

Article Overview

TC (Tray Cable) is a multi-conductor cable designed for installation in cable trays, while TC-ER (Exposed Run) is a variant that allows short unsupported runs outside the tray.

Overview of TC Cable

Tray Cable (TC) is a factory-assembled, multi-conductor cable with two or more insulated conductors, optionally including a grounding conductor, all enclosed in a non-metallic jacket. TC cables are rated for 600 volts and are primarily used in industrial power, control, and instrumentation circuits. They are designed for installation in cable trays, raceways, and channels, and certain types can be used outdoors or for direct burial if specified. Key features of TC cables include:

- o Flame-retardant insulation (PVC, XLPE, or EPR)
- o UL listing for tray installation
- o Mechanical protection against crush and impact
- o Temperature ratings typically up to 90°C (194°F) and down to -40°C for cold environments TC cables are not permitted for unsupported runs between the tray and equipment unless specifically supported or protected according to NEC regulations.

TC-ER (Exposed Run) Cable

TC-ER builds upon standard TC cable with enhanced protection for short unsupported runs outside the tray, typically up to 6 feet (1.8 meters). This allows the cable to drop directly from the tray to equipment such as motors, drives, or control devices without additional conduit or support. Additional points about TC-ER:

- o Complies with crush and impact requirements for exposed runs
- o Can be used in industrial environments where continuous support is not feasible
- o Provides flexibility and cost savings for final connections from tray to equipment

Applications

Both TC and TC-ER cables are widely used in:

- o Industrial plants (petrochemical, steel, cement, mining)
- o Commercial buildings and utility installations
- o Automation and control systems where organized cable routing is required TC cables are ideal for protected tray installations, while TC-ER is preferred when a short exposed run is necessary between the tray and connected equipment.

Cable tray CT or TC

Summary of Differences

Feature	TC	TC-ER
Installation	Cable trays, raceways, channels	Cable trays + short unsupported runs (up to 6 ft)
Protection	Standard mechanical and flame protection	Enhanced crush and impact protection for exposed runs
Flexibility	Must remain supported	Can transition directly to equipment without conduit
NEC Compliance	Article 336	Article 336 with ER designation

In conclusion, TC cables provide a robust, tray-rated solution for industrial wiring, while TC-ER adds the flexibility for short exposed connections, making it suitable for final equipment terminations without additional conduit or support .

Complete guide to tray cable types including TC, TC-ER, VNTC, EPR-CPE, and shielded instrumentation cable. Compare

Tray cables (TC) are multi-conductor cables designed and rated for installation in cable trays and raceways or

The baseline rule is straightforward: Type TC cable can be used for power, lighting, control, and signal circuits in

Type TC tray cables are unarmored cables rated for use in cable trays.

If Cable is marked with "CT use" without "TC or TC-ER", I would like to know the general Wiring method in NEC. As I

Tray Cable UL Type TC / TC-ER - 600V THHN/THWN-2 Insulation - with Ground - PVC Jacket
APPLICATION: g circuits in

Type TC cable is most commonly known as "tray cable," a name that reflects its primary use: installation in cable trays

Knowing the fundamental characteristics of tray cable will help you understand your product options, and allow you to make better

Type TC (Tray Cable) tray-rated cables will be the most common type you will see on the market. These are rated to 600V, and there

I am curious about the "Cable Tray (CT) Rating" in accordance with the NEC. What peaked my curiosity about this

Tray cable comes in many different forms, each with its own shielding, cable jacketing, and insulation.

Cable tray CT or TC

Type TC cable can be used for a variety of applications such as, power, lighting, control, signal circuits, class 1 circuits

Encore Wire's thermoplastic and/or thermoset single conductors and their subsequent ratings for Cable Tray "CT" use

Lapp Tannehill is a distributor of tray cables or TC-ER cables, including flexible tray cables and tray control cables. Contact us today

Confused about TC and TC-ER Cables? Learn their key differences, applications, and get

Type TC-ER cable complies with the crush and impact requirements of metal-clad cable. It can be used when

Web: <https://www.supremeacademicresearch.co.za>

