

15 KV, 3/C, EPR/EAM Insulated, Tape Shielded Cable**1. Scope**

This standard covers the detailed requirements for 15 kV, ethylene propylene rubber (EPR) and ethylene alkene copolymer (EAM), three conductor cable used for the distribution of electric energy.

Industry designation: **3/C**

This standard applies to Seattle City Light (SCL) Stock No. 010128.

2. Application

Cable is intended for use on a nominal 13.8 kV, three-phase, three-wire, delta, 60 Hz, power system. This product has particular application in 3-1/2 inch square, clay tile duct banks.

3. General Requirements

This detailed material standard is to be used in conjunction with the latest revision of SCL 6015.00, "Medium Voltage Cable – General."

4. Industry Standards

Cable shall meet the requirements of the following industry standard:

ICEA S-97-682-2013; "Utility Shielded Power Cables Rated 5 Through 46 kV"

See SCL 6015.00 to obtain the appropriate revision date for other referenced industry standards.

5. Construction**5.1 General**

Unless indicated otherwise, all values cited below should be consistent with industry standards. They are repeated here for the convenience of the reader. The ▲ symbol indicates special City Light requirements, some of which are detailed in SCL 6015.00.

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MATERIAL STANDARD

15 kV, 3/C, EPR/EAM Insulated, Tape Shielded Cable

standard number: **6025.10**superseding: January 28, 2019
effective date: September 8, 2023
page: 2 of 4**5. Construction, continued****5.2 Conductor**

		Requirements	Reference
Diameter	minimum	0.721 in	ICEA S-97-682, Section 2.5
	nominal	0.736 in	ASTM B496
	maximum	0.751 in	ICEA S-97-682, Section 2.5
Metal		copper	ASTM B49
Stranding type		concentric-lay	ASTM B496
Class		none	none
Stranding subtype		compact	ASTM B496
Number of strands		35-37	ASTM B496, Table 1
Temper		soft drawn, annealed prior to stranding	ASTM B3
Lay, outer layer		left hand	ASTM B496, Section 5
Lay, successive layers		reversed	ASTM B496, Section 5
Sealant for stranded conductors		option required ▲	ICEA S-97-682, Section 2.2

5.3 Conductor Shield (Stress Control Layer)

		Requirements	Reference
Thickness, minimum point		16 mil	ICEA S-97-682, Part 3, Table 3-1

5.4 Insulation

		Requirements	Reference
Material		ethylene propylene rubber (EPR)/ ethylene alkene copolymer (EAM), Class III	ICEA S-97-682, Section 4.1
Thickness	minimum point	165 mil	ICEA S-97-682, Section 4.2, Table 4-7
	nominal	175 mil	ICEA S-97-682, Table 8-1
	maximum point	205 mil	ICEA S-97-682, Section 4.2, Table 4-7
Insulation level		100%	ICEA S-97-682, Section 4.2, Table 4-7
Basic impulse level (BIL)		110 kV crest	ICEA S-97-682, Section 4.3, Table 4-6

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5. Construction, continued**5.5 Extruded Insulation Shield**

		Requirements	Reference
Material		discharge-free (thermosetting material)	ICEA S-97-682, Section 5.1 to 5.5.1
Thickness	minimum point	24 mil	ICEA S-97-682, Section 5.2, Table 5-1
	maximum point	60 mil	ICEA S-97-682, Section 5.2, Table 5-1

5.6 Metallic Shield

		Requirements	Reference
Metal		copper, uncoated	ICEA S-97-682, Section 6.1 to 6.2
Type		helically applied tape ▲	ICEA S-97-682, Section 6.1 to 6.2 and SCL 6015.00
Water blocking components for metallic shield		option not required	ICEA S-97-682, Section 6.7

5.7 Jacket (Non-Metallic Covering)

Jacket shall be applied over 3/C assembly.

		Requirements	Reference
Material		linear low density polyethylene (LLDPE)	ICEA S-97-682, Section 7.1.1
Color		black	ICEA S-97-682, Section 7.1.1
Type		overlying	ICEA S-97-682, Section 7.2
Thickness	minimum point	100 mil ▲	ICEA S-97-682, Section 7.2.1, Table 7-10 and SCL preference
	maximum point	150 mil ▲	ICEA S-97-682, Section 7.2.1, Table 7-10 and SCL preference
Maximum diameter over jacket		2.92 in ▲	SCL preference

5.8 Sheath (Continuous Metallic Covering)

Cable shall not be provided with a sheath.

5.9 Assembly and Identification

		Requirements	Reference
Red stripe identification		not required	ICEA S-97-682, Section 8.2.1.1

6. Packaging

		Requirements	Reference
Reel type		steel, fluted	WC 26, Section 2.1.2
Reel dimension	flange diameter, maximum	96 in ▲	SCL preference
	outside width, maximum	68 in ▲	SCL preference ^a
	drum diameter, minimum	42 in ▲	SCL preference
	length per reel ± 10%	2,000 ft ▲	SCL preference
	gross weight, maximum	17,000 lb ▲	SCL preference

^a Due to maximum arm width of equipment at SCL, reels greater than 68 inches cannot be accepted.

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7. Issuance

Stock Unit: FT

8. Approved Manufacturing Plants

Manufacturer	Location
Prysmian Group	DuQuoin, IL
	Marshall, TX
	Moose Jaw, SK, Canada
	St. Jerome, QC, Canada
Okonite	Orangeburg, SC
	Richmond, KY
	Santa Maria, CA
Southwire	Carrollton, GA
	Heflin, AL
	Starkville, MS

9. References

SCL Material Standard 6015.00, "Medium Voltage Cable – General"

10. Sources

Shipek, John; SCL Standards Supervisor, subject matter expert and originator of 6025.10