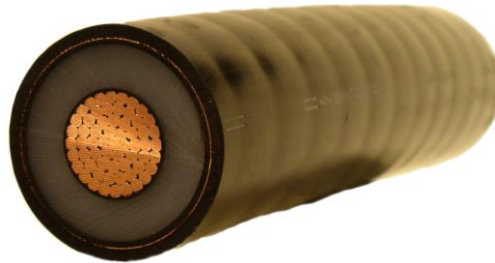


35 kV, 1/C, TRXLPE Insulated, Tape Shielded Cable



1. Foreword

1.1 Scope

This material standard covers the detailed requirements for 35 kV, tree retardant, cross-linked polyethylene (TRXLPE), single conductor cable used for the distribution of electric energy.

Industry designation: **1/C**

This material standard applies to the following Seattle City Light Stock Numbers:

Stock Number	623655
Size	1000 kcmil

1.2 Application

Cable is intended for use on a nominal 34.5 kV, three-phase, 4-wire, solidly-grounded, wye-connected, 60 Hz, power system.

1.3 General Requirements

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

1.4 Industry Standards

Cable shall meet the requirements of the following industry standards: ICEA S-97-682-2006

Refer to Material Standard 6015.00 to obtain the appropriate revision date for other referenced industry standards.

2. Construction

2.1 General

Unless indicated otherwise, all values cited below should be consistent with industry standards - they are repeated here for the convenience of the reader. Values or requirements different from industry standards are identified with the symbol ▲. In some situations, the ▲ symbol offers warning that special requirements are located in Material Standard 6015.00.

Standard Coordinator
Laura Vanderpool

Standards Engineering Supervisor
John Shipek

Division Director
Andrew Strong

2. Construction, continued

2.2 Conductor

		Requirements	Reference
Stock Number		623655	SCL
Size		1000 kcmil	various
Diameter	minimum	1.039 in	ICEA S-97-682, Section 2.5
	nominal	1.060 in	ASTM B496
	maximum	1.081 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		58-61	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

2.3 Conductor Shield (Stress Control Layer)

		Requirements	Reference
Stock Number		623655	SCL
Size		1000 kcmil	various
Thickness, minimum point		20 mil	ICEA S-97-682, Part 3, Table 3-1

2.4 Insulation

		Requirements	Reference
Stock Number		623655	SCL
Size		1000 kcmil	various
Material		unfilled tree retardant crosslinked polyethylene (TRXLPE)	ICEA S-97-682, Section 4.1
Approved material formulations		specified in General Material Standard	SCL 6015.00
Thickness	minimum point	400 mil	ICEA S-97-682, Section 4.2, Table 4-11
	nominal	420 mil	ICEA S-97-682, Table 8-1
	maximum point	450 mil	ICEA S-97-682, Section 4.2, Table 4-11
Insulation level		133%	ICEA S-97-682, Section 4.2, Table 4-11
Basic impulse level (BIL)		200 kV crest	ICEA S-97-682, Section 4.3, Table 4-10

2. Construction, continued**2.5 Extruded Insulation Shield**

	Requirements	Reference
Stock Number	623655	SCL
Size	1000 kcmil	various
Material	discharge-free (thermosetting material)	ICEA S-97-682, Section 5.1 to 5.5.1
Thickness	minimum point	24 mil
	maximum point	60 mil

2.6 Metallic Shield

	Requirements	Reference
Stock Number	623655	SCL
Size	1000 kcmil	various
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

2.7 Jacket (Non-Metallic Covering)

	Requirements	Reference
Stock Number	623655	SCL
Size	1000 kcmil	various
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
	maximum point	150 mil
Maximum diameter over jacket	2.45 in ▲	SCL preference

2.8 Sheath (Continuous Metallic Covering)

Cable shall not be provided with a sheath.

2.9 Assembly and Identification ▲

	Requirements	Reference
Stock Number	623655	SCL
Size	1000 kcmil	various
Red stripe identification	option not required	ICEA S-97-682, Section 8.2.1.1

3. Packaging

		Requirements	Reference
Stock Number		623655	SCL
Size		1000 kcmil	various
Reel type		steel, fluted	WC 26, Section 2.1.2
Reel dimension	flange diameter, maximum	84 in ▲	SCL preference
	outside width, maximum	45 in ▲	SCL preference
	drum diameter, minimum	42 in ▲	SCL preference
	length per reel ± 10%	2,000 ft ▲	SCL preference
	gross weight, maximum	17,000 lb ▲	SCL preference

4. Issuance

	Requirements
Stock Number	623655
Size	1000 kcmil
Stock unit	FT

5. Approved Manufacturing Plants

Manufacturer	Location
General Cable/BICC	DuQuoin, IL
	Malvern, AR
	Marshall, TX
	Moose Jaw, SK, Canada
	St. Jerome, QC, Canada
Prysmian (formerly Pirelli)	Abbeville, SC
	Prescott, ON, Canada
	St. Jean Sur Richelieu, QC, Canada

6. Sources

SCL Material Standard 6236.60; "35 kV, 1/C, TRXLPE Insulated, Tape Shielded Cable" (canceled/renumbered to SCL 6036.60)