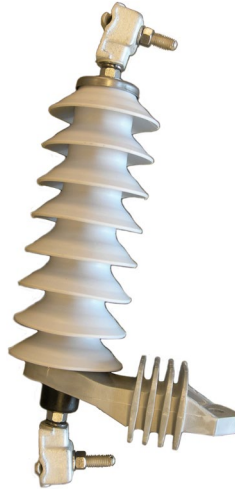

21 kV Heavy Duty Distribution Class, Polymer, Metal-Oxide Surge Arresters



1. Scope

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

2. Application

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

In areas where the fault duty is between 20 kA and 40 kA rms symmetrical, refer to Seattle City Light (SCL) 6801.60, "21 kV Intermediate Class, Polymer, Metal-Oxide Surge Arresters."

This standard applies to SCL Stock No. 680115.

3. Industry Standards

Surge arresters shall meet the applicable requirements of the following national standard:

IEEE C62.11-1999, Standard for Metal-Oxide Surge Arresters for AC Power Circuits (> 1 kV)

Standard Coordinator
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4. Electrical Requirements

Class (recognized by IEEE C62.11)	Heavy-duty distribution
Subclass (recognized by industry)	Riser pole
Type	Metal-oxide
Duty-Cycle Rating	21.0 kV rms
Maximum Continuous Operating Voltage (MCOV)	17.0 kV rms
Maximum Front-of-Wave Voltage Cresting in 0.5 Microseconds for 10 kA Wave	64.8 kV crest
Maximum Discharge Voltage for 8 X 20 Microsecond 5 kA Wave	46.3 kV crest
Maximum Discharge Voltage for 8 X 20 Microsecond 20 kA Wave	57.9 kV crest
Minimum Symmetrical RMS Fault-Current Withstand Rating	20 kA rms
Minimum Temporary Overvoltage Capability for Three Seconds at 60 Degrees Centigrade Ambient and No Prior Energy Absorption (Overvoltage/MCOV)	1.78 per unit

5. Construction

Housing Material:	Silicon rubber
Housing Material/ Hanger Bracket Color:	Gray
Ground Lead Isolator	Required
Terminals	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
Nameplate	Required per IEEE C62.11-1999, Section 10.1 Identification data

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 contained

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

8. Approved Manufacturers

Approved Manufacturer	Catalog No.
Cooper Power Systems	URT2109-0M1X-1A1A
Aluma-Form	ARP-T-21E-2GX-XXX-XX-SCL

9. Sources

Aluma-Form Distribution Surge Arresters Specification Sheet, March 2019

Cooper Power Systems 235-99; UltraSIL Polymer-Housed Evolution (10 kA) Surge Arresters (Electrical Apparatus); September 2008

Shetab, Muneer; SCL Standards Engineer and subject matter expert for 6801.40

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