

**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

standard number: **6863.17**

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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

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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.

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

**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

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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)

JBI25C3BSPS

Richards Manufacturing Co.

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Thomas & Betts (Elastimold)

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**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)

JBI25C4BSPS

Richards Manufacturing Co.

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Thomas & Betts (Elastimold)

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**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 |



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| 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 |



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|-----------------------------|---|
| 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 |



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| 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) | - |



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10. Approved Manufacturers, continued

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|-----------------------------|---|
| 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 |



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|-----------------------------|--|
| 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 |



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| 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 |



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| 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

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|-----------------------------|---|
| 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 |



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| 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 |



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| 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.



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| Cooper Power Systems | - |
| 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.



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| Cooper Power Systems | - |
| Richards Manufacturing Co. | - |
| Thomas & Betts (Elastimold) | K650L18-CS458 |

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

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| Central Maloney | 70-2522-53 |
| Cooper Power Systems | - |
| Elliot | 1201-6 with 1902-CR-4A2F |
| Richards Manufacturing Co. | - |
| Thomas & Betts (Elastimold) | - |



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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 |



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| 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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