Fuses, 15.5 kV, Full-Range, Current-Limiting, Type X

1. Scope

This standard covers the requirements for 15.5 kV, full-range, current-limiting, type X fuses designed to fit S&C Electric Company (S&C) SMU-20 fuse holders in padmount switchgear.

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

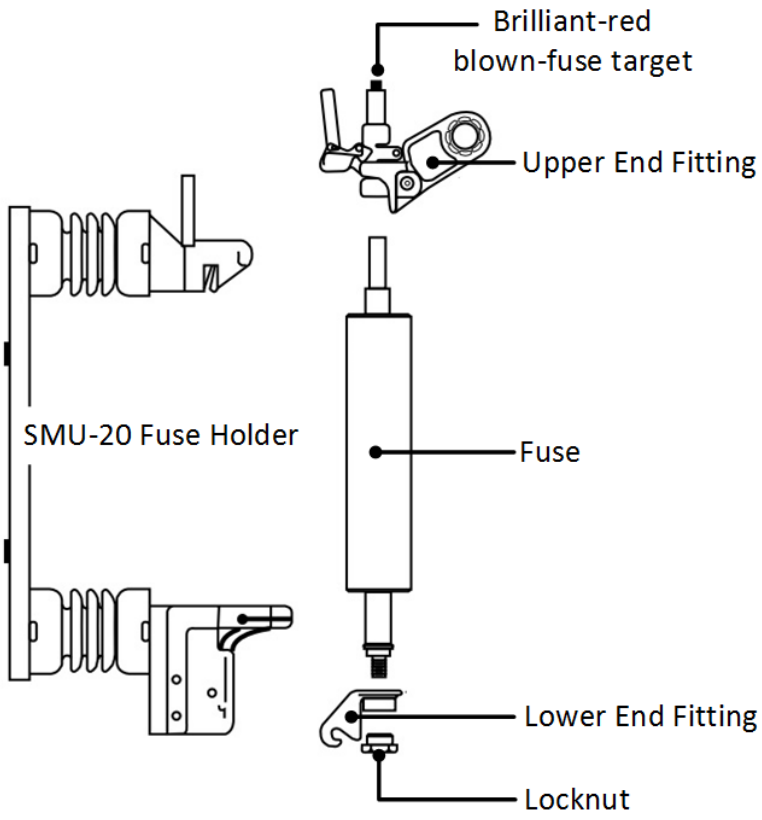
Stock No.	Description
014332	Fuse, full-range, type 25X, 25 A
014331	Fuse, full-range, type 40X, 40 A
014330	Fuse, full-range, type 65X, 65 A
685011	Locknut

2. Application

Type X fuses are designed to be used with S&C 27 kV Padmount PMH switchgear for the Seattle City Light (SCL) underground electrical distribution system.

The locknut is furnished by Cooper Power Systems with the fuse; the upper and lower end fittings are furnished by S&C and are provided with the PMH switchgear. See Figure 2.

Figure 2. Full-Range Fuse and Attachments



3. Industry Standards

The fuse 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

4. Requirements

Fuses and their accessories shall meet the following requirements:

Class per IEEE C37.42	A
Fuse holder type	SMU-20
Fuse type	Non-expulsion
Fuse element	Silver
Rated maximum voltage, kV	15.5
Rated current, A (rms)	25, 40, 65
Rated maximum interrupting current, kA (rms), symmetrical	50
Rated lightning impulse withstand voltage (BIL), kV	125
Fuse tube design	Reinforced fiberglass
Tube color	Gray

Fuses shall be compatible with S&C SM-20 fuse holders found in S&C padmount PMH switchgear.

Each fuse shall be provided with a locknut, Cooper Catalog No. EF-H.

When blown, fuses shall operate the brilliant-red blown-fuse target from the upper end fitting. See Figure 2.

Fuses shall have no external element solder joints.

Fuses shall be suitable for outdoor use inside a PMH switch cabinet.

5. Testing

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

6. Marking

Fuse units shall be marked according to the requirements of IEEE C37.42, Section 10.2, which includes:

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

7. Packaging

Locknuts shall be attached to the bottom of each fuse.

Fuses shall be packaged as a single unit to prevent damage during shipping, handling, and storage.

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

8. Issuance

Stock Unit: EA

9. Approved Manufacturer

Stock No.	Description	Cooper Power Systems Part No.
014332	Fuse, full-range, type 25X, 25 A	15F025EHC2AN
014331	Fuse, full-range, type 40X, 40 A	15F040EHC2AN
014330	Fuse, full-range, type 65X, 65 A	15F065EHC2AN
685011	Locknut	EF-H

10. Sources

Fusing Equipment Catalog Data CA132054EN; "X-Limiter hinge-mounted current-limiting fuse," Cooper Power Series, December 2015

Newby, Lane; SCL Engineer and subject matter expert for 6840.10 (lane.newby@seattle.gov)

SCL Material Standard 6837.10; "Links, Distribution Fuse"

SCL Material Standard 6840.1 (canceled); Fault Limiter, General Purpose Current-Limiting Fuse, "Type X"

Shetab, Muneer; SCL Standards Engineer, subject matter expert, and originator of 6840.10 (muneer.shetab@seattle.gov)