

# OVERHEAD CATENARY WIRE

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 offers: excellent corrosion resistance, wear characteristics; and high-tensile strength properties. Bronze 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 the ASTM configurations: round, grooved figure 8, or figure 9.

## APPLICATIONS AND FEATURES:

For use as overhead power source for subways, light and heavy transit systems, electrically powered mine train, buses, and industrial cranes. High-tensile strength properties allow for reduced clearance maintenance in tunnel applications. Southwire bronze trolley wire is ideal for high-speed rail transportation system.

- Exceptionally Low Thermal Loss
- Outstanding Increase in Conductivity
- Highest Half-Hard Value of any Materials in Present Day Use.
- Flexible to Wind and Vibration
- Durable and Reliable Support
- Allows for Increase in Max Line Speeds
- Mechanically Rugged
- High Tensile Strength and Breaking Load
- RoHS/Proposition 65 Compliant

## SPECIFICATIONS:

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



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**Table 1 – Physical and Electrical Data**

Stock Number	Cond. Shape	Cond. Metal	Cond. Size	Cond. Area	Cond. Number	Approx. OD	Approx. Weight	DC Resistance @ 20°C	Rated Strength
			AWG/kcmil	cmil	No.	inch	lb/1000ft	Ω/1000ft	lb
TBA	round	alloy 55	1/0	105600	1	0.3249	319.5	0.1786	6301
TBA	round	alloy 80	1/0	105600	1	0.3249	319.5	0.1228	5969
TBA	round	alloy 55	2/0	133100	1	0.3648	402.8	0.1417	7630
TBA	round	alloy 80	2/0	133100	1	0.3648	402.8	0.09742	7212
TBA	grooved	alloy 55	2/0	137900	1	0.392	417.6	0.1367	7906
596440	grooved	alloy 80	2/0	137900	1	0.392	417.6	0.09401	7473
TBA	round	alloy 55	3/0	167800	1	0.4096	507.8	0.1124	9366
TBA	round	alloy 80	3/0	167800	1	0.4096	507.8	0.07727	8828
TBA	grooved	alloy 55	3/0	167300	1	0.430	506.4	0.1127	9329
TBA	grooved	alloy 80	3/0	167300	1	0.430	506.4	0.07749	8804
TBA	round	alloy 55	4/0	211600	1	0.45	640.5	0.0891	11470
669028	grooved	alloy 85	4/0	211600	1	0.4600	640.5	0.06127	10800
583788	grooved	alloy 55	4/0	212000	1	0.482	641.9	0.08895	11490
592466	grooved	alloy 80	4/0	212000	1	0.482	641.9	0.06115	10820
641231	grooved	alloy 85	237	236820	1	0.518	712	0.056	11,400
TBA	grooved	alloy 80	237	236820	1	0.518	712	0.056	11,400
TBA	round	alloy 55	300	300000	1	0.5477	908.0	0.06286	15270
TBA	round	alloy 80	300	300000	1	0.5477	908.0	0.04322	14490
TBA	grooved	alloy 55	300	299800	1	0.574	907.6	0.0629	15260
TBA	grooved	alloy 80	300	299800	1	0.574	907.6	0.04324	14480
TBA	Figure-9	alloy 55	335	336400	1	0.680 x 0.482	1018.0	0.05605	16250
TBA	Figure-9	alloy 80	335	336400	1	0.680 x 0.482	1018.0	0.03854	15010
TBA	grooved	alloy 55	350	351200	1	0.620	1063.0	0.05369	17240
TBA	grooved	alloy 80	350	351200	1	0.620	1063.0	0.03691	16410
TBA*	grooved	CuMg0.2	150	296025	1	0.518	897	0.0469	11,263
TBA*	grooved	CuSn0.2	150	296025	1	0.518	897	0.0502	10,993

All dimensions are nominal and subject to normal manufacturing tolerances  
 ◇ Cable marked with this symbol is a standard stock item

**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. Size 6/0 AWG (336,200 Cmil) grooved wall will regularly be furnished as 350,000 Cmil size. are also available upon request. Size 6 AWG (336,200 Cmil) Grooved wall will be regularly furnished as 350,000 Cmil size
  4. Tolerances: The above data are approximately and subject to normal manufacturing tolerances Weights, breaking strengths and resistance are base on nominal dimensions
- \*mm2

