



Article 727

Instrumentation Tray Cable: Type ITC

Article 727 - Instrumentation Tray Cable: Type ITC

Instrumentation tray cable (ITC) is used in industrial establishments where the conditions of maintenance and supervision ensure that only qualified persons will service the installation. ITC cable is a factory assembly of two or more insulated conductors, with or without grounding conductor(s), and enclosed in nonmetallic sheath or armor. This system was added to the 1996 National Electrical Code to make legal a wiring method that had been used on offshore oil rigs for years.

727.1 Scope

Article 725 covers the use and installation of instrumentation tray cable for instrumentation and control circuits operating at 150V or less and 5A or less. Figure 727-1

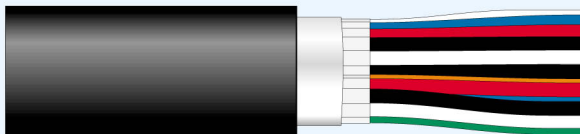
727.2 Definition

ITC cable is a factory assembly of two or more insulated conductors enclosed in a nonmetallic sheath or armor for instrumentation and control circuits operating at 150V or less and 5A or less, (power 750 VA) [725.1].

727.3 Other Articles

90.3 specifies that all wiring shall be installed in accordance with the general requirements of Chapters 1 through 4, unless modified by Chapters 5 through 7. Article 727 does not modify the general requirements of Chapters 1 through 4.

Instrumentation Tray Cable - Type ITC
Section 727.1



Article 727 covers the use and installation of instrumentation tray cable for application to instrumentation and control circuits operating at 150V or less and 5A or less.

COPYRIGHT 2002 Mike Holt Enterprises, Inc.

Figure 727-1

727.4 Uses Permitted

Type ITC cable can only be installed in industrial establishments where the conditions of maintenance and supervision ensure that only qualified persons will service the installation.

AUTHOR'S COMMENT: According to Article 100, a "Qualified Person" is one who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training on the hazards involved.

727.5 Uses Not Permitted

Type ITC cable must not:

- Be installed on a 277/480V system.
- Supply more than 5A.
- Be installed in the same enclosure, raceway or cable with other cables.

Exception No. 2: ITC cable shall be permitted to be installed in the same enclosure with power conductors where a metallic sheath is applied over the sheath of the Type ITC cable.

AUTHOR'S COMMENT: Flexible metal conduit is an example of a metallic sheath.

727.6 Construction

The conductors contained within Type ITC cable shall be rated 300V, not smaller than 22 AWG and not larger than 12 AWG. The cable is to be listed as being resistant to the spread of fire and the outer jacket shall be sunlight and moisture resistant.

727.7 Marking

The cables shall be marked to indicate:

- The proper type letter or letters for the type of wire [310.11(A)(2)].
- The manufacturer's name, trademark or other distinctive marking by which the organization responsible for the product can be identified [310.11(A)(3)].
- The AWG size [310.11(A)(4)].