



CONSTRUCTION

Alan Wire Bare Copper conductors are normally annealed (soft) copper, solid are stranded per ASTM B3 and ASTM B8. Medium-hard drawn tempers and Hard-drawn tempers are also available in some sizes.

- » Sizes 14 AWG through 2 AWG are available in solid
- » Sizes 250 MCM through 500 MCM are available in 37 strand
- » Sizes 8 AWG through 2 AWG are available in 7 strand
- » Sizes 600 MCM and 750 MCM are available in 61 strand
- » Sizes 1 AWG through 4/0 AWG are available in 7 or 19 strand

APPLICATIONS

Bare copper conductors are suitable for use in electrical grounding systems and in overhead electrical transmission and distribution systems as specified in the National Electrical Code where high-conductivity are required for equipment grounding and bonding.

SPECIFICATIONS

- » ASTM B1 for Hard Drawn Bare Copper (*select availability*)
- » ASTM B2 for Medium Hard Drawn Bare Copper (*select availability*)
- » ASTM B3 for Soft or Annealed Copper Wire
- » ASTM B8 Concentric Stranded Copper Conductors
- » MasterSpec Division 26 Sections 260519
- » REA/RUS Approved
- » RoHS compliant
- » ARRA 2009 Section 1605 "Buy American" compliant
- » Federal Standard QQ-W-343
- » Build America, Buy America Act compliant

				Soft-Drawn (Annealed)			
Size (AWG)	Stranding	Outside Diameter (in)	Area (cmils)	Rated Strength (lbs)	DC Resistance (Ohms/1000 ft @ 20° C)	Approx. Net Weight (lbs/1000 ft)	Standard Packaging (ft)
14	Solid	0.0641	4110	124	2.5700	12.4	2000' reels
12	Solid	0.0808	6530	197	1.6200	19.8	1250' reels
10	Solid	0.1019	10380	314	1.0190	31.4	800' reels
8	Solid	0.1285	16510	479	0.6407	50	500', 1000', 2500', 5000' reels / 25 lb spools
6	Solid	0.1620	26240	762	0.4031	79.5	315', 500', 1000', 2500', 5000' reels / 25 lb spools
4	Solid	0.2043	41740	1214	0.2535	126.4	200', 500', 1000', 2500', 5000' reels / 25 lb spools
2	Solid	0.2576	66360	1930	0.1594	200.9	500', 1000', 2500', 5000' reels / 25 lb (125', 2/carton) spools
8	7	0.1460	16510	498	0.6408	51	500', 1000', 2500', 5000' reels / 25 lb spools
6	7	0.1840	26240	795	0.4030	81	315', 500', 1000', 2500', 5000' reels / 25 lb spools
4	7	0.2320	41740	1320	0.2530	129	200', 500', 1000', 2500', 5000' reels / 25 lb spools
3	7	0.2600	52620	1670	0.2010	162	500', 1000', 5000' reels
2	7	0.2920	66360	2110	0.1590	205	125', 500', 1000', 2500', 5000' reels / 25 lb spools
1/0	7 or 19	0.3280	105600	2552	0.1022	258	500', 1000', 2500', 5000' reels
2/0	7 or 19	0.3600	133100	3221	0.07910	326	500', 1000', 2500', 5000' reels
3/0	7 or 19	0.4540	167800	5118	0.06274	411	500', 1000', 2500', 5000' reels
4/0	7 or 19	0.5100	211600	6459	0.0497	518	500', 1000', 2500', 5000' reels
250	37	0.5420	250000	7942	0.0421	653	500', 1000', 2500', 5000' reels
300	37	0.5940	300000	9164	0.0351	772	500', 1000', 2500' reels
350	37	0.6410	350000	10685	0.0300	1081	500', 1000', 2500' reels
400	37	0.6850	400000	13435	0.0263	1235	500', 1000', 2500' reels
500	37	0.7660	500000	15242	0.0210	1544	500', 1000' reels
600	61	0.8930	600000	18300	0.01754	1883	500', 1000' reels
750	61	0.9980	750000	22894	0.01059	2316	500' reels

ASTM specifications B1, B2, B3 and B8 provided for your reference.

