

Cable, Streetlight, Pole and Bracket, 3/C, 600 V



1. Scope

This standard covers the requirements for three-conductor, 600 V cable used to construct streetlight systems.

This standard applies to Seattle City Light (SCL) Stock No. 014072.

2. Application

The cable is installed in bracket arms and underground-fed poles between the streetlight handhole and the luminaire. The cable jacket is sunlight resistant.

The cable is not suitable for overhead installations.

3. Industry Standards

The cable shall meet the applicable requirements of the following industry standards:

ASTM B-3 (2013); Standard Specification for Soft or Annealed Copper Wire

ASTM B-8 (2004); Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft

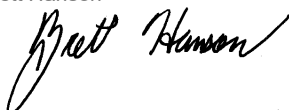
ASTM B-33 (2014); Standard Specification for Tinned Soft or Annealed Copper Wire for Electrical Purposes

ICEA S-95-658/NEMA WC-70 (2009); Standard for Nonshielded Power Cable Rated 2000 Volts or Less for the Distribution of Electrical Energy

NEMA WC-26 (2008); Binational Wire and Cable Packaging Standard

UL Standard 44 (2014); Underwriters Laboratories Inc. Standard for Thermoset-Insulated Wires and Cables

UL Standard 1277 (2010); Underwriters Laboratories Inc. Standard for Electrical Power and Control Tray Cables with Optional Optical-Fiber Members



4. Requirements

4.1 General

The cable shall meet the applicable requirements of UL Standard 44 for type XHHW-2 and PVC.

4.2 Conductor

Conductors shall meet the following requirements:

	Requirements	Reference
Size	#12 AWG	Various
Diameter	0.42 in, nominal	ASTM B-8
Metal	Copper	ASTM B-33
Stranding type	Concentric lay	ASTM B-8
Class	B	ASTM B-8
Number of strands	7	ASTM B-8
Temper	Annealed, uncoated	ASTM B-3/ASTM B-8

4.3 Insulation

The insulation shall be heat and moisture resistant.

The insulation shall meet the following requirements:

	Requirements	Reference
Material	Cross-linked polyethylene (XLPE)	ICEA S-95-658/NEMA WC-70
Type	XHHW-2	UL 44 Table 5.1
Operating temperature	90°C, maximum	UL 44 Table 5.1
Voltage rating	600 V	UL 44 Table 5.1
Thickness	30 mils, nominal	ICEA S-95-658/NEMA WC-70
Insulation level	100%	
Color code		
Conductor 1	Black	
Conductor 2	White	
Conductor 3	Green	

4.4 Jacket

The cable shall be listed as Sunlight Resistant and Oil Resistant II according to the requirements of UL 1277.

The jacket shall meet the following requirements:

	Requirements	Reference
Material	Polyvinyl chloride	ICEA S-95-658/NEMA WC-70 and UL 1277
Thickness	45 mils, nominal	ICEA S-95-658/NEMA WC-70 and UL 1277
Color	Black	

4.5 Assembly, Fillers, and Identification

The cable shall not include fillers, metallic shielding, or a binder.

The cable shall be supplied with a rip cord to facilitate jacket removal.

5. Testing

The cable shall be tested at the factory according to the requirements of ICEA S-95-658/NEMA WC-70.

Test results shall be provided upon request.

6. Marking

6.1 Cable

The outer surface of the cable shall be durably and legibly marked with a print legend throughout its length at a maximum interval of twenty-four inches

The print legend shall include, but not be limited to, the following information:

- Manufacturer name or symbol
- Number and size of conductors
- Temperature rating, maximum
- Voltage rating
- Year of manufacture
- Type XHHW-2 (UL)
- Type TC-ER (UL)
- Type Sun Res (UL)

6.2 Reel

Each reel shall be legibly marked with the following information:

- Manufacturer identification
 - Product description
 - Shipping length of cable on reel
 - Gross weight
 - Tare weight
 - Net weight
 - Date of manufacture
 - Seattle City Light purchase order number
 - Seattle City Light stock number
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7. Packaging

The cable shall be packaged on Class 1, wood reels according to the requirements of NEMA WC-26, Section 2.2.1, and shall be dry when shipped.

Reel details include:

Nominal length per reel	500 ft
Maximum reel diameter	16 in
Maximum reel traverse	11 in

Cable ends shall be sealed to prevent the entrance of moisture.

The inner end of the cable shall be brought to the outside of the reel flange and securely fastened.

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; it is acceptable to use plastic wrap for this purpose.

Each reel shall consist of one, continuous, unspliced length.

Cable shall be covered with a layer of protective plastic wrap.

8. Issuance

Stock Unit: FT

9. Approved Manufacturers

Advanced Digital Cable, Inc., Part No. 5203C-1

Service Wire Company, Part No. 0TCP12/2GGJ

10. Sources

Chao, Yaochiem; SCL Standards Engineer, subject matter expert, and originator of 6404.45

UL Marking and Application Guide, Wire and Cable, January 2012