

Common Physical/Electrical Properties

AWG Conductor Chart Copper Conductor Data

The following data covers the more commonly used conductor constructions in the electrical and electronics industry. Special constructions, not shown, are available or can be designed to meet specific requirement.

AWG	STRANDING	TYPE	DIAMETER ⁴		AREA		WEIGHT		D.C. RESISTANCE 20 C ²		BARE OR SILVER COATING		BREAK STR. LBS.
			IN.	MM.	CIRC. MILS	SQ. MM.	LBS/M	KG./KM.	TIN COATING ³		OHMS/M		
									OHMS/M	OHMS/KM.	OHMS/M	OHMS/KM.	
32	7/40	CO OR BU	.0096	.254	100	.051	.21	.31	176	577	-	-	1.986
30	SOLID	-	.010	.254	100	.051	.30	.45	113	371	104	340	3.157
	7/38	BU	.012	.305	112	.057	.35	.52	106	348	92.6	303	
28	SOLID	-	.01264	.321	159	.081	.48	.72	70.8	232	65.3	214	5.020
	7/36	CO	.015	.381	175	.089	.55	.82	67.5	221	59.3	194	
27	SOLID	-	.0142	.361	202	.102	.61	.91	55.6	182	51.4	169	6.331
	7/35	CO or BU	.017	.432	220	.111	.69	1.04	53.8	176	-	-	
26	SOLID	-	.016	.404	253	.128	.77	1.14	44.5	146	41	135	7.983
	7/34	CO or BU	.019	.483	278	.141	.87	1.29	42.5	139	37.3	122	
	10/36	BU	.0193	.490	250	.127	.78	1.15	47.3	155	40.4	133	
	19/38	CO or BU	.021	.533	304	.154	.97	1.44	38.9	128	34.1	112	
24	SOLID	-	.0201	.511	404	.205	1.22	1.82	27.2	89.2	25.7	84.2	12.69
	7/32	CO or BU	.024	.610	448	.227	1.38	2.05	25.7	84.2	23.1	75.9	
	16/36	BU	.024	.610	400	.201	1.25	1.64	29.5	96.8	27.5	90.2	
	19/36	CO or BU	.025	.635	475	.241	1.48	2.20	24.9	81.7	21.8	71.6	
22	SOLID	-	.025	.643	643	.324	1.94	2.89	16.7	54.8	16.2	53.2	19.43
	7/30	CO or BU	.030	.762	700	.355	2.19	3.26	16.6	54.4	14.8	48.6	
	19/34	BU or EQ	.0315	.800	754	.382	2.35	3.50	15.6	50.8	13.8	45.1	
	SOLID	-	.032	.813	1020	.519	3.1	4.61	10.5	34.4	10.1	33.2	
20	7/28	CO or BU	.038	.965	1111	.562	3.49	5.19	10.3	33.8	9.33	30.6	30.89
	10/30	BU	.037	.940	1000	.507	3.14	4.67	11.4	37.4	10.4	34	
	19/32	CO, BU or EQ	.040	1.02	1216	.616	3.84	5.71	9.48	31.1	8.53	28	
	26/34	BU	.039	.940	1032	.523	3.28	4.88	11.3	37.1	-	-	
19	SOLID	-	.0359	.912	1290	.653	3.90	5.80	-	-	8.05	26.4	38.95
	SOLID	-	.0403	1.024	1620	.823	4.92	7.32	6.77	22.2	6.39	21	
18	7/26	CO or BU	.048	1.22	1770	.897	5.55	8.26	6.45	21.2	5.55	19.2	49.12
	16/30	BU	.0475	1.207	1600	.810	5.01	7.45	7.15	23.4	6.48	21.3	
	19/30	CO, BU or EQ	.050	1.27	1900	.963	5.95	8.85	6.10	20	5.46	17.9	
	41/34	BU	.049	1.244	1627	.824	5.09	7.08	7.08	23.2	6.6	21.6	
16	SOLID	-	.0508	1.29	2580	1.31	7.81	11.6	4.47	14.7	4.16	13.6	78.10

