

Wire, ACSR/E3X, Bare



1. Scope

This standard covers the requirements for bare, concentric-lay stranded aluminum conductor, steel reinforced wire with special coating (ACSR/E3X). Aluminum strands are made from round 1350-H19 (extra hard) alloy wire. Steel, core strands are zinc coated.

This standard applies to the following Seattle City Light (SCL) stock numbers:

Stock No.	Size (kcmil)	Stranding, aluminum/steel	Code Word
013766	795	30/19	Mallard/E3X
013767	954	45/7	Rail/E3X

Wire identified by code word shall be consistent with the requirements of Aluminum Association Table 6. Code words define:

- Size (kcmil)
- Stranding (aluminum/steel)

2. Application

Wire is used as a bare, overhead transmission conductor.

Wire with a high proportion of aluminum is better suited for applications requiring low electrical impedance. Wire with a high proportion of steel is better suited for long span applications.

E3X is a proprietary coating offered by General Cable that increase the ampacity of bare, ACSR by increasing emissivity and lowering absorptivity.

This product is installed the same and uses the same connectors as uncoated ACSR.

For uncoated ACSR, see SCL 6000.00.

3. Industry Standards

Wire shall meet the applicable requirements of the following industry standards:

Aluminum Association Code Words for Overhead Aluminum Electrical Conductors, Seventh Edition, January 1999

ASTM B232-2001; Standard Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated-Steel Reinforced (ACSR)

NEMA WC-26-2000; Binational Wire and Cable Packaging Standard

4. Conflict

Where conflict exists, the following order of precedence shall apply:

1. SCL purchase order
2. This SCL standard
3. Aluminum Association
4. ASTM standards
5. Other industry standards

5. Requirements

Wire shall meet the requirements of ASTM B232 and Table A with the following clarifications:

- Wire shall be Class AA.
- Wire shall be ACSR/GA using Class A zinc-coated steel wire.
- The outer surface of the stranded wire shall be coated with a high emissivity, low absorptivity coating having a nominal emissivity of 0.9 and a nominal solar absorptivity of 0.2.

Table A. Wire Requirements

Stock No.	Size (kcmil)	Stranding, aluminum/steel	Code Word	Diameter, nominal (in)	Minimum Rated Strength (lb)
013766	795	30/19	Mallard/E3X	1.140	38,400
013767	954	45/7	Rail/E3X	1.165	25,900

6. Packaging Requirements

Wire shall be packaged on reels according to the requirements of WC 26 and Table B or as specified otherwise on the request for quote or purchase order.

Table B. Packaging Requirements

Stock No.	Size (kcmil)	Reel Type	Maximum Outside Flange Diameter (in)	Maximum Outside Width (in)	Nominal Drum Diameter (in)	Length per Reel ± %, (ft)	Approximate Weight per 100 ft (lb)
013766	795	Steel - RMT	84	52	42	7,980	123.5
013767	954	Steel - RM	68	44	36	5,000	107.8

Reel gross weight shall not exceed 17,000 pounds.

Actual quantity per reel may vary from the quantity stated on the purchase order by plus or minus 10%.

Type RM steel reels shall be returnable, with fluted or corrugated flange and flat bar tires according to WC 26, Section 2.1.2.

Type RMT steel reels shall be returnable, with fluted or corrugated flange and I-beam tires according to WC 26, Section 2.1.2.

Reels shall be protected for shipment with coverings consistent with the recommendations of NEMA WC 26, Section 4.

The inner end shall not be brought out through the reel arbor.

The outer end shall be securely fastened to the inner side of the flange.

Each reel shall be legibly marked with the following information:

- Manufacturer identification
- Product description, including code word
- Shipping length of wire on reel
- Gross weight
- Tare weight
- Net weight
- Date of manufacture
- Reel identification according to NEMA WC 26, Section 5
- SCL purchase order number
- SCL stock number

7. Shipping

Reels shall be shipped and delivered in the upright position (on the flange edges) on open flatbed trucks suitable for side unloading by forklift.

- Reels shall not be strapped or palleted.
- Wire shall be shipped to the address specified on the purchase order.

8. Issuance

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9. Approved Manufacturers

General Cable

10. References

SCL Material Standard 6000.00; "Wire, ACSR, Bare"

11. Sources

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