

**SEPARABLE CONNECTOR (ELBOW), 200 A, LOADBREAK**



**1. Scope**

This standard covers the requirements for 200 A, loadbreak, separable connectors (elbows) kits.

The requirements for 200 A deadbreak elbows are specified in Material Standard 6864.15.

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

Stock Number	Description
686445	Loadbreak elbow kit for 28 kV, 1/0 AWG cable
686442	Loadbreak elbow kit for 27 kV, #8 AWG, Kerite cable
686423	Loadbreak probe

**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:

- 26.4 kV, 4-wire, solidly-grounded, wye-connected
- 5 kV and below

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 jacket sealing and metallic shield adapters, refer to U5-15.05.

**3. Industry Standards**

Separable connectors (elbows) 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

standards coordinator	standards supervisor	unit director
 John Shipek	 John Shipek	 Darnell Cola

**MATERIAL STANDARD**

Separable Connector (Elbow), 200 A, Loadbreak

standard number: **6864.05**

superseding: February 15, 2013

effective date: December 15, 2016

page: 2 of 3

**4. Detailed Requirements**

Separable connectors (elbows) shall have the following electrical ratings and attributes:

voltage class	25 kV
maximum voltage rating (ph-g)	15.2 kV RMS
maximum voltage rating (ph-g/ph-ph)	15.2/26.3 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

Separable connectors (elbows) shall have the following features:

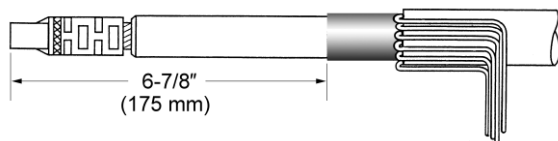
- Test point with cap
- Removable white band with centered black strip as specified in IEEE 386, Section 6.1 e) 2) to indicate both phase-to-ground and phase-to-phase voltage ratings

Each separable connector (elbow) kits shall include:

- Body
- Compression connector (Stock Number 686445 only)
- Loadbreak probe
- Probe installation tool
- Silicone lubricant
- Instruction sheet

Compression connectors shall be bi-metallic, with copper top and meet the requirements of Material Standard 6864.00.

Separable connector (elbow) shall be designed for a cable insulation shield cutback length of 6-7/8 in. measured from the end of the installed compression connector.



**Figure 4, Cutback Length**

**5. Testing**

Separable connectors (elbows) 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 connectors (elbows) shall be marked according to the requirements of IEEE 386, Section 6.1.

Optional color-coding as described in IEEE 386, Section 6.1 f) is not required or desired.

**8. Packaging**

Separable connectors (elbows) shall be individually packaged in heavy duty, clear plastic bags or cardboard boxes.

Each individual package shall constitute a kit that includes all of the parts cited in Section 4 of this material standard.

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**

Unit: EA

**MATERIAL STANDARD**

superseding: February 15, 2013

effective date: December 15, 2016

Separable Connector (Elbow), 200 A, Loadbreak

page: 3 of 3

**10. Approved Manufacturers**

<b>Stock Number:</b>	<b>686445</b>
<b>Description:</b>	<b>Loadbreak elbow kit</b>
<b>Application:</b>	28 kV, 1/0 AWG solid aluminum, bare CN cable, Stock No. 602025 28 kV, 1/0 AWG solid aluminum, jacketed CN cable, Stock No. 012098
Cooper Power Systems	LE225DD05T
Thomas & Betts (Elastimold)	262LR-D-5230
<b>Stock Number:</b>	<b>686442</b>
<b>Description:</b>	<b>Loadbreak elbow kit</b>
<b>Application:</b>	27 kV, #8 AWG copper Kerite cable, Stock Number 623650
Cooper Power Systems	LE225AB00TX (quantities under 20) LE225AB00T (standard package of 20)
<b>Stock Number:</b>	<b>686423</b>
<b>Description:</b>	<b>loadbreak probe kit</b> , includes probe, installation tool, silicone lubricant, and instruction sheet
<b>Application:</b>	For replacement of spent loadbreak elbow probes of any make
Cooper Power Systems	PK225
Thomas & Betts (Elastimold)	274LRF

**11. References**

**SCL 6864.00**; "Compression Connectors, Bi-Metallic Type, for 200 A Elbows;" Material Standard

**SCL 6864.15**; "Separable Connector (Elbow), 200A, Deadbreak;" Material Standard

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

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

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

**Shipek, John**; SCL Standards Supervisor, subject matter expert and originator of SCL *Material Standard* 6864.05 (john.shipek@seattle.gov)

**U5-15.05**; "Separable Connector (Elbow), 200 A, Loadbreak;" Construction Guideline; SCL

**Elastimold Product Specifications**; issue date 09/24/2014, File PSS-262LR-W5X