

MATERIAL STANDARD**ACCESSORIES, SEPARABLE CONNECTOR, 600 A,
125 kV BIL, DEADBREAK****1. Scope**

This standard covers the requirements for 600 A, 125 kV BIL, deadbreak, separable connector accessories, such as multi-way junction boxes (J-boxes), parking bushings, extension bushings, apparatus bushings, wells, plugs, caps, threaded studs, and special tools.

The requirements for 125 kV BIL, deadbreak, separable connector dielectric components are specified in SCL 6863.15.

The requirements for 125 kV BIL, deadbreak, straight cable-to-apparatus connector kits are specified in SCL 6863.16.

The requirements for 600 A, 150 kV BIL, deadbreak, separable connector accessories are specified in SCL 6863.27.

The requirements for 900 A, 125 kV BIL, deadbreak, separable connector accessories are specified in SCL 6863.37.

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

Stock No.	Description	Page
686383	Multi-way junction (J-Box), three-bushing	3
686384	Multi-way junction (J-Box), four-bushing	3
012285	Multi-way junction (J-Box), three-bushing, cast resin	4
012286	Multi-way junction (J-Box), four-bushing, cast resin	4

Stock No.	Description	Page
686396	Threaded stud	4
686353	Connecting plug with one loose stud	5
686356	Insulated plug with test point cap	5
686357	Insulated plug with test point cap and one loose stud	5
013461	Loadbreak reducing tap plug with one loose stud	5
686355	Deadbreak reducing tap plug	5
686354	Deadbreak reducing tap plug with one loose stud	6
686363	Reducing tap well with one loose stud	6
686380	Bushing extender with one loose stud	6
686379	Insulated cap with test point and one stud	6
686382	Insulated parking bushing	7
686394	Integral bushing with 2-15/16 inch shank	7
686392	Integral bushing with 8-9/16 inch shank	7
686393	Integral bushing with 18 inch shank	8
686399	In-air bushing with 8-1/2 inch shank	8
686397	Boot and collars	8
686358	Spanner wrench	8

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MATERIAL STANDARD

Accessories, Separable Connector, 600 A, 125 kV BIL, Deadbreak

2. Application

The cable accessories specified in this standard are intended to be used in conjunction with 125 kV BIL, deadbreak separable connector dielectric components (T-bodies and cable adapters), SCL 6863.15, to construct complete connector systems.

Important Note: Some accessories are provided with a stud. If an accessory is provided with the stud factory-installed, it should be considered permanent and not removable.

3. Industry Standards

Separable connectors (elbows) accessories shall meet the applicable requirements of the following industry standard:

IEEE 386-2006 – Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600 V

4. General Requirements

600 A interfaces shall have the following electrical ratings and attributes:

voltage class	25 kV
maximum voltage rating (ph-g)	15.2 kV RMS
BIL	125 kV crest
continuous current rating	600 A RMS
short-time current rating	25 kA RMS, symmetrical
IEEE 386 interface	Figure 11

200 A loadbreak interfaces shall have the following electrical ratings and attributes:

voltage class	25 kV
maximum voltage rating (ph-g)	15.2 kV RMS
BIL	125 kV crest
continuous current rating	200 A RMS
short-time current rating	10 kA RMS, symmetrical
IEEE 386 interface	Figure 7

200 A deadbreak interfaces shall have the following electrical ratings and attributes:

voltage class	25 kV
maximum voltage rating (ph-g)	15.2 kV RMS
BIL	125 kV crest
continuous current rating	200 A RMS
short-time current rating	10 kA RMS, symmetrical
IEEE 386 interface	Figure 4

200 A bushing well interfaces shall have the following electrical ratings and attributes:

voltage class	15, 25, and 35 kV
maximum voltage rating (ph-g)	21.1 kV RMS
BIL	150 kV crest
continuous current rating	200 A RMS
short-time current rating	10 kA RMS, symmetrical
IEEE 386 interface	Figure 3

Brackets and mounting hardware shall be stainless steel or other corrosion-proof alloy. Galvanized parts are not acceptable.

Multi-way junction boxes shall be provided with adjustable angle mounting brackets.

Any accessory that requires permanent grounding shall be equipped with a connector for attaching a #2 AWG, bare, stranded copper grounding conductor.

Insulated caps shall be provided with grounding tab for the purpose of attaching a drain wire lead.

For the purposes of this Material Standard, parking stands designed for use with Elastimold type 160 grounding and insulated parking bushings shall be designated type 160PS. Parking stands of this design have a nominal horizontal opening of 2 inches. IEEE 386 does not provide specifications for 160PS parking stands.



Figure 4.1, type 160PS parking stand

MATERIAL STANDARDAccessories, Separable Connector, 600 A, 125 kV BIL,
Deadbreak**5. Testing**

Separable connector (elbow) accessories shall be tested according to the requirements of IEEE 386, Section 7.

