

## 27 kV Cutouts, Open Type, Polymer



### 1. Scope

This standard covers the requirements for 27 kV, open type polymer cutouts and related accessories.

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

<b>Stock No.</b>	<b>Description</b>
013739	Cutout with fuseholder tube
682297	Replacement fuseholder tube
682278	Disconnect blade, 300 A

### 2. Application

27 kV polymer cutouts provide overcurrent protection for the SCL 26.4 kV primary distribution circuits and visible indication of fuse operation.

See SCL 9065.11, "Primary Fuse Selection and Applications," for detailed application information.

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Disconnect blades, Stock No. 682278, are used to convert fuse cutouts to 300 A disconnect switches.

**Figure 2. Disconnect Blade, 300 A**



27 kV polymer and porcelain cutouts and accessories are designed to be electrically and mechanically interchangeable between different manufacturers.

Fuse links appropriate for use with this cutout are specified in SCL 6837.10.

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### 3. Industry Standards

The cutout and accessories shall meet the applicable requirements of the following industry standards:

**IEEE C37.41-2016**; IEEE Standard Design Tests for High-Voltage (>1000V) Fuses

**IEEE C37.42-2016**; IEEE Standard Specifications for High-Voltage (>1000V) Fuses and Accessories

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### 4. Requirements

Cutouts and their accessories shall meet the following requirements:

Class per IEEE C37.41	A
Cutout type	Open, distribution class
Fuse type	Expulsion
Rated maximum voltage, kV	27
Rated current, A (rms)	100
Rated maximum interrupting current, kA (rms), symmetrical	8
Rated lightning impulse withstand voltage (BIL), kV	150
Cutout insulator design	Silicone weathersheds over fiberglass rod
Weathershed color	Gray
Cutout insulator leakage distance (in)	≥18

Cutouts shall be provided with attachment hooks for use with an S&C Electric Company load break tool.

Cutouts shall be provided with two parallel-groove connectors, one upper and one lower, each capable of accepting two conductors 0.162 to 0.447 inches in diameter.

The bottom connector shall be field-rotatable over 90° and lockable in either position. Refer to Figure 4 for one example of an acceptable bottom connector.

**Figure 4. Example of an Acceptable Bottom Connector**



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## 5. Testing

Data that establishes compliance with the requirements of IEEE C37.41, IEEE C37.42, and this standard shall be provided upon request.

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## 6. Marking

Cutouts shall be marked according to the requirements of IEEE C37.42, Section 10.1, which includes:

- Manufacturer name or symbol
- Manufacturer type or identification number
- Rated current
- Rated maximum voltage
- Rated lightning impulse withstand voltage (BIL)
- Identifying date code (month and year)

Fuse holders shall be marked according to the requirements of IEEE C37.42, Section 10.3, which includes:

- Manufacturer name or symbol
- Manufacturer type or identification number
- Rated maximum current
- Rated maximum voltage
- Rated interrupting current
- Identifying date code (month and year)

Disconnect blades shall be marked according to the requirements of IEEE C37.42, Section 10.5, which includes:

- Manufacturer's name or symbol
- Rated current
- Identifying date code (month and year)

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## 7. Packaging

Cutouts with fuse holders (Stock No. 013739) shall be packaged as a single unit to prevent damage during shipping, handling, and storage.

Replacement fuse holders (Stock No. 682297) and disconnect blades (Stock No. 682278) shall be individually protected to prevent damage during shipping, handling, and storage. Each package shall contain no more than 10 fuse holders or disconnect blades.

Shipping containers shall be legibly marked with the SCL purchase order number.

**8. Issuance**

Stock Unit: EA

**9. Approved Manufacturers**

		Stock No. and Description		
		013739 Cutout with fuse holder	682297 Replacement fuse holder (only)	682278 Disconnect blade, 300 A
Manufacturer	Type	Manufacturer Catalog No.		
ABB	ICX	X5JRNNMM12	7194C60G06MP	7194C60G08
Cooper Power Systems	L	S9DAP0A	LDCA00A	LDC300A
Hubbell Power Systems	C	CP710313R	T710313T	T710333T
MacLean Power Systems	XS	SC27SG112-D90	89532R10	89622R10

**10. References**

**SCL Design Standard 9065.11**; "Primary Fuse Selection and Applications"

**SCL Material Standard 6820.90**; "27 kV Cutout, Open Type, Porcelain"

**SCL Material Standard 6837.10**; "Links, Distribution Fuse"

**11. Sources**

**Catalog 10AA**; "Type C-Polymer Cutouts (Standard, Linkbreak, Loadbreak) and Cutout-Arrester Combinations," Hubbell Power Systems, Inc., July 2014

**Chao, Yaochiem**; SCL Standards Engineer and subject matter expert for 6820.95

**Electrical Apparatus 327-30**; "Type L Cutouts, UltraSIL Polymer-Insulated and Porcelain Type L Open Distribution Cutout," Cooper Power Systems, May 2013

**Kephart, Bob**; SCL Associate Electrical Engineer and originator of 6820.95

**MacLean Power Systems**; www.maclepower.com

**Product Bulletin 1VAG271201-DB\_ICX**; "Distribution cutouts Type ICX Outdoor open type cutout," ABB, Rev M, May 2013

**Shipek, John**; SCL Standards Supervisor and subject matter expert for 6820.95