS 1000 FT.	D. C. RES. OHMS/ K/M
		INCHES	MM					
8	49/25	.147	3.734	15,697.0	47.53	70.73	0.67	2.2
8	133/29	.147	3.734	16,984.0	51.42	76.52	0.61	2.0
8	655/36	.147	3.734	16,625.0	49.58	73.78	0.62	2.0
6	133/27	.184	4.674	26,813.0	81.14	120.74	0.47	1.5
6	259/30	.184	4.674	25,900.0	78.35	116.59	0.40	1.3
6	1050/36	.184	4.674	26,250.0	79.47	118.26	0.39	1.3
4	133/25	.232	5.898	42,613.0	129.01	191.98	0.24	0.80
4	259/27	.232	5.898	52,214.0	158.02	235.15	0.20	0.66
4	1666/36	.232	5.898	41,650.0	126.10	187.65	0.25	0.82
2	133/23	.292	7.417	67,936.0	205.62	305.98	0.15	0.50
2	259/26	.292	7.417	65,475.0	198.14	294.85	0.16	0.52
2	665/30	.292	7.417	66,500.0	201.16	299.35	0.16	0.52
2	2646/36	.292	7.417	66,150.0	200.28	298.04	0.16	0.52
1	163,195.9	.328	8.331	85,133.0	257.60	383.34	0.12	0.40
1	172,508.0	.328	8.331	82,984.0	251.20	373.81	0.13	0.41
1	817/30	.328	8.331	81,700.0	247.10	367.71	0.13	0.42
1	2109/34	.328	8.331	83,706.0	253.29	376.92	0.12	0.41
1/0	133/21	.368	9.347	108,036.0	327.05	486.68	0.096	0.31
1/0	259/24	.368	9.347	104,636.0	316.76	471.37	0.099	0.32
2/0	133/20	.414	10.516	136,192.0	412.17	613.35	0.077	0.25
2/0	259/23	.414	10.516	132,297.0	400.41	595.85	0.077	0.25
3/0	259/22	.464	11.786	163,195.0	501.70	746.58	0.062	0.20
3/0	427/24	.464	11.786	172,508.0	522.20	777.09	0.059	0.19
4/0	259/21	.522	13.259	210,386.0	638.88	950.72	0.049	0.16
4/0	427/23	.522	13.259	218,112.0	660.01	982.16	0.047	0.15

# Solid Wire Information

Wire Gauge (AWG)	Nominal Wire Diameter (Inch)	Finished Hole Diameter Range (Inch)	Wire Gauge (AWG)	Nominal Wire Diameter (Inch)	Finished Hole Diameter Range (Inch)
36	.005	.016-.030	17	.045	.052-.066
35	.0056	.016-.030	16	.050	.057-.072
34	.006	.016-.030	15	.057	.064-.078
33	.007	.016-.030	14	.064	.071-.085
32	.008	.016-.030	13	.072	.078-.092
31	.009	.016-.030	12	.081	.088-.102
30	.010	.017-.031	11	.090	.097-.111
29	.011	.018-.032	10	.102	.109-.123
28	.013	.020-.034	9	.114	.121-.135
27	.014	.021-.035	8	.128	.135-.149
26	.016	.023-.037	7	.144	.151-.165
25	.018	.025-.039	6	.162	.169-.183
24	.020	.027-.041	5	.182	.189-.203
23	.023	.030-.044	4	.204	.211-.225
22	.025	.032-.046	3	.229	.236-.250
21	.028	.035-.049	2	.258	.265-.279
20	.032	.039-.053	1	.289	.296-.310
19	.036	.043-.057	0	.325	.332-.346
18	.040	.047-.061			

