

## ROME SILVER BEARING COPPER TROLLEY WIRE

### Round and Grooved

**APPLICATION:** As a current carrying trolley wire or contact wire supplying electrical power to urban transit buses, railroad vehicles, subways, light rail transit systems, electrically powered mine trains, and industrial conveyors. Provides high conductivity, good corrosion resistance and improved wear-rate properties in comparison to copper trolley wire, with higher tensile strength, greater resistance to creep and a higher softening temperature. Can be considered as a safe and reliable alternative to bronze trolley wire. This silver bearing copper trolley wire has superior conductivity, can be supplied in long lengths without joints and does not contain cadmium, a regulated hazardous material.

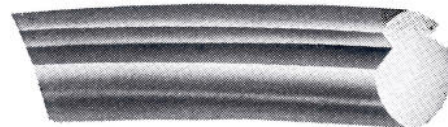
**STANDARDS:**

1. Conforms to ASTM Specification B-47 for Copper Trolley Wire. (1)

**CONSTRUCTION:** Single conductor solid silver bearing copper of hard temper manufactured from continuously cast oxygen-free electrolytic copper, drawn into round or grooved joint-free trolley wire.



ROUND



GROOVED

Size AWG or kcmil	Overall Diameter		Area			Weight			Tensile Strength Min.		Resistance (68F - 20c)			Min. Breaking Strength	
	in	mm	kcmil	in <sup>2</sup>	mm <sup>2</sup>	lb/kft	lb/mi	kg/km	lb/in <sup>2</sup>	kg/mm <sup>2</sup>	Ohms/ kft.	Ohms/ mi	Ohms/ km	lb	kg
<b>ROUND</b>															
1/0	.3249	8.252	105600	.0829	53.5	319.5	1687	475	55000	38.7	.1011	.5338	.3318	4560	2070
2/0	.3648	9.266	133100	.1045	67.4	402.8	2127	599	54000	38.0	.08021	.4235	.2632	5640	2560
3/0	.4096	10.404	167800	.1318	85.0	507.8	2681	755	53000	37.3	.06362	.3359	.2088	6990	3170
4/0	.4600	11.684	211600	.1662	107.2	640.5	3382	953	51500	36.2	.05405	.2664	.1656	8560	3880
300	.5477	13.911	300000	.2356	152.0	908.0	4794	1350	47500	33.4	.03558	.1879	.1168	11200	5080
<b>GROOVED</b>															
2/0	.392	9.957	137900	.1083	69.9	417.6	2205	621	53000	37.3	.07741	.4087	.2540	5740	2600
3/0	.430	10.922	167300	.1314	84.8	506.4	2674	755	52700	37.1	.06380	.3369	.2094	6920	3140
4/0	.482	12.243	212000	.1665	107.4	641.9	3389	955	51300	36.1	.05035	.2658	.1652	8540	3870
300	.574	14.580	299800	.2355	151.9	907.6	4792	1350	48000	33.7	.03560	.1880	.1168	11300	5130
350	.620	15.748	351200	.2758	177.9	1063.0	5612	1581	44600	31.4	.03039	.1605	.09970	12300	5580

- NOTES:**
1. ASTM B-47 for Copper Trolley Wire references ASTM B5 for defining suitable materials. B5 allows the use of silver, by agreement between manufacturer and purchaser, up to a nominal 30 troy oz./short ton (.102%). The Rome product contains 25 oz./ton minimum of silver.
  2. Customer must specify relation between the vertical axis of grooved wire to the axis of the shipping reel. This can be specified as groove-up or groove-down.
  3. Data shown are approximate subject to normal manufacturing tolerances. Weights and breaking strengths are based upon nominal dimensions of ASTM B-47. Resistances are based upon nominal sizes and dimensions.

## Specification

### ROME SILVER BEARING COPPER TROLLEY WIRE

#### Round and Grooved

#### 1. SCOPE

- 1.1 This specification describes a solid silver bearing copper conductor of hard temper manufactured from continuously-cast oxygen-free electrolytic copper, drawn into round or grooved joint-free trolley wire. The wire is suitable for use as a current carrying trolley wire, contact wire or auxiliary wire where high conductivity is required for supplying electrification to urban transit buses, railroad vehicles, subways, light rail transit systems, electrically powered mine trains and industrial conveyors. Provides good corrosion resistance and improved wear rate properties in comparison to copper trolley wire with higher tensile strength, greater resistance to creep and a higher softening temperature. Can be considered as an environmentally safe alternative to cadmium containing bronze trolley wires providing superior conductivity and availability in long lengths without joints for improved contact wire performance.

#### 2. SPECIFICATION

- 2.1 The following specification shall form a part of this specification:
  - 2.1.1 ASTM Specification B47 for Copper Trolley Wire.

#### 3. CONDUCTOR

- 3.1 Conductors shall be round or grooved of the specified size, meeting the requirements of ASTM B47.
- 3.2 Conductors shall contain a minimum of 25 oz./ton silver as permitted in Part 4.1.3 of ASTM B5 covering materials suitable for use as trolley wire.

#### 4. TESTS

- 4.1 Conductors shall be tested to insure conformance to ASTM Specification B47 for Copper Trolley Wire. Certified test reports may be furnished if requested prior to manufacture.

#### 5. PACKAGING

- 5.1 The trolley wire can be supplied in continuous, joint-free lengths up to 6000 pounds per reel. Standard package shall be a 48 inch reel with a steel sleeve reinforced arbor hole for a 2 1/2 inch diameter shaft. Steel plates for other shafts and/or 4 inch square arbor for railroads may also be supplied.