

# CU MEDIUM-HARD DRAWN OVERHEAD CATENARY SYSTEMS MESSENGER WIRE

Messenger Wire for Transit Systems



Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

This product can be made in variations of Hard Drawn or Medium-Hard Drawn Copper with concentric or unilay stranding options. Tinned coated copper and Proof Positive™ anti-theft conductors are also available upon request.

## APPLICATIONS AND FEATURES:

For use in Trolley and High Speed Rail applications as supports for contact and dropper wires in overhead catenary systems. Southwire's messenger wire is designed for long service life with the ability to maintain rugged strength through sustained performance.

- Pure Copper
- Flexible to Wind and Vibration
- Durable and Reliable Support
- Mechanically Rugged
- High Tensile Strength and Breaking Load
- RoHS/Proposition 65 Compliant

## SPECIFICATIONS:

- ASTM B2 Medium-Hard Drawn Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ASTM B787 19 Wire Combination Unilay-Stranded Copper Conductors



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**Table 1 – Physical and Electrical Data**

| Cond. Size | Strand Class | Strand Count   | Cond. Cmil | Approx. OD | Approx. Weight | DC Resistance @ 25°C | Rated Strength |
|------------|--------------|----------------|------------|------------|----------------|----------------------|----------------|
| AWG/kcmil  |              | No. of Strands | cmil       | inch       | lb/1000ft      | $\Omega$ /1000ft     | lb             |
| 8          | B            | 7              | 16510      | 0.146      | 51             | 0.663                | 610            |
| 6          | B            | 7              | 26240      | 0.184      | 81             | 0.417                | 959            |
| 4          | A B          | 7              | 41740      | 0.232      | 129            | 0.262                | 1505           |
| 3          | A B          | 7              | 52620      | 0.260      | 163            | 0.208                | 1885           |
| 2          | A B          | 7              | 66360      | 0.292      | 205            | 0.165                | 2360           |
| 1          | A            | 7              | 83690      | 0.328      | 258            | 0.131                | 2955           |
| 1/0        | A AA         | 7              | 105600     | 0.368      | 326            | 0.104                | 3705           |
| 1/0        | B            | 19             | 105600     | 0.373      | 326            | 0.104                | 3705           |
| 2/0        | A AA         | 7              | 133100     | 0.414      | 411            | 0.082                | 4640           |
| 2/0        | B            | 19             | 133100     | 0.418      | 411            | 0.082                | 4765           |
| 3/0        | A AA         | 7              | 167800     | 0.464      | 518            | 0.065                | 5812           |
| 4/0        | A AA         | 7              | 211600     | 0.522      | 653            | 0.052                | 7278           |
| 4/0        | B            | 19             | 211600     | 0.528      | 653            | 0.052                | 7479           |
| 250        | A            | 19             | 250000     | 0.574      | 772            | 0.044                | 8836           |
| 250        | B            | 37             | 250000     | 0.575      | 772            | 0.044                | 8952           |
| 300        | A            | 19             | 300000     | 0.628      | 926            | 0.037                | 10530          |
| 350        | A            | 19             | 350000     | 0.679      | 1081           | 0.031                | 12200          |
| 500        | A            | 19             | 500000     | 0.814      | 1544           | 0.022                | 17550          |
| 500        | B            | 37             | 500000     | 0.814      | 1544           | 0.022                | 17550          |
| 600        | A AA         | 37             | 600000     | 0.891      | 1853           | 0.018                | 21060          |
| 750        | A B          | 61             | 750000     | 0.998      | 2316           | 0.015                | 26510          |
| 1000       | A B          | 61             | 1000000    | 1.152      | 3088           | 0.011                | 35100          |

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

**Notes:**

+Ampacity based on 75°C conductor temperature 25°C ambient temperature 2 ft./sec. wind in sun. Numbers shown above are for concentrically stranded constructions and may vary slightly for combination unilay stranded constructions. Dimensions and weights shown above are nominal and subject to industry tolerances.

