

SECTION 16491

FUSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section

1.2 SUMMARY

- A. Section Includes
 - 1. Cartridge fuses rated 600-V ac and less for use in control circuits and enclosed switches
 - 2. Spare-fuse cabinets

1.3 SUBMITTALS

- A. Product Data and Operation and Maintenance Data: For fuses to include in emergency, operation, and maintenance manuals. In addition to items specified in Sections 01340 and 01730 include the following
 - 1. Ambient temperature adjustment information
 - 2. Current-limitation curves for fuses with current-limiting characteristics
 - 3. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain fuses, for use within a specific product or circuit, from single source from single manufacturer
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application
- C. Comply with NEMA FU 1 for cartridge fuses
- D. Comply with NFPA 70

1.5 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

1.6 COORDINATION

- A. Coordinate fuse ratings with utilization equipment nameplate limitations of maximum fuse size and with system short-circuit current levels

1.7 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents
 - 1. Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than two of each size and type

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following
 - 1. Cooper Bussmann, Inc.
 - 2. Edison Fuse, Inc.
 - 3. Ferraz Shawmut, Inc.
 - 4. Littelfuse, Inc.

2.2 CARTRIDGE FUSES

- A. Characteristics: NEMA FU 1, nonrenewable cartridge fuses with voltage ratings consistent with circuit voltages

2.3 SPARE-FUSE CABINET

- A. Characteristics: Wall-mounted steel unit with full-length, recessed piano-hinged door and key-coded cam lock and pull
 - 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 1½-inch high letters on exterior of door
 - 4. Fuse pullers: For each size of fuse, where applicable and available, from fuse manufacturer

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fuses before installation. Reject fuses that are moisture damaged or physically damaged
- B. Examine holders to receive fuses for compliance with installation tolerances and other conditions affecting performance, such as rejection features

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

3.2 FUSE APPLICATIONS

A. Cartridge Fuses

1. Feeders: Class L, time delay
2. Motor branch circuits: Class RK1, time delay
3. Other branch circuits: Class RK1, time delay
4. Control circuits: Class CC, 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(s) at a location identified by Engineer

3.4 IDENTIFICATION

- A. Install labels complying with requirements for identification specified in Section 16075 and indicating fuse replacement information on inside door of each fused switch and adjacent to each fuse block, socket, and holder

END OF SECTION