ZITHA TECH SPECIALTY CABLES (Pty) Ltd

How to handle intersecting cable trays



Overview

When fitting cable trays and their accessories, the products are cut on site to create changes of direction, adjust sections, etc.

Key Takeaways

Intersecting cable trays should be managed using multi-level layouts, proper spacing, and dividers to prevent interference, maintain accessibility, and ensure safety.Key Principles for Intersecting Cable Trays



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1. Multi-Level Layouts: When cable trays must cross, it is recommended to use a multi-level or tiered arrangement. Place one tray above the other to avoid physical crossovers, which reduces wear on cables and simplifies maintenance access . 2. Maintain Minimum Spacing: Ensure a minimum vertical and horizontal distance between intersecting trays. Industry standards often suggest at least 300 mm (12 inches) between power and control trays to minimize electromagnetic interference (EMI) and maintain airflow for heat dissipation . 3. Use Dividers or Partitions: If space constraints require trays to be close, metal partitions or cable separators can be installed between trays. This prevents EMI between high-current power cables and sensitive instrumentation or control cables . 4. Support and Load Considerations: Each tray must be properly supported to handle the weight of the cables, including future expansions. Use appropriate support spans and ensure that intersecting trays do not compromise structural integrity . Ladder trays are ideal for power cables due to ventilation, while ventilated troughs or channel trays are better for smaller control or instrumentation cables . 5. Accessibility and Maintenance: Design intersections to allow easy access for inspection, maintenance, and cable pulling. Avoid placing trays behind obstructions like pipes or structural columns, and ensure that tray covers can be removed without difficulty . 6. Environmental and Safety Factors: Consider heat dissipation, humidity, and corrosive environments. Use corrosion-resistant materials such as stainless steel, coated aluminum, or fiberglass-reinforced plastic (FRP) for trays in harsh conditions. Ensure compliance with safety standards and proper separation of high-voltage and low-voltage cables .

Practical Tips

• Plan the shortest and most direct routes for trays to minimize unnecessary bends and intersections.

• Avoid overloading trays at intersections to prevent sagging or mechanical stress.

• Label trays and cables clearly to facilitate troubleshooting and future upgrades.

• Regularly inspect intersections for wear, overheating, or loose supports. By following these principles, intersecting cable trays can be installed safely, efficiently, and in compliance with industry standards, ensuring long-term reliability and ease of maintenance .

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Article Content

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This guide covers cable ladder systems, cable tray systems, channel support systems and associated supports intended for the

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Core Principles for Electrical and Instrumentation Cable Tray Layouts

Avoiding Crossovers and Congestion: If trays must intersect, use multi-level layouts or bridges to avoid physical cable crossovers.

Annex I

This document deals with cables trays, cables and connector installation and segregation, cable trays earthing and E.M.C. directives.

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Using cable trays as walkways can cause personal injury and also damage cable tray and installed cables. Performances of cable

100+ Essential Questions Answered About Cable Trays:

Discover over 100 expert answers about cable trays, covering key topics like material

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Looking to improve your cable organization and create a clean, safe workspace? In this

Wyr-Grid Overhead Cable Tray Routing System

s p e c i f i c a t i o n s The overhead cable tray routing system shall consist of pathway sections, splice connectors, sidewalls,

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

Explaining NEC Article 392 on Cable Trays

NEC Article 392 explains cable trays, their components, appropriate wiring methods for

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Method Statement installation of Cable Trays and Ladders

This method statement covers the site installation of the cable tray & ladders and the requirements of checks to be

Cable Tray Trunking & Ladder Installation Method Statement

Cable Trays and Trunking shall be fixed with metal bracket at an interval of 1200mm or less as per manufacturer recommendations

Flextray installation guide

Cutting Tool 1 4.3 1.95 4 Turn tray open-side down and cut wires from bottom of tray. 5 Finish cutting by moving to other side of tray

Best practice guide to cable ladder and cable tray systems

Cable ladder and cable tray systems The following recommendations are intended to be a practical guide to ensure

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Wire Basket Overhead Cable Tray Routing System Application

The Wire Basket Overhead Cable Tray Routing System is composed of pathways, splices, mounting brackets, and accessories that

Avoiding Mistakes in Cable Tray Installation

Going beyond the recommended weight limits in electrical cable trays can create issues like structural failure and

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