Bronze and Alloy, Grooved Contact Wire, 30% SouthWear®

CuMg 0.2 (Alloy80)/CuMg 0.5 (Alloy 55) Contact CuMg0.2 and CuSn0.2/ Trolley Wire

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

This product combines excellent wear characteristics, and high-tensile strength properties. Contact/ Trolley wire is available in a choice of two alloys to provide the best match of electrical and mechanical wear properties for each application - 55 percent and 80 percent conductivity IACS (CA165 and A162), and is offered in both ASTM and EN/IEC configurations: round (upon request), grooved, figure 8, or figure 9.

APPLICATIONS AND FEATURES:

SouthWear® Contact Wire is commonly used as an overhead power source on streetcars, trolleys, electric trolley buses, light rail, commuter rail and high speed railway mass transit systems. Features a 30% wear mark on the side of the wire to provide visual identification when the percentage of wear has met or exceeded the industries allowable safe tolerance for wear. Southwire bronze contact/trolley wire is ideal for transportation systems with increased line speeds just over 200 mph (322 km/h).

- High Tensile Strength and Breaking Load
- Highest Half-Hard Value of any Materials in Present Day Use.
- Durable and Reliable Support.
- Allows for Increase in Max Line Speeds
- Mechanically Rugged
- RoHS/Proposition 65 Compliant
- Ships on N-42 wooden reels (S-77 steel reels available per SW reel policy)
- Available with top lobe identification marking per IEEE 1896-2016
- Southwire SPEED Qualified for low volume requests
- Buy America Compliant

SPECIFICATIONS:

- ASTM B9 Bronze Trolley Wire
- EN 50149 Railway Applications. Fixed Installations. Electric Traction. Copper and Copper Alloy Grooved Contact Wires.

UPDATED: Dec. 31, 2024, 11:08 p.m.UTC REVISION: 1.000.000

Table 1 – Weights and Measurements

Stock Number	Cond. Shape	Cond. Metal	Alloy	Cond. Size	Cond. Area	Approx. OD	Approx. Weight	DC Resistance @ 20°C	Rated Strength
				AWG/kcmil	cmil	inch	lb/1000ft	Ω/1000ft	lb
TBA	grooved	CuMg0.5	55	2/0	137900	0.392	417.6	0.1367	7906
TBA	grooved	CuMg0.2	80	2/0	137900	0.392	417.6	0.09401	7473
TBA	grooved	CuMg0.5	55	4/0	211600	0.482	641.9	0.08895	11490
TBA	grooved	CuMg0.2	80	4/0	211600	0.482	641.9	0.06115	10820
TBA	grooved	CuMg0.5	55	300	300000	0.574	907.6	0.0629	15260
TBA	grooved	CuMg0.2	80	300	300000	0.574	907.6	0.04324	14480
TBA	Figure-9	CuMg0.5	55	335	336400	0.680 x 0.482	1020	0.05605	16285
TBA	Figure-9	CuMg0.2	80	335	336400	0.680 x 0.482	1020	0.03854	15040
TBA	grooved	CuMg0.5	55	350	351200	0.62	1063	0.05369	17240
TBA	grooved	CuMg0.2	80	350	351200	0.62	1063	0.03691	16410
TBA*	grooved	CuAg		107	211600	0.482	641.7	0.0521	8408
TBA*	grooved	CuMg	85	107	211600	0.482	641.7	0.06127	10800
TBA*	grooved	CuMg	85	120	236820	0.518	734	0.056	11400
TBA*	grooved	CuMg0.2	80	120	236820	0.518	734	0.056	11400
TBA*	grooved	CuMg0.2		150	296025	0.518	897	0.0469	11263
TBA*	grooved	CuSn0.2		150	296025	0.518	897	0.0502	10993

All dimensions are nominal and subject to normal manufacturing tolerances

Notes:

1. These numbers represent the minimum percent IACS conductivity of the alloys. Other alloys are available subject to special inquiry.
2. Bronze trolley wire is normally manufactured from alloys 55 or 80
3. Figure 9 wire, dimensions given are nominal height of entire section and width of lower lobe.
4. Tolerances: The above data are approximately and subject to normal manufacturing tolerances Weights, breaking strengths and resistance are base on nominal dimensions

* units in mm²

Contact Wire