Does the cable tray need dual-point grounding



Overview

All metallic cable trays shall be grounded as required in Article 250.96 regardless of whether or not the cable tray is being used as an equipment grounding conductor (EGC).

Key Takeaways

Two-point grounding of a cable tray involves connecting the tray to the grounding system at two separate locations to ensure electrical continuity and safety under fault conditions.

Purpose of Two-

Point GroundingTwo-point grounding is used to enhance the reliability of the grounding path for metallic cable trays. By connecting the tray at two points to the building grounding system, it ensures that: Fault currents have a low-resistance path to earth, allowing protective devices like breakers or fuses to operate quickly. Electrical continuity is maintained even if one connection becomes loose or corroded.

The risk of shock hazards, equipment damage, or fire is minimized in industrial or commercial installations.

Implementation Guidelines

Connection Points: Typically, the cable tray is bonded at the start and end of the tray run or at alternate sections if the tray is very long. Each connection should be mechanically secure and electrically continuous. Bonding Methods: Use grounding clamps or bonding jumpers to connect the tray to the main grounding conductor.

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

Ensure that all splice points and fittings maintain conductive continuity. Mechanical connections alone may not guarantee electrical continuity, so bonding jumpers are recommended. Equipment Grounding Conductor (EGC): The tray itself can serve as the EGC if it meets NEC requirements, but a separate EGC can also be installed in or on the tray and bonded to the tray sections.

For aluminum trays, use insulated conductors to prevent electrolytic corrosion, removing insulation only at bonding points with tin- or zinc-plated connectors. Compliance with NEC: NEC Article 392 requires metallic trays to be electrically continuous and properly bonded. Two-point grounding aligns with NEC guidance to ensure the tray can safely conduct fault currents and facilitate the operation of overcurrent protective devices.

Additional Considerations

Tray Material: Steel and aluminum trays have different current-carrying limitations for grounding purposes. Ensure the tray material is suitable for the expected fault current. Length of Tray Runs: For long runs, additional grounding points may be necessary to maintain low impedance.

Environmental Factors: Moist or corrosive environments may require insulated or plated conductors to maintain long-term reliability. Key Takeaway: Two-point grounding of cable trays is a best practice for safety and NEC compliance, providing a reliable path for fault currents, reducing shock hazards, and ensuring the proper operation of protective devices in electrical installations.

Article Content

Practices for grounding and bonding of cable trays

All metallic cable trays shall be grounded as required in Article 250.96 regardless of whether or not the cable tray is being used as an equipment grounding conductor (EGC).

Cable Tray Grounding Wire: What You Need to Know

In some cases, the cable tray can serve as the grounding conductor. This is only suitable for metal trays that meet certain conductivity and strength

Understanding Cable Tray Grounding: A

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

NEC Standards for Cable Trays: Grounding, Fill Capacity

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

Grounding is one of the most critical NEC considerations when installing metallic cable trays. To comply with code requirements and ensure system safety, metallic trays must be

Equipment Grounding Conductors for Cable Tray Systems

It is not necessary to apply conductive compound on the standard cable tray splice plate connections or to install bonding jumpers across the standard cable tray splice plate connections for aluminum or

Cable Tray Grounding: Power, Instrumentation, and Telecommunications

Where cable tray systems contain only signal and communication circuits that operate at low energy levels, power grounding per NEC Section 318-7 is not appropriate, but cable tray grounding for

The Importance of Grounding in Cable Trays and How to Do It?

Grounding in cable trays is an important practice to increase electrical safety and prevent hazards in case of faults. The methods and materials used may vary depending on the structure of

Earthing or Bonding a Metallic Cable Tray: What the Regs Really Say ...

If you must earth a tray for functional reasons (static discharge, RFI), do it at one end only. Bonding both ends can form a loop, increasing magnetic coupling and nuisance RCD trips.

Grounding & Bonding Wire Mesh Cable Trays

Learn grounding and bonding requirements for wire mesh cable tray systems. Stay NEC compliant while safely installing power, control, Ethernet, and fiber...

Grounding Requirements for Electrical Cables, Cable Trays, and

Guidelines for grounding electrical cables, busbars, and cable trays in wiring projects, ensuring safety and compliance with industry standards.

Cable Tray Grounding: Power, Instrumentation, and

The purpose of power grounding (Article 250) is to minimize the damage from wiring or equipment ground fault. Cable tray systems are in the path of ground fault currents. Cable tray systems are

Grounding cable trays: requirements, norms, instructions

How to ground cable trays and what requirements should be considered? Which wire do you need to use to ground the cable management tray.

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

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

Cable Tray Technical Guide A practical guide to product selection and installation This guide for engineers and installers has been developed by ABB as a practical reference regarding cable tray

Cable Tray SHIB NAL

Where a cable tray includes only multiconductor cables, there is generally no need to use the tray as an equipment grounding conductor because each multiconductor cable should have integral equipment

grounding cable trays | Information by Electrical Professionals for ...

Metal raceways, cable trays, cable armor, cable sheath, enclosures, frames, fittings, and other metal non?current-carrying parts that are to serve as grounding conductors, with or without the

Grounding Inspection of Steel and Aluminum Cable Tray Systems

It is also easier to do the cabletray grounding inspection if the tray system does not have cable installed. Electrical grounding is essential for personal safety and protection against arcing that can occur in

Earthing or Bonding a Metallic Cable Tray: What the Regs Really Say ...

Earthing the tray adds another parallel path that may create circulating earth-leakage currents, a point designers often ignore. Scenario B: PVC or LSF insulated cables Regulation

Equipment Grounding Conductors for Cable Tray Systems

Cable tray wiring systems have excellent safety and dependability records. These excellent records are the result of cable tray''s unique features plus the proper design and installation of the cable tray

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

Contact Us

Continue your research online:

Website: https://ensaa.es
Technical inquiry: https://ensaa.es/contact.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved