

Cables without armor are run in cable trays



Overview

The cables identified as Type TC-ER (Exposed Run) can be installed in industrial establishments for the connections between the cable trays and the equipment without metal conduits or armored cables Type MC (Metal Clad Cable); this kind of connections is called Open Wiring. Type TC – Tray Cable – (NEC Article 336) –Power and control tray cable type TC is a factory assembly of two or more insulated conductors, with or without associated bare or covered grounding conductors, under a non-metallic jacket. Pictured here are:. UL Listed shielded cables (THHN/THWN or TFN) built for the uses specified by art. 336 of ANSI/NFPA 70 “National Electrical Code” (NEC) and suitable for use in Class I, Division 2, Hazardous Locations. 8 meters (6 ft) of cable extends from the tray for a connection to a motor or other electrical device, cables without an ER rating must be either armored (type MC) or installed in conduit or another. Tray cable types TC, ITC and PLTC are permitted in cable trays by the NEC. CEC 12-904 (2) indicates that no raceway shall contain conductors of a different source unless they have metal armor.



Article Content

Dec 17, 2025

TG78 TC ER Tray Cable Rating | PDF | Electrical Wiring | Wire

It explains that TC-ER, ITC-ER, and PLTC-ER cable types are rated for exposed runs, allowing them to extend outside cable trays without conduit. Using ER rated cables can reduce costs compared to ...

Apr 12, 2026

ECHCAL GELE Februar 18

What is an ER Rating? In the 1990s, an "ER" rating for unarmored, physically rugged instrumentation and control tray cables was made possible by changes in NEC. and UL2 requirements. The "-ER" ...

Jul 09, 2025

A Comprehensive Guide to Tray Cable

Tray cable is a widely used type of multiconductor or multipair cable approved for installation in cable raceways and cable trays.

Oct 16, 2025

Different voltages in raceways, conduits, cables, etc | Eng-Tips

So practically speaking, if all cables are insulated at 600 V, the NEC allows them to be run in the same conduit or raceway. That doesn't mean it's always a good idea or that it will work ...

Apr 01, 2026

Wiring Methods, Part 1, based on the 2020 NEC

All conductors of a circuit, including the neutral and equipment grounding conductors, must be run in the same raceway, cable, trench, cord, or cable tray; except as permitted by 300.3 (B) (1) through (4).

Sep 02, 2025

392.20 Cable and Conductor Installation.

Cable tray barriers can be used to separate conductors operating over 600 volts from other conductors in the same tray operating at 600 volts or less.

Dec 13, 2025

WIRE WISDOM™

Cables with an ER rating, on the other hand, can extend outside the tray if given adequate protection and support. Thus, in some applications, the use of ER-rated cables can eliminate the cost of ...

Jan 02, 2026

TG78-TC-ER-Tray-Cable-Rating dd

However, if more than 1.8 meters (6 ft) of cable extends from the tray for a connection to a motor or other electrical device, cables without an ER rating must be either armored (type MC) or installed in ...

Dec 27, 2025

Types of Cable Typically Used in Cable Tray

Type ITC - Instrumentation Tray Cable - (NEC Article 727) - These types of cables are instrumentation cables and are available in shielded or unshielded constructions consisting of multiple single ...

Mar 12, 2026

Power and Control Tray Cable, TC-ER

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Jun 23, 2026

PLTC-ER Communication Cable — what it is and why you want

While standard tray cables cannot extend more than six feet outside a tray without armor or a raceway, ER rated cables can go more than 50 ft. if there is sufficient protection and support, eliminating the ...

Contact Us

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