6. Design Changes

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

7. Marking

Separable connector (elbow) accessories shall be marked according to the requirements of IEEE 386, Section 6.1.

8. Packaging

Separable connector (elbow) accessories shall be individually packaged in heavy duty, clear plastic bags or cardboard boxes, as appropriate for their size and weight, to prevent damage and/or contamination during shipping, handling, and storage.

8. Packaging, continued

Each individual package shall be marked with the following information:

- Manufacturer's identification
- Product description

Each shipping container shall be legibly marked with the following information:

- Manufacturer's identification
- Product description
- Quantity contained
- Seattle City Light's Purchase Order Number
- Seattle City Light's Stock Number

9. Issuance

EA

10. Approved Manufacturers

Stock Number:	686383
Description:	Multi-way junction (J-Box), three-bushing, with type 160PS parking stand each end.
Application:	An accessory device with three interconnected bushings. Center-to-center spacing is four inches.
Cooper Power Systems	DJ625A3B
Richards Manufacturing Co.	P625JD43B
Thomas & Betts (Elastimold)	K650J3-U



Stock Number:	686384
Description:	Multi-way junction (J-Box), four-bushing, with type 160PS parking stand each end.
Application:	An accessory device with four interconnected bushings. Center-to-center spacing is four inches.
Cooper Power Systems	DJ625A4B
Richards Manufacturing Co.	P625JD44B
Thomas & Betts (Elastimold)	K650J4-U



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10. Approved Manufacturers, continued

Stock Number:	012285
Description:	Multi-way junction (J-Box) , three-bushing, cast resin type, with type 160PS parking stand each end.
Application:	An accessory device with three interconnected bushings. Center-to-center spacing is four inches. Cast resin type junctions are for installations where extra high-reliability components are required.
Cooper Power Systems (formerly Patton & Cooke)	JB125C3BSPS
Richards Manufacturing Co.	-
Thomas & Betts (Elastimold)	-



Stock Number:	012286
Description:	Multi-way junction (J-Box) , four-bushing, cast resin type, with type 160PS parking stand each end.
Application:	An accessory device with four interconnected bushings. Center-to-center spacing is four inches. Cast resin type junctions are for installations where extra high-reliability components are required.
Cooper Power Systems (formerly Patton & Cooke)	JB125C4BSPS
Richards Manufacturing Co.	-
Thomas & Betts (Elastimold)	-



Stock Number:	686396
Description:	Threaded stud , 5/8 inch, aluminum
Application:	For replacement purposes if original threaded stud is lost or damaged. This part is only appropriate for 600 A rated connector systems.
Cooper Power Systems	STUD-A
Richards Manufacturing Co.	P625HIP-STUD
Thomas & Betts (Elastimold)	650SA



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10. Approved Manufacturers, continued

Stock Number:	686353
Description:	Connecting plug with one loose stud
Application:	A connector that provides two in-line bushing interfaces.
Cooper Power Systems	DCP625AS
Richards Manufacturing Co.	P625CPR-LS
Thomas & Betts (Elastimold)	K650CPS



Stock Number:	686356
Description:	Insulated plug with test point cap
Application:	An accessory device designed to electrically insulate, electrically shield, and mechanically seal an elbow interface. Test point cap is removable to allow access to capacitive test point. Requires stud.
Cooper Power Systems	DIP625A
Richards Manufacturing Co.	P625HIP
Thomas & Betts (Elastimold)	K650BIP



Stock Number:	686357
Description:	Insulated plug with test point cap and one loose stud
Application:	An accessory device designed to electrically insulate, electrically shield, and mechanically seal an elbow interface. Test point cap is removable to allow access to capacitive test point.
Cooper Power Systems	DIP625AS
Richards Manufacturing Co.	P625HIP-LS
Thomas & Betts (Elastimold)	K650BIPS



Stock Number:	013461
Description:	Loadbreak reducing tap plug with one loose stud
Application:	An accessory device designed for the transition of a 600 A deadbreak system to a 200 A loadbreak system. Intended for installation on the back of an existing T-body to provide a 200 A interface for testing and grounding.
Cooper Power Systems	BLRTP625AS
Richards Manufacturing Co.	-
Thomas & Betts (Elastimold)	-



MATERIAL STANDARDAccessories, Separable Connector, 600 A, 125 kV BIL,
Deadbreak**10. Approved Manufacturers, continued**

Stock Number:	686355
Description:	Deadbreak reducing tap plug
Application:	An accessory device designed for the transition of a 600 A deadbreak system to a 200 A deadbreak system. Requires stud.
Cooper Power Systems	-
Richards Manufacturing Co.	P625RTP
Thomas & Betts (Elastimold)	K650RTP



Stock Number:	686354
Description:	Deadbreak reducing tap plug with one loose stud
Application:	An accessory device designed for the transition of a 600 A deadbreak system to a 200 A deadbreak system.
Cooper Power Systems	-
Richards Manufacturing Co.	P625RTP-LS
Thomas & Betts (Elastimold)	K650RTPS



