

How to ground a wire mesh cable tray



AI Overview

For wire mesh cable trays, installing a separate grounding wire is recommended to ensure safety and compliance, as the tray itself is not always suitable as an equipment grounding conductor. Use of Mesh Cable Trays as Grounding Conductors Wire mesh cable trays are often fabricated in the field by cutting and modifying straight sections, which can reduce their current-carrying capability and electrical continuity. Because of this, using the tray itself as an equipment grounding conductor (EGC) is generally not recommended. If the tray is intended to serve as an EGC, a separate grounding wire should be installed to provide a reliable low-impedance path to ground and to reduce noise or stray currents, especially when supporting cables with built-in EGCs or sensitive signal/control cables.

Installation of a Grounding Wire When installing a grounding wire for a mesh cable tray:

- Continuous Conductor:** Run a continuous grounding wire along the length of the tray to ensure a steady path for fault currents.
- Connection Points:** Secure the grounding wire at each tray section using grounding clamps, bolts, or mechanical connectors. Insulated conductors are preferred for aluminum trays to prevent electrolytic corrosion, with insulation removed at bonding points.
- Material Selection:** Use materials with good conductivity and corrosion resistance, such as copper, stainless steel, or hot-dip galvanized steel.
- Bonding to Building Steel:** The tray and grounding wire should be bonded to building steel or a non-system ground to maintain electrical continuity and safety.

Compliance and Safety

- NEC Requirements:** All metallic cable trays must be grounded according to NEC Article 250.96, regardless of whether the tray is used as an EGC.
- Low Impedance Path:** Ensure the grounding system provides a low-impedance path to facilitate the operation of overcurrent protection devices and to minimize voltage rise during fault conditions.
- Periodic Bonding:** For long runs, bonding jumpers may be required every 50–65 feet to maintain continuity and UL cl...

Article Content

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1) The document discusses bonding and grounding requirements for wire mesh cable tray installations. It clarifies that cable tray only needs to be bonded in 99% of installations and is not acting as an

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This comprehensive guide delves into the complexities of cable tray grounding, offering in-depth insights into its importance, principles, design

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How to Ground a Cable Tray According to NEC Standards

Get tips on how to ground a cable tray for safe, NEC-compliant installations, from grounding wire size to bonding jumpers.

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Common Issues in Steel Cable Tray Installations

They come in various forms, including ladder trays, solid-bottom trays and wire mesh trays such as stainless steel wire cable trays. These systems

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Cable tray systems come in several styles, including wire mesh trays, ladder trays, and solid-bottom trays. Each type is designed to support different cable loads,

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Bonding and Grounding wire mesh cable tray.

If a wire mesh cable tray is supporting cable with a built-in equipment grounding conductor or control or signal cables, then the tray should have a low

Cable Tray & Accessories

Wire Basket Cable Tray, Steel, 4 Inch Deep x 12 Inch Wide x 10 Feet Long

Cable Tray Grounding Wire: What You Need to Know

Discover the best practices for Cable Tray Grounding Wire installation. Learn key requirements, safety tips, and material choices to ensure a

Cable Tray Definition NEC: Essential Guide to NEC Compliance and ...

The cable tray definition NEC typically references a unit or assembly of units forming a rigid structural system used to securely hold cables. This official terminology includes various

NEC Standards for Cable Trays: Grounding, Fill Capacity

This article provides a comprehensive framework that governs various aspects of cable tray installations, including the types of cables that are deemed acceptable for use, requirements for

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Grounding and Bonding of Cable Trays | PDF

If a wire mesh cable tray is supporting cable with a built-in equipment grounding conductor or control or signal cables, then the tray should have a low impedance

Equipment Grounding Conductors for Cable Tray Systems

The intent of this article is to review grounding practices for cable tray wiring systems. The Equipment Grounding Conductors are the most important conductors in the electrical systems. The Equipment

T-Weld Wire Mesh Cable Tray Details Matter for Fit and Finish

On wire mesh cable tray, the weld point is one of the first details people notice in a close-up. A clean T-welded intersection helps the tray edge look straighter, keeps the side structure more ...

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