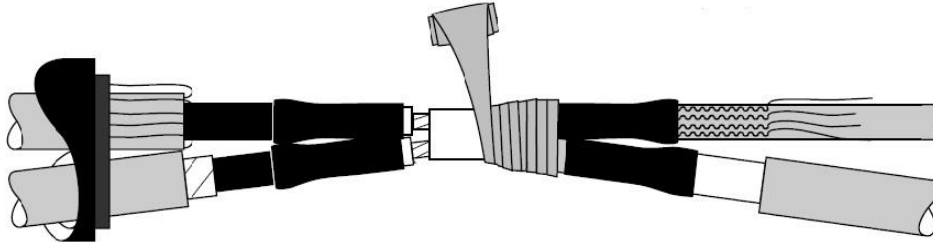


Splice Kits, Cable, Heat Shrink, 3- or 4-Way Wye, 110 kV BIL



1. Scope

This standard covers the requirements for 110 kV BIL, 3- or 4-way wye, heat shrink cable splice kits. Heat shrink cable splices are also known as cable joints or Raychems.

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

Stock No.	Item	Main Conductor Range (AWG/kcmil)	Tap Conductor Range (AWG/kcmil)
687540	Splice kit	#2 to 350	#2 to 350
687545	4-way mod kit	#2 to 350	#2 to 350
687541	Splice kit	250 - 750	#2 to 750
687546	4-way mod kit	250 - 750	#2 to 750
011909	Splice kit	750 - 1000	#1 to 250

2. Application

Heat shrink splices are used to permanently join three or four medium voltage cables. Cable may be insulated with TRXLPE or EPR, and shielded with tape, flat strap, or round concentric neutral wire.

Splice kits contain everything needed to make up a splice, except a conductor.

With the use of shim kits, cables of two different conductor sizes can be joined as long as they fall within the same kit range. See SCL Material Standard 6873.43 for shim kit material standard information.

The current and temperature rating of a properly installed cable splice is equal to or greater than that of the cable for which it is designed.

A standard kit will join three cables. To join four cables, order both the standard kit and the appropriate modification (mod) kit.

Standards Coordinator
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3. Industry Standards

Heat shrink cable splice kits shall meet the applicable electrical requirements of the following industry standard:

IEEE 404 2012; IEEE Standard for Extruded and Laminated Dielectric Shielded Cable Joints Rated 2.5 kV to 500 kV

4. Requirements

Heat shrink cable splices shall meet the electrical requirements of Table 4a.

Table 4a. Splice Electrical Requirements

Attributes	Requirements
Voltage class	15 kV
Voltage rating (ph-gr), grounded systems	8.7 kV rms
Voltage rating (ph-ph)	15 kV rms
Basic insulation level (BIL), minimum	110 kV crest
Withstand voltage AC, 1 minute	35 kV rms

Heat shrink cable splices shall accommodate the cable connections cited in Table 4b.

Table 4b. Splice Dimensional Requirements

Stock No.	Conductor Range		Insulation Diameter		Kit Installed Length (in)
	Main, Min-Max (AWG/kcmil)	Tap, Min-Max (AWG/kcmil)	Main, Min-Max (in)	Tap, Min-Max (in)	
687540	#2-350	#2-350	0.65-1.05	0.65-1.05	28
687545	#2-350	#2-350	0.65-1.05	0.65-1.05	28
687541	250-750	250-750	0.95-1.45	0.65-1.45	30
687546	250-750	250-750	0.95-1.45	0.65-1.45	30
011909	750-1000	#1-250	1.05-1.70	0.65-1.05	34

Each heat shrink cable splice kit will typically include items as shown in Table 4c (quantities of some components may vary with kit size).

Each heat shrink splice kit shall include an appropriately-sized, copper external grounding/shield interrupting kit. See Table 4d.

Table 4c. Heat Shrink Splice Kit Components (Typical)



Installation Instructions



Adhesive Backed Copper Strips



Stainless Steel Channel



Triple Layer Insulating Tube



Insulating Crotch



Red Sealant Strips



Silicone Grease Packet



Stress Control Tube



Compression Connector



Wraparound Sleeve



Shielding Mesh








Stress Relief Mastic



Zip Ties

Table 4d. External Grounding/Shield Interrupting Kit Components (Typical)

		
Red sealant strips	Solder blocked ground braid	Adhesive-backed copper strips
		
Spring clamps	Installation instructions	

5. Testing

Heat shrink cable splices shall be tested according to the requirements of IEEE 404, sections 7 and 8.
Test results shall be provided upon request.

6. Design Changes

Manufacturer shall inform Seattle City Light in writing of all design changes that could affect the understood or published capabilities of the product.

7. Marking

Heat shrink cable splice kit components shall be marked per the requirements of IEEE 404, section 6.1. This shall include, but not be limited to:

- Company name or logo
- Part identification
- Date of manufacture (month and year)
- "Use Before" date and storage conditions, if applicable
- Maximum phase-to-phase or phase-to-ground voltage rating
- Cable insulation diameter range

8. Packaging

Heat shrink cable splice kits shall be individually packaged to prevent damage during shipping, handling and storage.

Each package shall include a complete kit.

Individual packages shall be legibly marked with:

- Manufacturer identification
- Product description
- Seattle City Light stock code number

Each shipping container shall be legibly marked with the following:

- Manufacturer identification
 - Product description
 - Seattle City Light purchase order number
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9. Issuance

Stock Unit: EA

10. Approved Manufacturer

Name: TE Connectivity/Raychem Corporation

Product Description: Wye Tap Splice (HVSY)

Stock No	Item	Main Conductor Range (AWG/kcmil)	Tap Conductor Range (AWG/kcmil)	Catalog Number
687540	Splice kit	#2 to 350	#2 to 350	HVSY-1522S-SCL
687545	4-way mod kit	#2 to 350	#2 to 350	HVSH-1522-MOD
687541	Splice kit	250 - 750	#2 to 750	HVSY-1523S-SCL
687546	4-way mod kit	250 - 750	#2 to 750	HVSH-1523-MOD
011909	Splice kit	750 - 1000	#1-250	HVSY-1524S-SCL

11. Sources

TE Connectivity (formerly Raychem); <http://www.te.com>

PCN 263833-000 Product Installation Instructions; Tyco Electronics, HVSY-1520S-SCL 15kV. Splice for Extruded Dielectric (Poly/EPR) Power Cables: Metallic Tape, Wire Shield, Lead Sheath or Unisheild Cables

PCN 035703-000 Product Installation Instructions; HVSH-1520-MOD 15Kv class. Splice for Extruded Dielectric (Poly/EPR) Power Cables: Metallic Tape, Wire Shield, Lead Sheath or Unishield Cables

Shipek, John; Standards Supervisor, originator and subject matter expert for 6873.41 (john.shipek@seattle.gov)

SCL Material Standard 6871.3; "Splices, 15-kV Through 69-kV, Heat Shrinkable"