Is welding allowed for galvanized cable trays



Overview

Cable tray sections, fittings and connected raceways shall be bonded properly using bonding jumper at both ends. The bonding jumper shall be bare copper conductor of 50 mm2 size and 400 mm long.

Key Takeaways

Welding galvanized cable trays is generally not recommended on-site due to coating damage and corrosion risks; bolting or factory welding before galvanization is preferred.

Key Considerations

Galvanized steel cable trays are coated with zinc to protect against corrosion. Welding directly on galvanized surfaces can burn off the zinc coating, producing toxic fumes and leaving the steel exposed to corrosion. This makes on-site welding challenging and potentially unsafe.

Welding Procedures

Factory Welding: If welding is necessary, it is best performed before galvanization. This ensures the zinc coating remains intact on the rest of the tray, and the welded joints can be re-galvanized afterward.

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On-

Site Welding: If unavoidable, proper ventilation and personal protective equipment (PPE) are essential to avoid inhaling zinc oxide fumes. After welding, the exposed steel should be treated with cold galvanizing spray or zinc-rich paint to restore corrosion protection. Techniques: TIG or MIG welding can be used for tack welding or small joints, but the thin gauge of cable trays often makes welding difficult and may deform the tray.

Alternatives to Welding

Bolting: The most common and recommended method for joining galvanized cable trays on-site. Bolting avoids coating damage and is easier to adjust during installation. Stud Welding: Specialized stud welding systems, such as powder-actuated or blunt-tip weld studs, can attach supports without compromising the tray's corrosion protection.

Safety and Compliance

Always follow local electrical and structural codes when joining cable trays. Ensure adequate ventilation when welding galvanized steel to prevent inhalation of zinc fumes. Consider pre-galvanized or hot-dip galvanized trays for environments where corrosion resistance is critical.

Summary

While welding galvanized cable trays is technically possible, it is preferable to avoid on-site welding due to corrosion and safety concerns. Factory welding before galvanization or bolting on-site are the recommended approaches to maintain structural integrity and corrosion protection.

Article Content

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Cable tray sections, fittings and connected raceways shall be bonded properly using bonding jumper at both ends. The bonding jumper shall be bare copper conductor of 50 mm2 size and 400 mm long.

Cable Tray Technical Guide A practical guide to product selection and ...

Cable tray installed in a hazardous location must contain only those cables that are appropriate for this type of environment as defined in Chapter 5 of the NEC.

Welding Galvanized Steel

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NEMA VE 1-2017 Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules of Canadian Electrical Code, Part I and the National Electrical Code®

Galvanized Cable Tray Zinc Coating Standards and Regulations

The galvanization process is the primary anti-corrosion treatment for cable trays. The quality of the zinc coating directly determines the tray''s service life and application scenarios.

Document DICOS

Do not use a cable tray as a walkway, ladder, or support for people; a cable tray is a mechanical support system for cables and raceways. Using cable trays as walkways can cause personal injury and can

Cable Tray Design and Standards Guide

The document outlines codes and standards that must be followed for design and construction of cable trays and their components. Standards listed include those for materials, rolling and cutting

CABLE TRAYS

The mechanical strength of cable trays is determined by the steel''s ductility, yield strength and elongation at break, but also by its weldability. The protection or coating does not influence the

IEC Standard for Cable Tray: Complete Technical Guide

When cable trays are used as part of an earthing path, they must meet specific resistance limits. IEC 61537 mandates that trays used for bonding or grounding should have a resistance of less

Can You Weld Galvanized Steel? Hazards, Precautions, and Best

Welding galvanized steel comes with specific risks and requires precautions to ensure safety and quality. Here''s an overview of the main hazards, their impacts, and tips to address each.

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

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This cable tray is made up of stainless steel wires by welding wires to form the basket-shaped mesh. Cable Trays are normally used for low-voltage applications, telecommunication, and

Hot Dipped Galvanized Cable Ladder

Additionally, our cable ladders are structurally stronger as they are assembled using a robotic welding system. The hot dipped galvanized cable ladder is a reliable

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Pre Galvanized Perforated Cable Tray

Pre-galvanized perforated cable trays are used to provide ventilation and support for cable wires in both indoor and outdoor applications. These trays are specifically

Cable Tray Price Per Meter: Market Analysis & Cost

Discover the key factors affecting cable tray price per meter, including materials, demand, and competition. Get cost insights and future

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Different Types of Cable Trays and Their Benefits: A Comprehensive ...

Types of Cable Tray Materials Cable trays are available in various materials, each suited to different environments and cable needs: 1) Steel: Durable and often galvanized to resist corrosion,

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