	19/29 ⁴	BU or EQ	.057	1.45	2426	1.23	7.52	11.2	4.82	15.8	4.27	14	
	19/0117	BU	.0585	1.50	2601	1.32	8.02	11.9	4.39	14.4	4.13	13.5	
	26/30	BU	.0606	1.54	2600	1.32	8.15	12.1	4.39	14.4	3.99	13.1	
	65/34	BU	.060	1.52	2581	1.31	8.20	11.9	4.47	14.7	4.16	13.6	
	SOLID	-	.0641	1.63	4110	2.08	12.4	18.5	2.68	8.79	2.52	8.28	
	7/0242	BU	.073	1.85	4100	2.08	12.7	18.9	-	-	2.61	8.56	
14	19/27 ⁴	CO, EQ or UN	.071	1.80	3831	1.94	12.1	18.0	3.05	10	2.71	8.88	124.20
	10/0147	CU	.074	1.88	4106	2.08	12.7	18.9	-	-	2.61	8.56	
	41/30	BU	.077	1.96	4100	2.08	12.9	19.2	2.81	9.22	2.53	8.3	
	SOLID	-	.0808	2.05	6530	3.30	19.8	29.5	1.69	5.54	1.59	5.21	
	7/0305	CO	.092	2.34	6512	3.30	20.2	30.1	-	-	1.64	5.38	
12	19/25 ⁴	CO, EQ or UN	.0905	2.29	6088	3.08	19.4	28.9	1.87	6.13	1.7	5.59	197.50
	19/0185	BU	.0925	2.35	6503	3.30	20.2	30.1	-	-	1.64	5.25	
	65/30	BU	.094	2.388	6500	3.29	20.8	31.1	1.82	5.97	1.64	5.25	
	SOLID	-	.1019	2.588	10,380	5.26	31.4	46.8	-	-	1	3.28	
	7/0385	CO	.116	2.95	10,376	5.25	32.0	47.6	-	-	1	3.28	
10	19/0234	BU	.117	2.97	10,404	5.27	32.0	47.6	-	-	.098	3.21	314.50
	37/0169	CO	.112	2.84	9361	4.74	29.2	43.4	-	-	1.25	4.1	
	105/30	BU	.126	3.20	10,500	5.32	33.8	49.2	1.10	3.61	.099	3.24	
	7/0486	CO	.146	3.71	16,534	8.38	50.1	74.5	-	-	0.65	2.13	
8	19/0295	BU or EQ	.144	3.66	16,535	8.38	50.0	74.4	-	-	0.65	2.13	
	133/29	RO 19 7/29	.169	4.293	16,983	8.61	54.0	80.4	.71	2.33	-	-	
	168/30	RO 7 24/30	.174	4.42	16,800	8.51	53.4	79.0	.70	2.3	-	-	
	19/0374	BU	.188	4.775	26,576	13.33	81.1	121	-	-	0.4	1.3	
6	133/27	RO 19 7/27	.213	5.41	26,818	13.60	84.1	125	.43	1.41	-	-	
	266/30	RO 7 138/30	.222	5.64	26,600	13.49	83.2	124	.44	1.44	-	-	
4	133/25	RO 19 7/25	.257	6.53	42,615	21.61	135	201	.29	0.95	-	-	
	420/30	RO 7 60/30	.270	6.85	42,000	21.29	140	208	.28	0.92	-	-	
2	665/30	RO 19 35/30	.338	8.59	66,500	33.72	213	317	.18	0.59	-	-	

BU - Bunched; CO - Concentric; EQ - Equilay; RO - Rope; UN - Unilay

²Typical D.C. resistance values for uninsulated wires. Multiply by 1.04 for typical values after insulation.

³Values are for tinned, heavy tinned, prefused, overcoated to topcoated conductors.

⁴Does not meet UL conductor stranding requirements.