# Drill Size Chart

by Tom Clawges

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#	Size		#	Size		#	Size		#	Size	
	(in.)	(mm)		(in.)	(mm)		(in.)	(mm)		(in.)	(mm)
80	0.0135	0.343	53	0.0595	1.511	26	0.147	3.734	A	0.234	5.944
79	0.0145	0.368	52	0.0635	1.613	25	0.1495	3.797	B	0.238	6.045
78	0.016	0.406	51	0.067	1.702	24	0.152	3.861	C	0.242	6.147
77	0.018	0.457	50	0.07	1.778	23	0.154	3.912	D	0.246	6.248
76	0.02	0.508	49	0.073	1.854	22	0.157	3.988	E	0.25	6.350
75	0.021	0.533	48	0.076	1.930	21	0.159	4.039	F	0.257	6.528
74	0.0225	0.572	47	0.0785	1.994	20	0.161	4.089	G	0.261	6.629
73	0.024	0.610	46	0.081	2.057	19	0.166	4.216	H	0.266	6.756
72	0.025	0.635	45	0.082	2.083	18	0.1695	4.305	I	0.272	6.909
71	0.026	0.660	44	0.086	2.184	17	0.173	4.394	J	0.277	7.036
70	0.028	0.711	43	0.089	2.261	16	0.177	4.496	K	0.281	7.137
69	0.0292	0.742	42	0.0935	2.375	15	0.18	4.572	L	0.29	7.366
68	0.031	0.787	41	0.096	2.438	14	0.182	4.623	M	0.295	7.493
67	0.032	0.813	40	0.098	2.489	13	0.185	4.699	N	0.302	7.671
66	0.033	0.838	39	0.0995	2.527	12	0.189	4.801	O	0.316	8.026
65	0.035	0.889	38	0.1015	2.578	11	0.191	4.851	P	0.323	8.204
64	0.036	0.914	37	0.104	2.642	10	0.1935	4.915	Q	0.332	8.433
63	0.037	0.940	36	0.1065	2.705	9	0.196	4.978	R	0.339	8.611
62	0.038	0.965	35	0.11	2.794	8	0.199	5.055	S	0.348	8.839
61	0.039	0.991	34	0.111	2.819	7	0.201	5.105	T	0.358	9.093
60	0.04	1.016	33	0.113	2.870	6	0.204	5.182	U	0.368	9.347
59	0.041	1.041	32	0.116	2.946	5	0.2055	5.220	V	0.377	9.576
58	0.042	1.067	31	0.12	3.048	4	0.209	5.309	W	0.386	9.804
57	0.043	1.092	30	0.1285	3.264	3	0.213	5.410	X	0.397	10.084
56	0.0465	1.181	29	0.136	3.454	2	0.221	5.613	Y	0.404	10.262
55	0.052	1.321	28	0.1405	3.569	1	0.228	5.791	Z	0.413	10.490
54	0.055	1.397	27	0.144	3.658						

# Hardware

	2-56	4-40	6-32	8-32	10-32	1/4-28
Flat Head Diameter	.172	.225	.279	.332	.385	.507
Pan Head Diameter	.167	.219	.270	.332	.373	.492
Socket Head Diameter	.140	.185	.266	.270	.313	.375
External Lock Washer	N/A	.260-.115	.320-.141	.381-.168	.410-.195	.510-.256
Internal Lock Washer	.200-.089	.270-.115	.295-.141	.340-.168	.381-.195	.478-.256
Split Lock Washer	.172-.088	.209-.115	.250-.141	.293-.168	.334-.194	.489-.255
Flat Washer	.250-.089	.220-.120	.390-.151	.390-.183	.577-.245	.646-.276
Nut Clearance	.217	.289	.361	.397	.433	.508
Clearance Hole	.089 (#43)	.116 (#32)	.144 (#27)	.170 (#18)	.196 (#9)	.257 (#F)
Tap Hole	.070 (#50)	.089 (#43)	.106 (#36)	.136 (#29)	.159 (#21)	.213 (#3)

Courtesy of: George Patrick (gpatrik@aracnet.com)

(All decimal values in inches, numbers in parentheses are drill size)

