

Zinc-plated pipes enter the cable tray



Overview

Choose from our selection of wire trays, including over 850 products in a wide range of styles and sizes. Same and Next Day Delivery.

Key Takeaways

Zinc-plated pipes can be routed through cable trays, but attention must be paid to corrosion protection, galvanization type, and potential zinc whisker formation in sensitive environments. Corrosion Resistance and Galvanization

Zinc plating provides good corrosion resistance, but the level depends on the galvanization process. Electroplated zinc coatings are thin and uniform but offer weaker corrosion protection, suitable for indoor or low-humidity environments. Hot-dip galvanization produces a thicker zinc-iron alloy layer, offering superior corrosion resistance, making it ideal for harsh or outdoor conditions. For cable trays, the zinc coating should meet standards such as GB/T 13912-2020, with minimum thicknesses of 45-55 μm depending on component size. Zinc-magnesium (ZM) coatings are also available, providing corrosion protection comparable to hot-dip galvanized steel while being environmentally friendly.

Potential Risks: Zinc Whiskers



In sensitive environments like data centers, zinc-plated surfaces can develop zinc whiskers, which are tiny filaments of zinc that grow under compressive stress. These whiskers can break off and become airborne, potentially causing short circuits or damage to electronic equipment . The risk is higher with bright zinc finishes or in high-temperature areas. Using zinc-aluminum or ZM finishes can reduce whisker formation and provide safer alternatives for critical installations .

Installation Considerations

- Ensure mechanical separation between zinc-plated pipes and cable tray surfaces if possible, using insulating grommets or spacers to prevent galvanic corrosion.
- Avoid scratching or scuffing the zinc coating during installation, as exposed steel can corrode faster.
- Verify that the tray and pipe coatings are compatible with the environment, especially in humid, coastal, or industrial areas.
- For heavy pipes, ensure the tray support system can handle the combined weight, as zinc-plated trays typically support up to 280 lbs per foot depending on mounting spacing .

Best Practices

- Use hot-dip galvanized or ZM-coated trays for long-term durability.
- In sensitive electronic areas, consider zinc-aluminum finishes to minimize whisker risk.
- Regularly inspect for corrosion or coating damage, particularly at cut edges or bends.
- Follow manufacturer guidelines for maximum load, spacing, and environmental suitability . By selecting the appropriate zinc coating and following installation best practices, zinc-plated pipes can safely enter cable trays while maintaining corrosion protection and minimizing risks to sensitive equipment.

Article Content

Cable and Hose Trays | McMaster-Carr

The zinc plating on these tray systems offers good corrosion resistance. Cut, bend, and connect the wire mesh trays to route cable

Cable Tray Installation Rules (NEC 392) – Electrical Trader

All metallic cable trays must be grounded as outlined in NEC Article 250.96, even if the tray

Practices for grounding and bonding of cable trays

For such installations, it is best to use an insulated conductor and to remove the insulation where bonding connections are made to

Galvanized Cable Tray Zinc Coating Standards and

The quality of the zinc coating directly determines the tray's service life and application

Zinc Whiskers in Data Center: Safer Finish Choice Guide

Discusses zinc whiskers in data center cable basket finishes, comparing electroplated, pregalvanized, and hot-dipped

Ladder Cable Tray Installation Steps and Safety Tips

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Zinc Whiskers and Electroplated Zinc Coating: Debunking Concerns in ...

In the data center industry, a few have taken a cautious approach, opposing all zinc plating due to concerns about

Full cable tray systems specification document

Hardware shall be zinc plated in accordance with ASTM B633 SC1 for pre-galvanized cable trays, or Chromium Zinc in accordance

Mech Pipes crossing above cable tray | Information by Electrical ...

I don't see a pipe crossing, even a 1" above the tray as a issue that would cause problems installing the cables and/or

Complete cable tray manual for electrical engineers and designers

The fact that a cable can easily enter and exit cable tray anywhere along its route, allows for some unique

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

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CABLE TRAY INSTITUTE

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Galvanized Cable Tray: Types, Standards, Coating Thickness and

Learn the difference between pre-galvanized and hot dip galvanized cable trays, including coating thickness standards (ASTM A123,

Wire Basket Overhead Cable Tray Routing System SPECIFICATION

Applications The Wire Basket Overhead Cable Tray Routing System is designed to route and manage copper data cables,

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Cable tray

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

Wiring system design: Cable tray vs. conduit

Wire mesh tray systems are typically zinc plated steel wire mesh. Single rail — provides the quickest system

Explaining NEC Article 392 on Cable Trays

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

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Zinc-Plated Steel Formable Cable Trays and Fittings The zinc plating on these tray systems offers good corrosion resistance. Cut,

Full cable tray systems specification document

B. Cable tray systems are defined to include, but are not limited to straight sections of [ladder type] [trough type] [solid bottom type]

Types of Cable Trays – Purpose, Advantages, Disadvantages

Cable tray is alternatives to wire ways and electrical conduits, which completely enclose cables. Study types of cable

Cable Tray Manual: NEC Article 392 Guide

In-depth guide to cable trays, focusing on NEC Article 392. Covers types, selection, installation, and safety standards for electrical

CABLE TRAY SYSTEMS GUIDE

Hubbell's pre-galvanized finish performs the same as the post-zinc plated production finish while avoiding secondary chemical

Annex I

When cables have to go outside of the cable trays or other conduits, they must have a suitable protection in E.M.C. terms, e.g.:

Cable Tray Type Selection

Cables may exit or enter the ladder cable trays through the top or the bottom of the cable tray. Where the cables enter or exit

L-com Electro Zinc Plated Wire Mesh Cable Tray, 11.82

L-Com Electro Zinc Plated Wire Mesh Cable Tray is the ideal solution for neatly routing and organizing cable. This cable tray's

Types of Cable Typically Used in Cable Tray

Types of Cable Typically Used in Cable Tray The purpose of a cable tray system is to support, route, and protect cable as part of the

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Technical Guidelines for Cable Tray Installation and

1. Route Planning and Layout Principles Coordinate with Building Structure: Cable tray routing should align

CABLE MANAGEMENT IN DATA CENTERS

In light of this new launch, we are taking the opportunity in this paper to review the current material finishes of steel wire cable tray

Cable Tray Capabilities

Cable tray is also popular as an option for forward project planning: It is much easier to lay new cables onto a tray system as the

Kable Kontrol Wire Mesh Cable Tray Straight Section

Kable Kontrol® Chrome Cable Tray Straight Section - Electro-Zinc Plated Steel is a professional quality Steel Wire Mesh Cable Tray

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