

What type of cable is used for connecting cable trays



Overview

Tray Cable Applications & Selection Guide | TC, TC-ER, VNTC, EPR Standard Type TC cable is approved for installation in cable trays, raceways, and outdoor.

Key Takeaways

Tray cables (TC) and their variants, such as TC-ER and ITC, are the primary types of cables used for cable tray connections, designed for power, control, and instrumentation applications.

Tray cables are multi-conductor or multi-pair cables specifically designed for installation in cable trays without additional conduit. They are constructed to withstand mechanical stress, exposure to moisture, sunlight, chemicals, and high temperatures, making them suitable for industrial, commercial, and utility environments. Tray cables are UL listed and marked as cable tray rated, ensuring compliance with the National Electric Code (NEC) requirements, particularly NEC Article 336 for Type TC cables.

Common Types of Tray Cables

- Type TC (Tray Cable)
- General-purpose tray cable suitable for power, lighting, and control circuits.
- Rated for 600 volts and can be installed in cable trays, raceways, or outdoor locations if supported by a messenger wire.
- Available in multiple conductor counts, gauges, and insulation types.

- Flame-retardant and UL listed for industrial and commercial applications .
- Type TC-ER (Tray Cable – Exposed Run)
- Designed for exposed runs outside the tray for distances up to six feet.
- Complies with crush and impact requirements, allowing safe transition between trays and equipment without continuous support.
- Ideal for industrial installations where cables must leave the tray temporarily .
- Type ITC (Instrumentation Tray Cable)
- Used for instrumentation and control signals.
- Available in shielded or unshielded constructions, often with twisted pairs and optional metal armor.
- Provides protection against electrical noise and interference in sensitive control circuits .
- Specialty Tray Cables
- XHHW tray cables: Cross-linked polyethylene insulation, high heat and water-resistant, suitable for 600 V installations and direct burial in some cases.
- PLTC or VNTC cables: Designed for specific control or signal applications, meeting UL and NEC standards .

Key Considerations

- Voltage Rating: Most tray cables are rated for 600 V, but always verify the rating for your application.
- Environmental Resistance: Choose cables resistant to moisture, chemicals, sunlight, and temperature extremes.
- Flame Retardancy: UL 1277 and IEEE 1202 FT4/FT6 tests ensure safety in confined spaces.
- Installation Compliance: Follow NEC Article 392 for cable tray fill, support, and securing requirements . Tray cables simplify wiring in complex installations by providing a self-contained, durable, and code-compliant solution for routing power, control, and instrumentation circuits in cable trays.

Article Content

Tray Cable Applications & Selection Guide | TC, TC-ER, VNTC, EPR

Standard Type TC cable is approved for installation in cable trays, raceways, and outdoor locations where supported by messenger

Tray & TC Cable

TC Tray Cables are installed in cable trays, ducts and conduit; they can also be used in direct burial applications. They are

A Technical Guide to Tray Cable

At IEWC, we carry three main categories of tray-rated cables: SDT, Power Limited Tray Cable, and 600V Tray Cable. PLTC Cable

Types of Cable Trays & Installation Guide

Additional Information Cable trays are crucial in cable management, providing organized electrical and communication wiring

Cable Tray Types & Installation Guide | Enagalxy

Learn cable tray types, uses, and installation basics to support safe, efficient electrical and water supply pipe systems in your project.

Cable Tray Technical Guide A practical guide to product selection

What is a cable tray ? ABB offers a number of different types of cable tray for use in a range of different applications and environments.

A Technical Guide to Tray Cable

The various types of tray cables are used for many kinds of applications—commercial, industrial, and utility—in any place where a

What is Cable Tray and How it is used in Industrial applications?

What is Cable Tray? In electrical cabling, a cable tray is a metallic structure used to handle insulated electrical power

A Guide to Cable Tray Accessories and Their Functions

Selecting the right cable tray accessories is crucial for the safety, stability, and ease of maintenance of any electrical

Cable Trays Selection Guide: Types, Features, Applications

Cable trays are components of support systems for power and communications cables and wires. A cable tray system supports and

What Is Tray Cable? Everything You Need to Know

Simply put, tray cable is a versatile cable approved for installation in cable trays or raceways. Tray cable comes in multiconductor

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