CSI Model Specification: Fire-Rated Wiring Systems (U.S.) RHW-2

1 General

Furnish and install a complete UL 2-hour fire-rated, 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 NFPA 70 - National Electrical Code

1.1.2 UL 2196

1.1.3 UL Fire Resistance Directory

1.1.4 UL 44

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 this Section.

1.4 REGULATORY REQUIREMENTS

1.4.1 Conform to requirements of 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 and Classified by Underwriters Laboratories as suitable for the purpose specified.

2 Products

2.1 TYPE RHW-2 Cable

2.1.1 2-hour fire-rated polymer insulated cables

Acceptable products are Raychem RHW cable, or pre-approved alternative meeting this specification.

2.1.1.1 The wiring cable shall be listed in the UL Fire Resistance Directory.

2.1.1.2 Polymer insulated Type RHW-2 cable shall have:

- Description: NFPA 70, Type RHW-2
- Conductor: high conductivity copper Class "B" strand, designed to ensure tensile strength under fire conditions
- Insulation Voltage Rating: 600 volts
- Cable Temperature Rating: 90°C wet and dry
- Termination Temperature Rating: 90°C
- Insulation Material: silicone rubber
- Marking indicating that the cable is Type RHW-2
- Wet location approval and to be printed "UL RHW"

2.2 FIRE RESISTIVE RATING

2.2.1 The RHW cables shall be listed as part of an Electrical Circuit Protective System in the UL Fire Resistance Directory and the System shall have the following:

- System shall be approved with minimum 1/2" steel conduit: EMT, IMC or RMC
- System shall be approved with 5-foot spacing between supports
- System shall be approved with steel pull box and steel conduit bodies
- System shall be approved for vertical installation including cable support mechanism
- System shall be approved with a pulling lubricant
- System shall be approved with alternate ground wire
- System shall be approved with a fire rated seal used to prevent smoke from entering

unwanted areas

2.3 COMPONENTS

2.3.1 Conduits, boxes and connectors for polymer insulated cables shall be UL Listed/CSA Certified.

3 Execution

3.1 EXAMINATION

3.1.1 Verify that cable end factory temporary seals have remained intact.

3.1.2 Verify that no moisture has entered cable.

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 steel pull boxes and equipment enclosures.

3.4 INSTALLATION

3.4.1 The wiring system shall be installed according to the manufacturer's Installation Manual and the requirements of the UL "Electrical Circuit Protective System" Listing.

3.4.2 The manufacture's instructions shall incorporate a means of preventing smoke from entering the electrical equipment.

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 and the requirements of the UL "Electrical Circuit Protective System" Listing.

Worldwide Headquarters
Tyco Thermal Controls
307 Constitution Drive
Menlo Park, CA 94025-1164
USA
Tel: (800) 545-6258
Tel: (650) 216-1526
Fax: (800) 527-5703
Fax: (650) 474-7711
info@tycothermal.com
www.tycothermal.com

Canada
Tyco Thermal Controls
250 West Street
Trenton, Ontario
Canada K8V 5S2
Tel (800) 545-6258
Fax (800) 596-5004