

THHN/THWN-2 Guide Specifications-Encore Wire Corporation

26 05 19- WIRE AND CABLE TYPE THHN/THWN-2

PART 1 – GENERAL

1.1 – SPECIFICATION INCLUDES

1.1.1 Cable Type: Type THHN/THWN-2 for use as services, feeders and branch circuits.

1.1.2 General Applications: Type THHN/THWN-2 cable may be used in the following general applications per the National Electrical Code®.

1.1.2.1 In Conduit.

1.1.2.2 In Cable Tray.

1.1.2.3 For Services .

1.1.2.4 For Feeders.

1.1.2.5 For Branch Circuits.

1.1.2.6 Wet or Dry Locations, 90°C and Gasoline and Oil Resistant II rated .

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.

1.3 REQUIREMENTS

1.3.1 Underwriters Laboratories: Type THHN/THWN-2 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 1063 UL Standard for Safety Machine-Tool Wires and Cables.

1.3.1.3 UL listed Sunlight Resistant in sizes 6 AWG and larger in all colors.

1.3.1.4 Sizes 1/0 AWG and larger listed for CT use.

1.3.1.5 Sizes 14 through 1 AWG shall be rated VW-1.

1.3.1.6 Sizes 14 AWG and larger shall be rated THHN/THWN-2.

1.3.2 ASTM Standards: Type THHN/THWN-2 cable shall meet all applicable ASTM standards.

1.3.3 Federal Specifications: Type THHN/THWN-2 cable shall meet Federal Specification A-A-59544.

1.3.4 NEMA Standards: Type THHN/THWN-2 cable shall meet NEMA WC70/ICEA S-95-658.

1.3.5 ICEA Standards: Type THHN/THWN-2 cable shall meet ICEA T-29-520 (210,000 Btu/hr) Flame Test.

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 Conductor: The conductor shall be soft annealed copper.

2.2.2 Insulation: The insulation shall be high-heat and moisture resistant PVC.

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

2.2.4 Pre-Lubricated Jacket: slick nylon outer jacket on conductor sizes 14 and larger shall be Super Slick Elite™ or equivalent having integrated pre-lubrication such that the cable coefficient of friction is less than or equal to 0.17.

PART 3 - INSTALLATION

3.1 INSTALLATION

3.1.1 Manufacturer's Instructions: Type THHN/THWN-2 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 THHN/THWN-2 cable installation.

3.1.3 Manufacturer: Type THHN/THWN-2 cable for circuits, feeders and services shall be supplied from a single manufacturer.

3.1.4 Minimum Bend Radius: Bends in Type THHN/THWN-2 shall be made so that the cable will not be damaged.

3.2 SPECIFIC USES

3.2.1 Type THHN/THWN-2 cable may be used in conduit, raceways and cable trays for services, feeders and branch circuits as specified in the applicable section of the NEC®.

3.3 USES NOT PERMITTED

3.3.1 Type THHN/THWN-2 cable shall not be used in direct burial applications.

3.4 AMPACITY

3.4.1 The ampacity of Type THHN/THWN-2 cable shall be determined in accordance with Section 310.15 and Table 310.16 of the National Electrical Code®. The installation should not exceed the temperature ratings of the terminations and equipment.