

CSI Model Specification: Fire-Rated Wiring Systems (Canada) MI

1 General

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

1.1 REFERENCES

- 1.1.1 C22.1 Canadian Electrical Code, Part I
- 1.1.2 ULC-S139
- 1.1.3 CSA C22.2#124
- 1.1.4 ULC 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 Canadian Electrical Code, Part I.
- 1.4.2 Conform to requirements of the System Listing in the ULC Fire Resistance Directory
- 1.4.3 Furnish products certified by CSA as suitable for the purpose specified.

2 Products

2.1 FIRE-RATED WIRING CABLE

- 2.1.1 2-hour fire rated Mineral Insulated (Pyrotenax MI) cables shall be acceptable.
 - 2.1.1.1 The wiring cable shall be listed in the ULC Fire resistance Directory.
 - 2.1.1.2 Mineral Insulated wiring cable shall have:
 - Description: C22.1-02 Canadian Electrical Code, Part I 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 of Canada

2.2 COMPONENTS

- 2.2.1 Mineral Insulated cable components shall be cCSAus Certified.
- 2.2.2 Mineral Insulated 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 temporarily 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 it is 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 ULC 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 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.



WWW.THERMAL.PENTAIR.COM

NORTH AMERICA

Tel: +1.800.545.6258
Fax: +1.800.527.5703
Tel: +1.650.216.1526
Fax: +1.650.474.7711
thermal.info@pentair.com

EUROPE, MIDDLE EAST, AFRICA

Tel: +32.16.213.511
Fax: +32.16.213.603
thermal.info@pentair.com

ASIA PACIFIC

Tel: +86.21.2412.1688
Fax: +86.21.5426.2917
cn.thermal.info@pentair.com

LATIN AMERICA

Tel: +55.11.2588.1400
Fax: +55.11.2588.1410
thermal.info@pentair.com

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