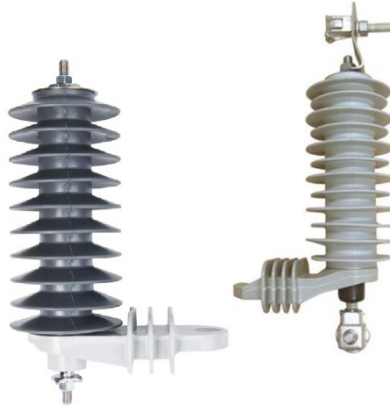


## 21 kV Intermediate Class, Polymer, Metal-Oxide Surge Arresters



### 1. Scope

This standard applies to 21 kV duty-cycle rating, intermediate class, polymer-housed, metal-oxide surge arresters.

This standard applies to SCL Stock No. 012593.

### 2. Application

Intermediate class surge arresters are intended for use on 26400GrdY/15240 V power systems in areas where the nominal fault duty is between 20 kA and 40 kA rms symmetrical. Arresters are installed on riser poles to protect underground cable and equipment.

In areas where the fault duty is less than 20 kA, refer to Seattle City Light (SCL) 6801.40, "21 kV, Heavy Duty Distribution Class, Polymer, Metal-Oxide Surge Arrester."

### 3. Industry Standards

Surge arresters shall meet the applicable requirements of the latest revision of the following standard:

**IEEE C62.11**, Standard for Metal-Oxide Surge Arresters for AC Power Circuits (> 1 kV)

Standard Coordinator  
Muneer Shetab

Standards Engineering Supervisor  
Brett Hanson

Division Director  
Bob Risch

#### 4. Electrical Requirements

<b>Class (recognized by IEEE C62.11)</b>	Intermediate
<b>Type</b>	Metal-oxide
<b>Duty-Cycle Rating</b>	21.0 kV rms
<b>Maximum Continuous Operating Voltage (MCOV)</b>	17.0 kV rms
<b>Maximum Front-of-Wave Voltage Cresting in 0.5 Microseconds for 10 kA Wave</b>	62.4 kV crest
<b>Maximum Discharge Voltage for 8 X 20 Microsecond 5 kA Wave</b>	51.5 kV crest
<b>Maximum Discharge Voltage for 8 X 20 Microsecond 20 kA Wave</b>	61.3 kV crest
<b>Minimum Symmetrical RMS Fault-Current Withstand Rating</b>	40 kA rms
<b>Minimum Temporary Overvoltage Capability for Three Seconds at 60 Degrees Centigrade Ambient and No Prior Energy Absorption (Overvoltage/MCOV)</b>	1.33 per unit

#### 5. Construction

<b>Housing Material:</b>	Silicone rubber or equivalent silicone polymer
<b>Housing Material/ Hanger Bracket Color:</b>	Gray
<b>Ground Lead Isolator</b>	Required



Terminal – Top

Stainless steel stud with “L” bracket and eyebolt connector that accepts copper or aluminum conductors #6 AWG to 250 kcmil.  
 A wire-clamp terminal supplied by Hubbell that accepts 6 AWG solid to 2 AWG stranded conductor is also approved.



Terminal - Bottom

3/8-16 stainless steel stud with Penn Union STS-4, Burndy KF-23, or Dossert DGG-6 connector (Stock No. 668872), or approved equivalent.  
 A wire-clamp terminal supplied by Hubbell that accepts 6 AWG solid to 2 AWG stranded conductor is also approved.

<b>Nameplate</b>	Required per IEEE C62.11
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#### 6. Marking and Packaging

Surge arresters shall be packaged fully assembled, one per cardboard box.

Each package shall be legibly marked with:

- Manufacturer name or symbol
- Product description
- Quantity
- Seattle City Light stock number

Shipping containers shall be legibly marked with:

- Manufacturer name or symbol
- Seattle City Light purchase order number

A packing slip shall be included with each shipment.

## 7. Issuance

Stock Unit: EA

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## 8. Approved Manufacturers

<b>Approved Manufacturer</b>	<b>Catalog No.</b>
Cooper Power Systems	UIAA021017A101NL27
Hubbell Power Systems, Inc.	218417-7214

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## 9. Sources

**Shetab, Muneer**; SCL Standards Engineer and subject matter expert for 6801.60

**Shipek, John**; SCL Standards Supervisor and subject matter expert for 6801.60

**Cooper Power Systems 235-102**; UltraSIL Polymer-Housed VariSTAR Type UI Intermediate-Class Surge Arresters

**Eaton/Cooper Power Series, Surge Arresters Catalog Data CA235012EN**; "UltraSIL Polymer-Housed VariSTAR Type UI Intermediate-Class Surge Arresters", June 2015

**Hubbell Power Systems Inc., Arresters, IEEE & IEC Distribution Class, Catalog 70**, April 2004