

**SEPARABLE CONNECTOR, DEADBREAK,  
DIELECTRIC COMPONENTS, 150 KV BIL****1. Scope**

This material standard covers the requirements for 150 kV BIL, deadbreak, separable connector dielectric components. Separable connector dielectric components consist of T-bodies, and cable adapters.

The requirements for 600 A and 900 A compression connectors are specified in Material Standards 6863.10 and 6863.30 respectively.

The requirements for 150 kV BIL, 600 A connecting and insulating plugs are specified in Material Standard 6863.27. 150 kV BIL, multi-way junction boxes (J-boxes) are non-stock items.

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

This Material Standard applies to the following Seattle City Light Stock Numbers:

Stock Number	Description	Cable Insulation OD Minimum Range, in.
687060	T-body	-
687019	Cable adapter	0.875-0.985
687020	Cable adapter	1.220-1.375
687025	Cable adapter	1.285-1.395
687028	Cable adapter	1.485-1.595
687030	Cable adapter	1.575-1.685
687035	Cable adapter	1.665-1.780

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**MATERIAL STANDARD**

Separable Connector, Deadbreak, Dielectric Components,  
150 kV BIL

Standard Number:

**6863.25**

Page: 2 of 3

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**2. Application**

A separable connector (elbow) is a fully insulated and shielded system for terminating and electrically connecting an insulated power cable to electrical apparatus, other power cables, or both, so designed that the electrical connection can be readily established or broken by engaging or separating the connector at the operating interface.

The separable connectors specified in this material standard are intended for use on the following three-phase, 60 Hz systems:

- 13.8 kV, 3-wire, delta, where load consists of network type transformers with delta-connected primary and grounded wye-connected secondary
- 26.4 kV, 4-wire, solidly-grounded, wye-connected

150 kV BIL T-bodies, and cable adapters **cannot** be used interchangeably with 125 kV BIL dielectric components. New construction should utilize 125 kV BIL material, except in cases where the equipment being connected to has 150 kV BIL bushings.

600 A and 900 A compression connectors can be used to make up either 125 kV BIL or 150 kV BIL separable connectors. Dielectric components alone do not have a current rating.

Because of high fault duty, connectors rated 200 A continuous are not appropriate for network systems. Network systems should be constructed with connectors rated 600 A (or 900 A) continuous.

For cable technical data, refer to 9660.04.

For cable specific information relating to the parts required to make-up a complete separable connector, including jacket sealing and metallic shield adapters, refer to U5-17.10.

**3. Industry Standards**

Separable connector dielectric components 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. Detailed Requirements**

Separable connector dielectric components shall have the following electrical ratings and attributes:

voltage class	35 kV
maximum voltage rating (ph-g)	21.1 kV RMS ((grounded WYE systems)
BIL	150 kV crest
continuous current rating	600 A RMS (with all-aluminum compression connector) 900 A RMS (with all-copper compression connector)
short-time current rating	25 kA RMS, symmetrical
IEEE 386 interface	Figure 13

Each separable connector T-body shall be provided with assembly instructions.

Cable adapters shall be designed and fabricated for use with the 150 kV BIL T-body specified in this material standard.

Cable adapters shall meet the dimensional requirements specified in **Section 10**.

**5. Testing**

Separable connector dielectric components shall be tested according to the requirements of IEEE 386, Section 7.

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 product's understood or published capabilities.

**7. Marking**

Separable connector dielectric components shall be marked according to the requirements of IEEE 386, Section 6.1.

**8. Packaging**

Separable connector dielectric components shall be packaged to prevent damage and/or contamination during shipping, handling, and storage.

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	Description	Cable Insulation OD Minimum Range, in.	Manufacturers' Catalog Numbers		
			Cooper Power Systems	Richards Manufacturing Co.	Thomas & Betts (Elastimold)
687060	T-body	-	DT635	P63LCN0	K755BLRN
687019	Cable adapter	0.875-0.985	CA635D	P635CA-H	755CA-H
687020	Cable adapter	1.220-1.375	CA635K	P635CA-L	755CA-L
687025	Cable adapter	1.285-1.395	CA635L	P635CA-L	755CA-L
687028	Cable adapter	1.485-1.595	CA635N	P635CA-M	755CA-M
687030	Cable adapter	1.575-1.685	CA635Q	P635CA-N	755CA-N
687035	Cable adapter	1.665-1.780	CA635R	P635CA-N	755CA-N

**Note:** Refer to Construction Guideline U5-17.10 for selecting the best cable adapter for a given cable.

**11. References**

**SCL Design Standard 9660.04;** "Properties of Medium Voltage Cables"

**SCL Material Standard 6863.10;** "Compression Connectors, All-Aluminum Type"

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

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

**SCL Material Standard 6863.30;** "Compression Connectors, All-Copper Type"

**SCL Construction Guideline U5-17.10;** "Separable Connector (T-Body), 150 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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