# Current-Carrying Capacity of PC Board Lands

## 1 oz. Copperclad, Internal Conductors

Land Width	Ambient Temp			
	0°C	20°C	30°C	45°C
.005"	200 mA	225 mA	250 mA	275 mA
.010"	400 mA	450 mA	600 mA	750 mA
.015"	550 mA	600 mA	750 mA	1.0 A
.020"	650 mA	700 mA	800 mA	1.2 A
.025"	750 mA	1.0 A	1.2 A	1.7 A
.050"	1.5 A	1.7 A	2.2 A	2.8 A
.100"	2.2 A	3.1 A	3.7 A	4.5 A
.150"	3.0 A	4.0 A	5.2 A	6.1 A

Courtesy of: George Patrick <http://www.aracnet.com/gpatrick/>

The following was taken from the EXpressPCB website at:

<http://www.expresspcb.com/ExpressPCBHtml/Tips.htm>

Traces that carry significant current should be wider than signal traces. The table below gives rough guidelines of how wide to make a trace for a given amount of current.

0.010" 0.3 Amps  
0.015" 0.4 Amps  
0.020" 0.7 Amps  
0.025" 1.0 Amps  
0.050" 2.0 Amps  
0.100" 4.0 Amps  
0.150" 6.0 Amps

When placing a trace, it is very important to think about the space between the trace and any adjacent traces or pads. You want to make sure that there is a minimum gap of 0.007" between items, 0.010" is better. Leaving less blank space runs the risk of a short developing in the board manufacturing process. It is also necessary to leave larger gaps when working with high voltage.

# CONVERSION VALUES

## EIA CODING (for capacitors)

EIA Code	Micro-Farad (μF)	Nano-Farad (nF)	Pico-Farad
010	.000001	.001	1
100	.00001	.01	10
101	.0001	.1	100
102	.001	1.0	1,000
103	.01	10	10,000
104	.1	100	100,000
105	1.0	1,000	1,000,000
106	10	10,000	10,000,000

If the value is a 3-digit value, the first two digits are the significant digits of the value and the 3rd digit represents the number of zeros which follow. Values in pF for caps, and Ohms for resistors.

Example: For a capacitor marked "273", the value of the capacitor would be "27"+"000" = 27,000pF, 27nF, or .027uF.

## MILLIMETERS TO INCHES (1mm = .03937")

mm	inches
0.1	.0039
0.2	.0079
0.3	.0118
0.4	.0157
0.5	.0197
0.6	.0236
0.7	.0276
0.8	.0315
0.9	.0354
1.0	.0394
2.0	.0787
3.0	.1181
4.0	.1575
5.0	.1969
6.0	.2362
7.0	.2756
8.0	.3150
9.0	.3543

mm	inches
10	0.3937
11	0.4331
12	0.4724
13	0.5118
14	0.5512
15	0.5906
16	0.6299
17	0.6693
18	0.7087
19	0.7480
20	0.7874
21	0.8268
22	0.8661
23	0.9055
24	0.9449
25	0.9843
26	1.0236
27	1.0630

mm	inches
28	1.1024
29	1.1417
30	1.1811
31	1.2205
32	1.2598
33	1.2992
34	1.3386
35	1.3780
36	1.4173
37	1.4567
38	1.4961
39	1.5354
40	1.5748
41	1.6142
42	1.6535
43	1.6929
44	1.7323
45	1.7717

mm	inches
46	1.8110
47	1.8504
48	1.8898
49	1.9291
50	1.9685
51	2.0079
52	2.0472
53	2.0866
54	2.1260
55	2.1654
56	2.2047
57	2.2441
58	2.2835
59	2.3228
60	2.3622
61	2.4016
62	2.4409
63	2.4803

mm	inches
64	2.5197
65	2.5591
66	2.5984
67	2.6378
68	2.6772
69	2.7165
70	2.7559
71	2.7953
72	2.8346
73	2.8740
74	2.9134
75	2.9528
76	2.9921
77	3.0315
78	3.0709
79	3.1102
80	3.1496
81	3.1890

mm	inches
82	3.2283
83	3.2677
84	3.3071
85	3.3465
86	3.3858
87	3.4252
88	3.4646
89	3.5039
90	3.5433
91	3.5827
92	3.6220
93	3.6614
94	3.7008
95	3.7402
96	3.7795
97	3.8189
98	3.8583
99	3.8976

