

Copperweld's innovative Copperlite™ brand copper-clad aluminum wire represents a strong advantage in many applications over solid copper wire alone.

Our patented cold cladding technology permanently bonds lightweight, flexible aluminum wire to a concentric layer of highly conductive copper to create components that combine the best qualities of both metals.

Thanks to its remarkable conductivity-to-weight ratio ($\geq 63\%$ IACS at only 37% of the density of pure copper), it is easier to handle and install, which reduces labor costs and cuts shrink. More pliable than pure copper, and without the insulating oxide of pure aluminum, electrical connections are more secure and efficient.

NOTE: Properties noted in these data sheets are **minimum** values for typical products. If your application requires performance values beyond those noted, please contact Copperweld's Engineering Support Center at engineering@copperweld.com or **+1.615.377.4200**. Material selection, varying composition and processing conditions all provide flexibility in how Copperweld can deliver exactly the product you need. Copperlite™ conductors from Copperweld offer many distinct advantages, and our engineering team works in concert with our clients to determine the proper components for the stringent requirements of their products.

PHYSICAL AND ELECTRICAL PROPERTIES OF COPPERLITE™ WIRE
10% COPPER BY VOLUME
(METRIC UNITS)

DIAMETER (mm)	WIRE CROSS SECTIONAL AREA (mm ²)	NOMINAL COPPER THICKNESS (mm)	WEIGHT (kg/km)		MAXIMUM DC RESISTANCE (Ω /km)		DIAMETER (mm)
			10% COPPERLITE	COPPER	10% COPPERLITE	COPPER	
8.0	50.265	0.200	166.88	446.86	0.557	0.364	8.0
7.5	44.179	0.188	146.67	392.75	0.633	0.414	7.5
7.0	38.485	0.175	127.77	342.13	0.727	0.475	7.0
6.5	33.183	0.163	110.17	295.00	0.843	0.551	6.5
6.0	28.274	0.150	93.871	251.36	0.990	0.647	6.0
5.5	23.758	0.138	78.878	211.21	1.178	0.770	5.5
5.0	19.635	0.125	65.188	174.55	1.425	0.932	5.0
4.5	15.904	0.113	52.802	141.39	1.760	1.150	4.5
4.0	12.566	0.100	41.720	111.72	2.227	1.456	4.0
3.5	9.6211	0.088	31.942	85.532	2.909	1.901	3.5
3.0	7.0686	0.075	23.468	62.840	3.959	2.588	3.0
2.5	4.9087	0.063	16.297	43.639	5.701	3.727	2.5
2.0	3.1416	0.050	10.430	27.929	8.909	5.823	2.0
1.9	2.8353	0.048	9.4132	25.206	9.871	6.452	1.9
1.8	2.5447	0.045	8.4484	22.622	11.00	7.189	1.8
1.7	2.2698	0.043	7.5357	20.179	12.33	8.060	1.7
1.6	2.0106	0.040	6.6753	17.874	13.92	9.099	1.6
1.5	1.7671	0.038	5.8669	15.710	15.84	10.35	1.5
1.4	1.5394	0.035	5.1107	13.685	18.18	11.88	1.4
1.3	1.3273	0.033	4.4067	11.800	21.09	13.78	1.3
1.2	1.1310	0.030	3.7548	10.054	24.75	16.18	1.2
1.1	0.9503	0.028	3.1551	8.4484	29.45	19.25	1.1
1.0	0.7854	0.025	2.6075	6.9822	35.63	23.29	1.0
0.9	0.6362	0.023	2.1121	5.6556	43.99	28.76	0.9
0.8	0.5027	0.020	1.6688	4.4686	55.68	36.39	0.8
0.7	0.3848	0.018	1.2777	3.4213	72.72	47.54	0.7
0.6	0.2827	0.015	0.9387	2.5136	98.98	64.70	0.6
0.5	0.1963	0.013	0.6519	1.7455	142.5	93.17	0.5
0.4	0.1257	0.010	0.4172	1.1172	222.7	145.6	0.4
0.3	0.0707	0.008	0.2347	0.6284	395.9	258.8	0.3
0.2	0.0314	0.005	0.1043	0.2793	890.9	582.3	0.2
0.1	0.0079	0.003	0.0261	0.0698	3,563	2,329	0.1



SPECIFICATIONS:

ASTM B-566 Copper Clad Aluminum Wire

PHYSICAL AND ELECTRICAL PROPERTIES OF COPPERLITE™ WIRE

10% COPPER BY VOLUME
(US/IMPERIAL UNITS)

AWG	DIAMETER (in)	WIRE CROSS SECTIONAL AREA		NOMINAL COPPER THICKNESS (in)	WEIGHT (lbs/1000 ft)		MAXIMUM DC RESISTANCE (Ω/1000 ft)		AWG
		SQUARE INCHES (in ²)	CIRCULAR MILS (cmil)		10% COPPERLITE™	COPPER	10% COPPERLITE™	COPPER	
0	0.3249	0.082907	105,560	0.00812	119.4	319.6	0.159	0.104	0
1	0.2893	0.065733	83,694	0.00723	94.66	253.4	0.201	0.131	1
2	0.2576	0.052117	66,358	0.00644	75.05	200.9	0.254	0.166	2
3	0.2294	0.041331	52,624	0.00574	59.52	159.3	0.320	0.209	3
4	0.2043	0.032781	41,738	0.00511	47.21	126.4	0.403	0.264	4
5	0.1819	0.025987	33,088	0.00455	37.42	100.2	0.509	0.333	5
6	0.1620	0.020612	26,244	0.00405	29.68	79.45	0.641	0.419	6
7	0.1443	0.016354	20,822	0.00361	23.55	63.03	0.809	0.528	7
8	0.1285	0.012969	16,512	0.00321	18.67	49.99	1.020	0.666	8
9	0.1144	0.010279	13,087	0.00286	14.80	39.62	1.286	0.841	9
10	0.1019	0.008155	10,384	0.00255	11.74	31.43	1.621	1.060	10
11	0.0907	0.006461	8,226	0.00227	9.304	24.90	2.046	1.338	11
12	0.0808	0.005128	6,529	0.00202	7.384	19.76	2.579	1.685	12
13	0.0720	0.004072	5,184	0.00180	5.863	15.69	3.247	2.123	13
14	0.0641	0.003227	4,109	0.00160	4.647	12.44	4.097	2.678	14
15	0.0571	0.002561	3,260	0.00143	3.687	9.870	5.163	3.375	15
16	0.0508	0.002027	2,581	0.00127	2.919	7.812	6.524	4.264	16
17	0.0453	0.001612	2,052	0.00113	2.321	6.212	8.204	5.362	17
18	0.0403	0.001276	1,624	0.00101	1.837	4.917	10.37	6.775	18
19	0.0359	0.001012	1,289	0.00090	1.458	3.902	13.06	8.538	19
20	0.0320	0.000802	1,021	0.00080	1.155	3.092	16.48	10.77	20
21	0.0286	0.000644	820	0.00072	0.928	2.483	20.52	13.41	21
22	0.0253	0.000505	642	0.00063	0.727	1.945	26.20	17.13	22
23	0.0226	0.000400	509	0.00056	0.576	1.542	33.04	21.60	23
24	0.0201	0.000317	404	0.00050	0.457	1.223	41.67	27.23	24
25	0.0179	0.000252	320	0.00045	0.362	0.970	52.54	34.34	25
26	0.0159	0.000200	254	0.00040	0.287	0.769	66.25	43.30	26
27	0.0142	0.000158	202	0.00035	0.228	0.610	83.54	54.60	27
28	0.0126	0.000126	160	0.00032	0.181	0.484	105.35	68.86	28
29	0.0113	0.000100	127	0.00028	0.143	0.384	132.8	86.82	29
30	0.0100	0.000079	101	0.00025	0.114	0.304	167.5	109.5	30
31	0.0089	0.000063	80	0.00022	0.090	0.241	211.2	138.1	31
32	0.0080	0.000050	63	0.00020	0.071	0.191	266.4	174.1	32
33	0.0071	0.000039	50	0.00018	0.057	0.152	335.9	219.5	33
34	0.0063	0.000031	40	0.00016	0.045	0.120	423.5	276.8	34
35	0.0056	0.000025	32	0.00014	0.036	0.095	534.0	349.0	35
36	0.0050	0.000020	25	0.00013	0.028	0.076	673.4	440.2	36
37	0.0045	0.000016	20	0.00011	0.022	0.060	849.0	554.9	37
38	0.0040	0.000012	16	0.00010	0.018	0.048	1,071	699.9	38

COPPERLITE™ COPPER-CLAD ALUMINUM 10% COPPER (US/IMPERIAL)



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