

## SECTION 2

### NOMINAL AREAS AND DIMENSIONS OF ROUND BARE CONDUCTORS WHOLE AWG SIZES. VALUES AT 20°C.

From NBS Handbook 100—Copper Wire Tables  
National Technical Information Service, 5285 Port Royal  
Road, Springfield, Virginia 22161 USA

AWG SIZE	BARE WIRE DIAMETER		CROSS SECTIONAL AREA			AWG SIZE
	(inches)	mm	(A) CIRC. MILS	SQ. mm	(B) SQ. MILS	
5/0	0.5165	13.119	266772	135.18	209523	5/0
4/0	0.4600	11.684	211600	107.23	166200	4/0
3/0	0.4096	10.404	167772	85.01	131800	3/0
2/0	0.3648	9.266	133079	67.43	104500	2/0
1/0	0.3249	8.251	105560	53.49	82910	1/0
1	0.2893	7.348	83690	42.41	65730	1
2	0.2576	6.543	66370	33.62	52120	2
3	0.2294	5.827	52630	26.67	41330	3
4	0.2043	5.189	41740	21.15	32780	4
5	0.1819	4.620	33090	16.77	25990	5
6	0.1620	4.115	26240	13.30	20610	6
7	0.1443	3.665	20820	10.55	16350	7
8	0.1285	3.264	16510	8.367	12970	8
9	0.1144	2.906	13090	6.631	10280	9
10	0.1019	2.588	10380	5.261	8155	10
11	0.0907	2.304	8226	4.168	6461	11
12	0.0808	2.052	6529	3.308	5128	12
13	0.0720	1.829	5184	2.627	4072	13
14	0.0641	1.628	4109	2.082	3227	14
15	0.0571	1.450	3260	1.652	2561	15
16	0.0508	1.290	2581	1.308	2027	16
17	0.0453	1.151	2052	1.04	1612	17
18	0.0403	1.024	1624	0.8229	1276	18
19	0.0359	0.912	1289	0.6531	1012	19
20	0.0320	0.813	1024	0.5189	804.2	20

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	(inches)	mm	(A) CIRC. MILS	(B) SQ. mm	(B) SQ. MILS	
21	0.0285	0.7240	812.300	0.411600	637.9	21
22	0.0253	0.643	640.100	0.324300	502.7	22
23	0.0226	0.574	510.800	0.258800	401.2	23
24	0.0201	0.511	404.000	0.204700	317.3	24
25	0.0179	0.455	320.400	0.162400	251.7	25
26	0.0159	0.404	252.800	0.128100	198.6	26
27	0.0142	0.361	201.600	0.102200	158.4	27
28	0.0126	0.320	158.800	0.080450	124.7	28
29	0.0113	0.287	127.700	0.064700	100.3	29
30	0.0100	0.254	100.000	0.050670	78.54	30
31	0.0089	0.226	79.210	0.040140	62.21	31
32	0.0080	0.203	64.000	0.032430	50.27	32
33	0.0071	0.180	50.410	0.025540	39.59	33
34	0.0063	0.160	39.690	0.020110	31.17	34
35	0.0056	0.142	31.360	0.015890	24.63	35
36	0.0050	0.127	25.000	0.012670	19.64	36
37	0.0045	0.114	20.250	0.010260	15.9	37
38	0.0040	0.102	16.000	0.008107	12.57	38
39	0.0035	0.089	12.250	0.006207	9.621	39
40	0.0031	0.079	9.610	0.004869	7.548	40
41	0.0028	0.071	7.840	0.003973	6.158	41
42	0.0025	0.064	6.250	0.003167	4.909	42
43	0.0022	0.056	4.840	0.002452	3.801	43
44	0.0020	0.051	4.000	0.002027	3.142	44

## FOOTNOTES:

(A) Circular Mil Area =  $D^2$ (B) Square Mil Area =  $\frac{\pi}{4} D^2 = 0.7854 D^2$ Where D = Diameter of the bare conductor in mils  
(1/1000 inches),

i.e., 0.0403 inch diameter = 40.3 mils