Stock Number:	686363
Description:	Reducing tap well with one loose stud
Application:	A connector that provides a transition from a 600 A elbow to a 200 A bushing well.
Cooper Power Systems	-
Richards Manufacturing Co.	P625RTW-LS
Thomas & Betts (Elastimold)	K650RTWS



Stock Number:	686380
Description:	Bushing extender with one loose stud
Application:	A connector that provides two in-line elbow interfaces.
Cooper Power Systems	DBE625S
Richards Manufacturing Co.	P625BE
Thomas & Betts (Elastimold)	K655BE



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10. Approved Manufacturers, continued

Stock Number:	686379
Description:	Insulated cap with test point and one stud. Stud may be loose or permanent.
Application:	An accessory device designed to electrically insulate, electrically shield, and mechanically seal a bushing insert or integral bushing.
Cooper Power Systems	DPC625
Richards Manufacturing Co.	P625IC
Thomas & Betts (Elastimold)	K656DR



Stock Number:	686382
Description:	Insulated parking bushing, type 160PS
Application:	An accessory device designed to electrically insulate, electrically shield, and mechanically seal a power cable terminated with an elbow and to be installed into a type 160PS parking stand. Requires stud.
Cooper Power Systems	ISB625A
Richards Manufacturing Co.	P625IPB
Thomas & Betts (Elastimold)	K650SOP



Stock Number:	686394
Description:	Integral bushing with 2-15/16 inch shank
Application:	An apparatus bushing designed for use with another connector component, such as an elbow. Requires stud. For sidewall, under oil mounting.
Cooper Power Systems	-
Richards Manufacturing Co.	P625AB-3
Thomas & Betts (Elastimold)	K650S1



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10. Approved Manufacturers, continued**Stock Number:** 686392**Description:** Integral bushing with 8-9/16 inch shank

Application: An apparatus bushing designed for use with another connector component, such as an elbow. Requires stud. Use with adapter plate, Stock Number 686213, to convert G&W pothead termination to straight apparatus bushing on 13.8 kV network transformer. This assembly requires welding. Refer to Material Standard 6862.10. Use with adapter plate, Stock Number 686282, to convert G&W PATR 1802 pothead termination to straight apparatus bushing on 26.4 kV network transformer. This assembly requires welding. Refer to Material Standard 6862.6. For in-air application, use with Stock Number 686397.



Cooper Power Systems

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Richards Manufacturing Co.

P625AB-9

Thomas & Betts (Elastimold)

K650T1

Stock Number: 686393**Description:** Integral bushing with 18 inch shank

Application: An apparatus bushing designed for use with another connector component, such as an elbow. Requires stud. For CS transformers.



Cooper Power Systems

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Richards Manufacturing Co.

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Thomas & Betts (Elastimold)

K650L18-CS458

Stock Number: 686399**Description:** In-air bushing with 8-1/2 inch shank**Application:** Apparatus bushing

Central Maloney

70-2522-53

Cooper Power Systems

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Elliot

1201-6 with 1902-CR-4A2F

Richards Manufacturing Co.

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Thomas & Betts (Elastimold)

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MATERIAL STANDARDAccessories, Separable Connector, 600 A, 125 kV BIL,
Deadbreak**10. Approved Manufacturers, continued**

Stock Number:	686397
Description:	Boot and collars
Application:	To allow in-air application of 8-9/16 inch shank, integral bushing, Stock Number 686392.
Cooper Power Systems	-
Richards Manufacturing Co.	-
Thomas & Betts (Elastimold)	600BC



Stock Number:	686358
Description:	Spanner wrench
Application:	Used to install connecting plugs, deadbreak reducing tap plugs, and reducing tap wells.
Cooper Power Systems	-
Richards Manufacturing Co.	P6SW
Thomas & Betts (Elastimold)	600SW

**11. References**

SCL Material Standard 6863.15; "Separable Connector, Deadbreak, Dielectric Components, 125 kV BIL"

SCL Material Standard 6863.16; "Separable Connector, Bolted Type, Deadbreak, Cable Joint Parts and Kits, 125 kV BIL; 600 A"

SCL Material Standard 6863.27; "Accessories, Separable Connector, 600 A, 150 kV BIL, Deadbreak"

SCL Material Standard 6863.37; "Accessories, Separable Connector, 900 A, 125 kV BIL, Deadbreak"

12. Sources

B100-02024; Components Master Catalog; 5 kV-35 kV Electrical Distribution Systems, Specifiers Guide; Cooper Power Systems

Components & Protective Equipment UD (Underground Distribution) Manual; Cooper Power Systems; 1993

PG-CA-0506; Cable Accessories for 5 kV-35 kV Distribution Systems, Product Selection Guide; Thomas & Betts (Elastimold)

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