CSI MODEL SPECIFICATION: FIRE-RATED TUNNEL LIGHTING WIRING SYSTEMS (U.S.) MI

This specification is dated 12/05/2022 and supersedes all previous versions.

For detailed design information, please contact your local representative, our website at nVent.com/PRYOTENAX or nVent Thermal Technical Support 800-545-6258.

PART 1 GENERAL

Furnish and install a complete UL listed wiring system consisting of specified wiring cable, fire-rated three-way splice, 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-rated Cables”

1.1.3 CSA C22.2#124

1.1.4 UL Fire Resistance Directory

1.1.5 NFPA 130 and 502

1.2 SUBMITTALS

1.2.1 Provide product data sheets for each cable type, three-way splice kit and components.

1.1.6 Provide manufacturer’s Installation Instructions: indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements.

1.1.7 QUALIFICATIONS

1.1.8 Supplier: company specializing in manufacturing products specified in Section 16, Electrical

1.1.9 REGULATORY REQUIREMENTS

1.1.10 Conform to requirements of ANSI/NFPA 70 and NFPA 130 and 502.

1.1.11 Conform to requirements of the Electrical Circuit Protective System listing in the UL Fire Resistance Directory.

1.1.12 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 nVent PYROTENAX Mineral Insulated (Pyrotenax 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 c-CSA-us Certified.

2.2.2 Mineral Insulated cable terminations shall consist of nVent: Pyrotenax Model Pyropak (Installation Sheet H58872)

2.3 THREE-WAY SPLICE KITS

2.3.1 Mineral insulated three-way splice kits shall be c-CSA-us certified.

2.3.2 Mineral Insulated three-way splice kits shall consist of nVent: Pyrotenax Fire-Rated Three-Way Splice (FTS) (Installation Sheet H60149) and nVent Pyrotenax Pyropak Termination kit for Fire-Rated Three-Way Splice (H60235)

3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify that the factory installed temporary end seals for field terminated projects or preterminated cables are intact.

3.1.2 Insulation Resistance test must be performed to verify that no moisture has entered cable insulation.

3.2 STOARAGE

3.2.1 Cables shall be shipped from the manufacturer either preterminated or with ends sealed against moisture.

3.2.2 Protect the non-preterminated 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, FTS kit and components 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 and splice boxes 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. Readings must be at acceptable levels after termination and prior to energizing cables.

3.5.5 Provide certification that installation is in accordance with manufacturer’s requirements. Visit Pyrotenax.com or contact manufacturer if installation assistance, training or testing is needed.

END OF SECTION