

# TRAY CABLE (TC) Guide Specifications-Encore Wire Corporation

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## 26 05 19- WIRE AND CABLE TYPE TC-Power & Control Cable

### PART 1 – GENERAL

#### 1.1 – SPECIFICATION INCLUDES

1.1.1 Cable Type: Type TRAY CABLE for use as power, lighting, control, and signal circuits.

1.1.2 General Applications: Type TRAY CABLE may be used in the following general applications per the National Electrical Code®.

1.1.2.1 In Cable Trays, Article 392.

1.1.2.2 In Raceways.

1.1.2.3 For outdoor locations supported by a messenger wire.

1.1.2.4 For Class 1 circuits as permitted in Parts II and III of NEC 2020, Article 725.

1.1.2.5 For non-powered limited fire alarm circuits in conductors comply with the requirements of NEC 2020, Article 760.49.

1.1.2.6 Approved for Direct Burial Wet or Dry Locations.

1.1.2.7 Approved for cable construction listed for applications requiring Type TC-ER rating.

#### 1.2 – SUBMITTALS

1.2.1 Product Data: Submit manufacturer's product data confirming that materials comply with specified requirements and are suitable for the intended application.

1.2.2 Installation Instructions: Manufacturer's installation instructions shall be included in submittal. Industry guides may supplement the manufacturer's instructions.

1.2.3 Manufacturer: Type TRAY CABLE for circuits, feeders and services shall be supplied from a single manufacturer.

#### 1.3 REQUIREMENTS

1.3.1 Underwriters Laboratories: Type TRAY CABLE shall meet the following Underwriters Laboratories (UL) standards and listings and additional associated standards.

1.3.1.1 UL 83 Thermoplastic-Insulated Wires and Cables.

1.3.1.2 UL 44 Thermoset-Insulated Wire and Cable

1.3.1.3 UL 1277 Electrical Power and Control Tray Cables

1.3.1.4 UL listed Sunlight Resistant in all sizes and in all colors, by request.

1.3.1.5 UL 1685 Method 1 (70,000 Btu/hr) Vertical cable Tray Flame Test.

1.3.1.6 Section 1605 "Buy American" Compliant.

1.3.1.7 Approved for Class I Division II Hazardous Locations.

1.3.1.8 Outer jacket is flame retardant.

1.3.1.9 TC containing conductors sized 6 AWG or smaller, the equipment grounding conductor shall be provided within the cable.

1.3.2 ASTM Standards: Type TRAY CABLE shall meet all applicable ASTM standards.

1.3.3 NFPA 70: Type TRAY CABLE shall meet the National Electrical Code, NEC Article 336.

1.3.4 NEMA Standards: Type TRAY CABLE shall meet NEMA WC57/ICEA S-73-532.

1.3.5 ICEA Standards: Type TRAY CABLE shall meet ICEA T-29-520 (210,000 Btu/hr) Flame Test. (Optional)

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURER**

2.1.1 Encore Wire Corporation, 1329 Millwood Road, McKinney, Texas, 75069. Web: <http://www.encorewire.com>

### **2.2 CABLE CONSTRUCTION**

2.2.1 Inner Conductor: The conductor shall be soft annealed copper.

2.2.2 Inner Conductor Insulation: The insulation shall be high-heat and moisture resistant, THHN/THWN-2 or XHHW-2.

2.2.3 Jacket: The jacket shall be abrasion, moisture, gasoline and oil resistant nylon or listed equivalent.

## **PART 3 - INSTALLATION**

### **3.1 INSTALLATION**

3.1.1 Manufacturer's Instructions: Type TRAY CABLE shall be installed per the manufacturer's published installation instructions. Industry guides may supplement the manufacturer's instructions.

3.1.2 Field Support: Manufacturer shall provide, when requested, field engineering support for Type TRAY CABLE installation.

3.1.3 Manufacturer: Type TRAY CABLE for power, lighting, control, and signal circuits shall be supplied from a single manufacturer.

3.1.4 Minimum Bend Radius: Bends in Type TRAY CABLE shall be so made that the cable will not be damaged. For Type TRAY CABLE without metal shielding, the minimum bending radius of the inner edge curve shall be as

follows; 1 in. or less in overall diameter shall not be less than four (4) times the overall diameter, Over 1 in. to 2 in. overall diameter shall not be less than five (5) times the overall diameter, larger than 2 in. diameter shall not be less than six (6) times the overall diameter.

### **3.2 SPECIFIC USES**

3.2.1 Type TRAY CABLE may be used in conduit, raceways and cable trays for power, lighting, control, and signal circuits as specified in the applicable section of the NEC®.

### **3.3 USES NOT PERMITTED**

3.3.1 Type TRAY CABLE shall not be used where it will be exposed to physical damage.

### **3.4 AMPACITY**

3.4.1 The ampacity of Type TRAY CABLE shall be determined in accordance with Section 336.80 of the National Electrical Code®. The installation and the inner conductors shall not exceed the temperature ratings of the terminals and equipment.