ZITHA TECH SPECIALTY CABLES (Pty) Ltd

What type of cable is used in cable trays



Overview

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

Key Takeaways

The most commonly used cables in cable trays are Tray Cables (TC), Instrumentation Tray Cables (ITC), and Power-Limited Tray Cables (PLTC), each designed for specific power, control, or signal applications.Common Cable Types

1. TC (Tray Cable) TC cables are multi-conductor cables designed for power, lighting, and control circuits in industrial and commercial environments. They feature enhanced insulation and jacketing to withstand mechanical stress, moisture, oil, sunlight, and chemicals. TC cables are rated for 600 volts and can be installed in cable trays, raceways, or outdoor locations supported by a messenger wire. TC-ER (Exposed Run) variants allow short exposed runs up to six feet between trays and equipment without continuous support, meeting crush and impact standards . 2. ITC (Instrumentation Tray Cable) ITC cables are used for low-energy control, signal, and communication circuits, typically not exceeding 150 volts and 5 amps. They are available in shielded or unshielded constructions, often with twisted pairs and optional metal armor. ITC cables are ideal for PLCs, DCS systems, transmitters, and other instrumentation applications. Some ITC-ER versions permit short exposed runs similar to TC-ER . 3. PLTC (Power-Limited Tray Cable) PLTC cables are designed for Class 2 and Class 3 power-limited circuits, commonly used in alarm systems, intercoms, security, and building automation. They provide safe, code-compliant routing of low-voltage power and control signals within cable trays .

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Key Considerations
• Compliance: All tray cables must meet NEC requirements (NEC Articles 336, 725) and UL standards.

• Mechanical Protection: Cables in trays are supported continuously and secured at intervals, with TC-ER and ITC-ER allowing limited exposed runs.

• Environmental Resistance: Tray cables are designed to resist heat, moisture, chemicals, and physical damage, making them suitable for industrial and commercial installations . In summary, TC, ITC, and PLTC cables are the primary types used in cable trays, selected based on voltage, application, and environmental conditions to ensure safety, durability, and compliance with electrical codes.

Article Content

The Ultimate Guide to Tray Cables: Types, Applications and

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

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.

The Beginner''s Guide to Tray Cable Types

There are many types of tray cable. They vary in shielding, insulation, jacketing, and many other features.

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

Cable Tray Fill Rules (NEC 392)

Data centers almost exclusively use cable tray (usually wire mesh or ladder type) for both power and data cables

7 Types of Cable Trays: How to Choose the Right One

Cable tray systems are engineered support structures designed to route, support, and protect insulated electrical

A Comprehensive Guide to Tray Cable

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

Tray-Rated Cable 101

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

Types of Cable Trays: Ladder, Perforated, Basket, Solid & Channel

Cable trays support insulated electrical cables in industrial and commercial settings. There are several types of cable

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What Are Tray Cables and Their Types?

Can tray cable be used in residential projects? Traditionally, tray cables are used for

The Beginner''s Guide to Tray Cable Types

There are many types of tray cable. They vary in shielding, insulation, jacketing, and many other features.

Exploring Cable Tray Types and Applications

Often unheralded, cable trays play a vital role in tray cable installations throughout industrial, commercial,

Cable Tray Types and Sizes

What is Cable Tray Systems? An electrical cable tray is a type of containment system used to support insulated electrical cables for

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

What Is Cable Tray (Types, Applications, and Safety

What is cable tray? Learn about its types, uses in industries, safety benefits, and how it

Top 7 Types of Cable Trays and Their Applications

Conclusion Understanding the different types of cable trays and their applications is crucial

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Cable Tray and its types & Sizes

A cable tray is a type of a containment used to support insulated electrical cables used for power

Cable Trays and Their Uses: Definition, Types, and

Cable Trays Definition A cable tray is a structural system used to support insulated electrical cables used

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

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.

B-Line series Cable Tray Design Considerations

Is your cable tray system optimized for safety, dependability, space and cost savings? Cable tray (or cable ladder) systems are a

Cable Tray Type Selection

Ladder cable tray is used for about 75 percent of the cable tray wiring system installations. It is the predominate cable tray type due

Cable Tray Technical Guide A practical guide to product selection

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Explaining NEC Article 392 on Cable Trays

Cable trays are used not just in industrial establishments. Cable trays are permitted for use

What is Cable Trays in Electrical and Uses

The channel trays are also utilized for cable drops and branching from the backbone cable tray systems. Material The

Types of Cable Trays – Purpose, Advantages, Disadvantages

A cable tray system supports and protects both power and signal cables and facilitates upgrading, expanding, reconfiguring, or

Types of Cable Trays & Installation Guide

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Explore cable tray types, materials, and installation techniques. Learn the difference between cable trays, wireways, and raceways at

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Comprehensive Guide to Tray Cable Types

What are typical applications for various types of tray cables? Tray cables are commonly

A Comprehensive Guide to Tray Cable

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What Is A Cable Tray? 5 Types Of Cable Trays

A cable tray is a structural system used to support and manage electrical cables in various settings, such as industrial, commercial,

What Is Cable Tray (Types, Applications, and Safety Benefits)

What is cable tray? Learn about its types, uses in industries, safety benefits, and how it organizes and supports

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Top 7 Types of Cable Trays and Their Applications

Conclusion Understanding the different types of cable trays and their applications is crucial for designing safe, efficient,

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Cable Trays and Their Uses: Definition, Types, and Accessories ...

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