

CSI Model Specification: Fire-Rated Wiring Systems (U.S.) MI

1 General

Furnish and install a complete UL Listed wiring system consisting of specified wiring cable, components, and accessories listed specifically for use with the system.

1.1 REFERENCES

- 1.1.1 ANSI/NFPA 70 - National Electrical Code
- 1.1.2 ANSI / UL 2196 "Tests for Fire Resistive Cables"
- 1.1.3 CSA C22.2#124
- 1.1.4 UL Fire Resistance Directory

1.2 SUBMITTALS

- 1.2.1 Provide product data for each cable type.
- 1.2.2 Provide manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements.

1.3 QUALIFICATIONS

- 1.3.1 Supplier: Company specializing in manufacturing products specified in Section 16, Electrical

1.4 REGULATORY REQUIREMENTS

- 1.4.1 Conform to requirements of ANSI/NFPA 70.
- 1.4.2 Conform to requirements of the Electrical Circuit Protective System listing in the UL Fire Resistance Directory.
- 1.4.3 Furnish products listed by Underwriters Laboratories as suitable for the purpose specified.

2 Products

2.1 FIRE-RATED WIRING CABLE

- 2.1.1 2-hour fire-rated Mineral Insulated (Pyrotex MI) cables shall be acceptable.
 - 2.1.1.1 The wiring cable shall be listed in the UL Fire Resistance Directory.
 - 2.1.1.2 Mineral Insulated wiring Type MI cable shall have:
 - Description: ANSI/NFPA 70, Type MI
 - Conductor: solid high conductivity copper
 - Insulation Voltage Rating: 600 volts
 - Cable Temperature Rating: 90 degrees C
 - Termination Temperature Rating: 90 degrees C
 - Insulation Material: magnesium oxide
 - Sheath Material: seamless soft-drawn copper
 - Fire Rating: complete cable system shall have a 2-hour fire rating as listed and classified by Underwriters Laboratories, Inc.

2.2 COMPONENTS

- 2.2.1 Mineral Insulated cable components shall be cCSAus Certified.
- 2.2.2 Mineral Insulated cable terminations shall consist of Pentair Thermal Management's:
Pyrotenax Model PyroPak (Installation Sheet H58872)
or Pyrotenax Model QuickTerm Termination (Installation Sheet H58264 or H58290)

3 Execution

3.1 EXAMINATION

- 3.1.1 Verify that the factory installed temporary end seals are intact.
- 3.1.2 Verify that no moisture has entered cable insulation.

3.2 STORAGE

- 3.2.1 Cables shall be shipped from the manufacturer with ends sealed against moisture.
- 3.2.2 Protect the exposed cable ends with shrinkable, molded polyolefin end caps or other suitable means such as standard conduit sealing compound and PVC tape.
- 3.2.3 Cable shall be stored in a clean dry location.

3.3 HANDLING

- 3.3.1 Cable shall be uncoiled by rolling or rotating supply reel.
- 3.3.2 Take precautions necessary to prevent damage to cable from contact with sharp objects, such as when pulled over foreign material on sheaves.

3.4 INSTALLATION

- 3.4.1 The wiring cable shall be installed according to the manufacturer's recommendations, the instructions in the Installation Specification or Manual and the requirements of the UL Fire resistance Directory listing.

3.5 FIELD QUALITY CONTROL

- 3.5.1 Inspect cable for physical damage and proper connection.
- 3.5.2 Measure tightness of any bolted connections and compare torque measurements with manufacturer's recommended values.
- 3.5.3 Verify continuity of each conductor.
- 3.5.4 Prior to energizing cables, measure insulation resistance of each cable. Tabulate and submit for approval.
- 3.5.5 Provide certification from cable manufacturer that installation is in accordance with their requirements.



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