Are there jumpers between cable trays



Overview

Standard splice plates can often provide a safe electrical path if they are UL Classified and bolted tight.

Key Takeaways

Bonding jumpers are required for cable trays with expansion joints, painted or coated surfaces, or high-vibration environments, while standard UL-rated splice plates may suffice for clean, stationary metallic trays.

When Bonding Jumpers Are Required

Bonding jumpers are mandatory in certain situations to ensure electrical continuity and safety: Expansion joints or adjustable splices: Flexible copper jumpers bridge the discontinuity caused by movement in the tray system. Painted or powder-coated trays: Coatings can block electrical continuity, so a copper jumper ensures proper grounding. High-vibration environments: Jumpers prevent loosening of connections that could interrupt the grounding path.

For standard rigid aluminum or steel one-piece metallic splice plates, bonding jumpers are not required if the plates are properly installed, bolted tightly, and free of paint or coatings.

Installation Guidelines

Connection points: Bonding jumpers should be bolted directly to the tray channel, not to splice plate bolts or pins. Material: Use flexible, soft-drawn copper conductors, typically 2 AWG, with flame-retardant insulation for durability. Length: Standard jumpers are often 36 inches to span expansion splices, with optional lengths available.

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Mechanical integrity: Ensure serrated nuts or star washers are used to bite into the metal for a reliable electrical connection.

Electrical Considerations

Resistance: A connection resistance above 0. 0003 ohms usually necessitates a jumper to maintain safety and code compliance. Equipment Grounding Conductor (EGC): Cable trays can serve as the EGC in qualifying installations, but jumpers may still be used to bond alternate sections or to connect EGCs to the tray.

Material compatibility: Avoid bare copper in aluminum trays to prevent electrolytic corrosion; insulated conductors with tin or zinc-plated connectors are preferred.

Summary

No jumper needed: Clean, stationary, UL-rated metallic splice plates with tight bolting and no coatings. Jumper required: Painted trays, expansion joints, adjustable splices, or high-vibration areas. Best practice: Even when not strictly required, adding bonding jumpers can improve safety, reduce inspection failures, and ensure continuous grounding throughout the cable tray system.

Following these guidelines ensures compliance with NEC requirements and maintains a safe, electrically continuous cable tray system.

Article Content

Are Bonding Jumpers Required for Standard Cable Tray

Standard splice plates can often provide a safe electrical path if they are UL Classified and bolted tight. However, you must use copper bonding

When are bonding jumpers required for use with cable tray?

GEIS, B-Line, Bonding jumpers, Cable tray, dscontinuous Bonding jumpers are required to be used on both rails when the tray is not continuously grounded or when splice plates that aren''t UL listed are

Bonding Jumpers Not Required for Standard Cable Tray Splice

It is not necessary to install bonding jumpers in parallel with the standard rigid aluminum or steel one-piece metallic bolted side rail splice plates that are the connections between the cable tray sections.

Bonding Jumpers

A bonding jumper is required to be installed with adjustable splices and expansion splices. Install Bonding Jumpers by bolting each lug to a 5/16 square hole

Equipment Grounding Conductors for Cable Tray Systems

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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

Tuling Cable Tray Earthing Jumper

We can make earthing jumpers with customized gauge sizes depending on the system voltage and current ratings. At Tuling, you can also optimize the jumper length according to your applications.

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It is not necessary to install bonding jumpers at standard rigid galvanized steel or aluminum splice plate connections or offset reducing splice plate connections or any Classified connections.

Grounding & Bonding Connectors

Cables must be secured to the cable tray prior to and after the transition, and protected by guarding or location. The electrical connection between sections can be maintained with bonding jumpers or a

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

SOLID-BOTTOM CABLE TRAY Providing additional cable protection, solid-bottom cable tray is sometimes preferred to support and protect numerous small instrumentation and control cables.

Are Bonding Jumpers Required for Standard Cable Tray

Learn when bonding jumpers are mandatory for cable trays and when UL-rated splice plates are sufficient to ensure electrical continuity and pass

Safely Installing, Maintaining and Inspecting Cable Trays

Cable trays are not raceways, but they are treated as a structural component of a facility''s electrical system. Cable trays are a part of a planned cable management system to support, route, protect and

Cable tray manual

Where cable tray wiring systems with current carrying conductors are installed in a dust environment, ladder type cable trays should be used since there is less surface area for dust buildup than in

Stumped by the Code? NEC Rule Regarding Cable Tray Systems

All questions and answers are based on the 2017 NEC. Q. What is the NEC rule regarding the continuity of cable tray systems and their accessibility? A. Cable trays must be

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Bonding jumper for cable tray being used as EGC?

I''m being told that bonding jumpers are unnecessary for the cable tray I''m quoting. - Legrand Cablofil 09-6A12C-S144-36 (Cross sectional area of 1in2) The table at NEC article 392.60

Bonding Jumpers

Ensure reliable grounding with Snap Track Cable Tray Bonding Jumpers from TechLine Mfg. Made from durable materials and designed for easy installation. Contact us today!

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Bonding Jumpers Not Required for Standard Cable Tray Splice Plates A bonding jumper is classified as a reliable conductor to ensure the required electrical conductivity between metal parts required to be

How to Check if Your Cable Trays are Grounded and Safe

A cable tray grounding is best inspected by searching cable tray sections with bonding jumpers (the thick green or copper wires connecting various sections of the tray) and checking them

Understanding Cable Tray Grounding: A Comprehensive Guide

Cable tray grounding is an indispensable aspect of electrical installations that plays a pivotal role in ensuring safety, reliability, and efficiency. It involves connecting cable trays to the

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