

## SECTION 26 28 13 – FUSES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes cartridge fuses, rated 600 V and less, for use in switches, panelboards, switchboards, controllers, and motor control centers; and spare fuse cabinets.

#### 1.2 SUBMITTALS

- A. Product Data: Include dimensions and Manufacturer's technical data on features, performance, electrical characteristics, and ratings for each fuse type indicated.

#### 1.3 QUALITY ASSURANCE

- A. Source Limitations: Provide fuses from a single Manufacturer.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NEMA FU 1.
- D. Comply with NFPA 70.

#### 1.4 PROJECT CONDITIONS

- A. Where ambient temperature to which fuses are directly exposed is less than 40 deg F or more than 100 deg F, apply Manufacturer's ambient temperature adjustment factors to fuse ratings.

#### 1.5 COORDINATION

- A. Coordinate fuse ratings with HVAC and refrigeration equipment nameplate limitations of maximum fuse size.

#### 1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged in original cartons or containers and identified with labels describing contents.
  - 1. Fuses: Quantity equal to one (1) set for every five (5) installed sets, but not fewer than one set of three of each kind.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Eaton Bussmann Series
  2. Mersen (Ferraz Shawmut) by Powerfuse.
  3. Littelfuse, Inc.

### 2.2 CARTRIDGE FUSES

- A. Characteristics: NEMA FU 1, nonrenewable cartridge fuse; class and current rating indicated; voltage rating consistent with circuit voltage.

### 2.3 SPARE FUSE CABINET

- A. Cabinet: Wall mounted, 0.05-inch-thick steel unit with full length, recessed piano hinged door and key coded cam lock and pull. Spare fuse cabinet shall be located in the main electric room or as shown on plans.
1. Size: Adequate for storage of spare fuses specified with 15 percent spare capacity minimum.
  2. Finish: Gray, baked enamel.
  3. Identification: "SPARE FUSES" in 1 1/2-inch-high letters on exterior of door.
  4. Fuse Pullers: For each size fuse.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine utilization equipment nameplates and installation instructions. Install fuses of sizes and with characteristics appropriate for each piece of equipment.
- B. Evaluate ambient temperatures to determine if fuse rating adjustment factors must be applied to fuse ratings.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 FUSE APPLICATIONS

- A. Main Service: Class L, time delay (601 to 6000A) or Class J, time delay (0 to 600A).
- B. Main Feeders: Class L, time delay (601 to 6000A) or Class J, time delay (0 to 600A).
- C. Combination Starter/Disconnect Switches: Class RK1, time delay.
- D. Disconnect Switches: Class RK1, time delay (30-600A).
- E. Other Branch Circuits: Class J, time delay.

3.3 INSTALLATION

- A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.
- B. Install spare fuse cabinet.

3.4 IDENTIFICATION

- A. The requirements listed below are in addition to the requirements listed in Division 26 "Electrical Identification".
- B. Install labels indicating fuse replacement information on inside door of each fused switch.

END OF SECTION 26 28 13