BARE SOLID COPPER WIRE

		NOMINAL WEIGHT	HARD DRAWN		MEDIUM HARD DRAWN			SOFT DRAWN	
Size (AWG)	Nominal Diameter (in)	Lbs. / M ft.	Min. Breaking Strength (lbs)	Max. d-c resistance @ 20 C Ohms / M ft.	Min. Breaking Strength (lbs)	Max. Breaking Strength (lbs)	Max. d-c resistance @ 20 C Ohms / M ft.	Max. Breaking Strength (lbs)	Max. d-c resistance @ 20 C Ohms / M ft.
14	0.0641	12.4	214	2.63	167	189	2.61	124	2.52
12	0.0808	19.8	337	1.65	262	297	1.64	197	1.59
10	0.1019	31.43	529.3	1.039	410.4	467.5	1.033	314	.9988
8	0.1285	49.98	826.1	.6532	644.0	734.8	.6498	479.8	.6281
6	0.1620	79.44	1280	.411	1010	1154	.4088	762.6	.3952
4	0.2043	126.3	1970	.2584	1584	1814	.2571	1213	.2485
2	0.2576	200.9	3002	.1625	2450	2814	.1617	1928	.1563
1	0.2893	253.3	3688	.1289	3024	3484	.1282	2432	.1239
1/0	0.3249	319.5	4518	.1022	3731	4311	.1016	2985	.09825
2/0	0.3648	402.8	5519	.08021	4599	5330	.07980	3763	.07793
3/0	0.4096	507.8	6720	.06362	5666	6588	.06330	4744	.06182
4/0	0.4600	640.5	8143	.05045	6980	8143	.05019	5983	.04901

CONCENTRIC STRANDED COPPER CONDUCTORS

				CLASS AA		CLASS A		CLASS B		CLASS C	
Size (AWG)	Cross Sectional Area Circular Mils	Approx Overall Diameter inches	Approx Weight lbs / M ft.	Number of Wires	Nominal Diameter of Wires Inches	Number of Wires	Nominal Diameter of Wires Inches	Number of Wires	Nominal Diameter of Wires Inches	Number of Wires	Nominal Diameter of Wires Inches
14	4,110	0.0726	12.68	-	-	-	-	7	.0242	19	.0147
12	6,530	0.0915	20.16	-	-	-	-	7	.0305	19	.0185
10	10,380	0.116	32.06	-	-	-	-	7	.0385	19	.0234
8	16,510	0.146	50.97	-	-	-	-	7	.0486	19	.0295
6	26,240	0.184	81.05	-	-	-	-	7	.0612	19	.0372
4	41,740	0.232	128.9	3	.1180	7	.0772	7	.0772	19	.0469
3	52,620	0.260	162.5	3	.1325	7	.0867	7	.0867	19	.0526
2	66,360	0.292	204.9	3	.1487	7	.0974	7	.0974	19	.0591
1	83,690	0.332	258.4	3	.1670	7	.1093	19	.0664	37	.0476
1/0	105,500	0.373	325.8	7	.1228	7	.1228	19	.0745	37	.0534
2/0	133,100	0.419	410.9	7	.1379	7	.1379	19	.0837	37	.0600
3/0	167,800	0.470	518.1	7	.1548	7	.1548	19	.0940	37	.0673
4/0	211,600	0.528	653.3	7	.1739	19	.1739	19	.1055	37	.0756
250 MCM	250,000	0.575	771.9	12	.1443	19	.1147	37	.0822	61	.0640
300 MCM	300,000	0.630	926.3	12	.1581	19	.1257	37	.0900	61	.0701
350 MCM	350,000	0.681	1081	12	.1703	19	.1357	37	.0973	61	.0757
400 MCM	400,000	0.728	1235	19	.1451	19	.1451	37	.1040	61	.0810
450 MCM	450,000	0.772	1389	19	.1539	37	.1103	37	.1103	61	.0859
500 MCM	500,000	0.813	1544	19	.1622	37	.1162	37	.1162	61	.0905

The information provided on this page is general in nature and has been summarized from ASTM specifications B1, B2, B3 and B8. It is intended to be used as a reference to show basic properties and characteristics of bare copper wire and to give industry-wide manufacturing specifications. All sizes listed are not necessarily manufactured by Alan Wire Company. See the front of this sheet for company-specific product information.