

## Cable types that do not require cable trays



### Overview

7 Types of Cable Trays: How to Choose the Right One Selecting the correct cable tray type is not arbitrary—it depends on a combination of cable characteris.

### Key Takeaways

Certain cables, such as Type TC-ER (Tray Cable - Exposed Run) and outdoor messenger-supported cables, can be installed without continuous cable trays under specific conditions. Cables That Can Be Installed Without Cable Trays

- Type TC-ER (Tray Cable - Exposed Run)
- These are power and control tray cables designed for short transitions between cable trays and equipment.
- They can be installed without continuous tray support for distances up to six feet, provided they are not subject to physical damage and are secured at intervals not exceeding six feet.
- This allows flexibility for connecting equipment directly to a tray system without requiring a full tray run .
- Outdoor Messenger-Supported TC Cables
- Type TC cables can be installed outdoors supported by a messenger wire instead of a tray.
- This method is suitable for aerial runs where physical protection is provided by the messenger support rather than a tray .

- Direct Burial Cables
- Some TC cables, if specifically identified for direct burial, can be installed underground without a tray.
- These installations must comply with NEC requirements for burial depth, protection, and environmental conditions .
- Certain Communication and Instrumentation Cables
- Low-voltage communication cables, optical fiber cables, and instrumentation cables may be installed without trays if they are protected from physical damage and meet NEC spacing and support requirements.
- For example, short runs under raised floors or within walls may not require trays if proper support and separation from power cables are maintained .

#### Key Considerations

- Physical Protection: Cables not in trays must be protected from mechanical damage.
- Support Intervals: Even when trays are not used, cables must be supported at intervals specified by the NEC or manufacturer.
- Separation Requirements: Power, signal, and communication cables must maintain proper separation to prevent interference.
- Compliance: Always verify that the cable type and installation method comply with NEC Articles 336 (TC), 334 (MC), 727 (ITC), and other relevant sections . In summary, while most industrial and commercial cables are installed in trays for support, heat dissipation, and organization, Type TC-ER, messenger-supported outdoor cables, direct burial cables, and certain low-voltage communication or instrumentation cables can be installed without cable trays when NEC and manufacturer guidelines are followed.

## Article Content

### Armored and Unarmored Cable Options & Cable Tray Guide

This guide explores armored and unarmored cable solutions, cable tray systems, installation considerations, industry applications,

### Types of Cable Containment Systems: Trays, Trunks, Conduits

Discover the main types of cable containment systems—trays, trunking, and conduits—and learn how to choose the

### Cable Tray Installation Rules (NEC 392) – Electrical Trader

Only cables specifically rated for tray use - such as Type TC (Tray Rated) or Type MC (Metal-Clad) - are allowed.

Cables Allowed in NEC Tray Applications

Table 392.10 (see Table 1) lists the type of cable that is allowed to be installed in tray and the types of raceway that can be used.

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

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

TECHNICAL SERVICES DEPARTMENT BULLETIN

Tray Cable for use in Residential Applications family dwellings in Section 336.10(9). Tray cable with both power and

Cable tray vs cable basket vs cable ladder vs cable trunking ...

This article will discuss the four most common types of cable containment and their uses: cable tray, cable basket,

Cable tray

In the electrical wiring of buildings, a cable tray system is used to support insulated electrical cables used for power distribution,

Cable Tray Technical Guide A practical guide to product selection

A practical guide to product selection and installation This guide for engineers and installers has been developed by ABB as a

Cable Tray SHIB NAL

The type of cable tray (e.g., solid, ventilated), ampacity (current-carrying limit) requirements, and the type and voltage rating of cable

A Comprehensive Guide to Tray Cable

What makes a tray-rated cable different from a standard multi-conductor? Tray cables are high-quality cables that

Cable Conduit vs. Cable Tray: Alternatives To Open Wiring

Two common alternatives to open wiring (types of an enclosed wiring system) are cable conduit and cable tray. Let's

Cable Tray Type Selection

The only reason to select a ventilated trough cable tray over a ladder type cable tray is aesthetics. No drooping of small cables is

Cable Tray vs Cable Basket vs Cable Ladder vs Cable Trunking

Compare cable tray, basket, ladder & trunking systems. Learn the pros, cons, and best uses for each type, with links to our UK

Tray-Rated Cable 101

Tray cables are high-quality cables that have been tested rigorously and generally boast armor over individual conductors for

Cable tray manual

Where the cable type may be used, cable tray may be installed to support it except as per Section 392.12 which states that cable

10 Things to Consider when Selecting a Cable Tray | Snake Tray

Snake Tray products are designed to nest together for a much higher density of material per square foot. Typically,

Perforated or Unperforated Cable Tray: Differences, Uses and

Perforated or Unperforated Cable Trays: When to Use Them? When designing an industrial electrical installation,

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