## FRACTIONAL INCHES TO DECIMAL INCHES & MILLIMETERS (1" = 25.04mm)

Fraction	Decimal	mm
1/64	0.015625	0.397
1/32	0.03125	0.794
3/64	0.046875	1.191
1/16	0.0625	1.588
5/64	0.078125	1.984
3/32	0.09375	2.381
7/64	0.109375	2.778
1/8	0.1250	3.175
9/64	0.140625	3.572
5/32	0.15625	3.969
11/64	0.171875	4.366
3/16	0.1875	4.763
13/64	0.203125	5.159
7/32	0.21875	5.556
15/64	0.234375	5.953
1/4	0.2500	6.350

Fraction	Decimal	mm
17/64	0.265625	6.747
9/32	0.28125	7.144
19/64	0.296875	7.541
5/16	0.3125	7.938
21/64	0.328125	8.334
11/32	0.34375	8.731
23/64	0.359375	9.128
3/8	0.3750	9.525
25/64	0.390625	9.922
13/32	0.40625	10.319
27/64	0.421875	10.716
7/16	0.4375	11.113
29/64	0.453125	11.509
15/32	0.46875	11.906
31/64	0.484375	12.303
1/2	0.5000	12.700

Fraction	Decimal	mm
33/64	0.515625	13.097
17/32	0.53125	13.494
35/64	0.546875	13.891
9/16	0.5625	14.288
37/64	0.578125	14.684
19/32	0.59375	15.081
39/64	0.609375	15.478
5/8	0.6250	15.875
41/64	0.640625	16.272
21/32	0.65625	16.669
43/64	0.671875	17.066
11/16	0.6875	17.463
45/64	0.703125	17.859
23/32	0.71875	18.256
47/64	0.734375	18.653
3/4	0.7500	19.050

Fraction	Decimal	mm
49/64	0.765625	19.447
25/32	0.78125	19.844
51/64	0.796875	20.241
13/16	0.8125	20.638
53/64	0.828125	21.034
27/32	0.84375	21.431
55/64	0.859375	21.828
7/8	0.8750	22.225
57/64	0.890625	22.622
29/32	0.90625	23.019
59/64	0.921875	23.416
15/16	0.9375	23.813
61/64	0.953125	24.209
31/32	0.96875	24.606
63/64	0.984375	25.003
1	1.000	25.400

## CALCULATING WIRE LENGTHS FOR WINDING TOROIDS

Wire length = (Number of Turns X IPT) + 6" (for leads)

CORE TYPE	IPT	CORE TYPE	IPT
T-12	0.163	T-400	3.050
T-16	0.202	T-400A	4.350
T-20	0.252	T-520	3.720
T-25	0.327	FT-23	0.230
T-30	0.412	FT-37	0.438
T-37	0.426	FT-50	0.595
T-44	0.529	FT-50A	0.688
T-50	0.577	FT-50B	1.188
T-68	0.700	FT-82	0.809
T-80	0.800	FT-87	0.835
T-94	1.006	FT-87A	1.335
T-106	1.364	FT-114	1.045
T-130	1.394	FT-114A	1.070
T-157	1.760	FT-140	1.500
T-184	2.300	FT-140A	1.692
T-200	1.850	FT-150	1.250
T-225	1.950	FT-150A	1.750
T-225A	2.850	FT-193	1.930
T-300	2.080	FT-193A	2.180
T-300A	3.080	FT-240	2.000

**Example:** 37T on a T-50 core requires (37 X .577") 21.4 inches of wire for the winding itself. Add 6" of wire to allow for 'working' length while winding the turns, plus the eventual wire leads. So, the final wire length required for 37T of a T-50 core is about 27".