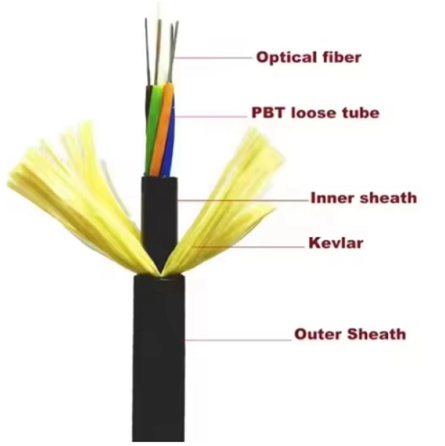
Cable trays are not connected with jumpers



Overview

Are Bonding Jumpers Required for Standard Cable Tray Splice Plates?

Learn when bonding jumpers are mandatory for cable trays and when UL-rated splice plates.

Key Takeaways

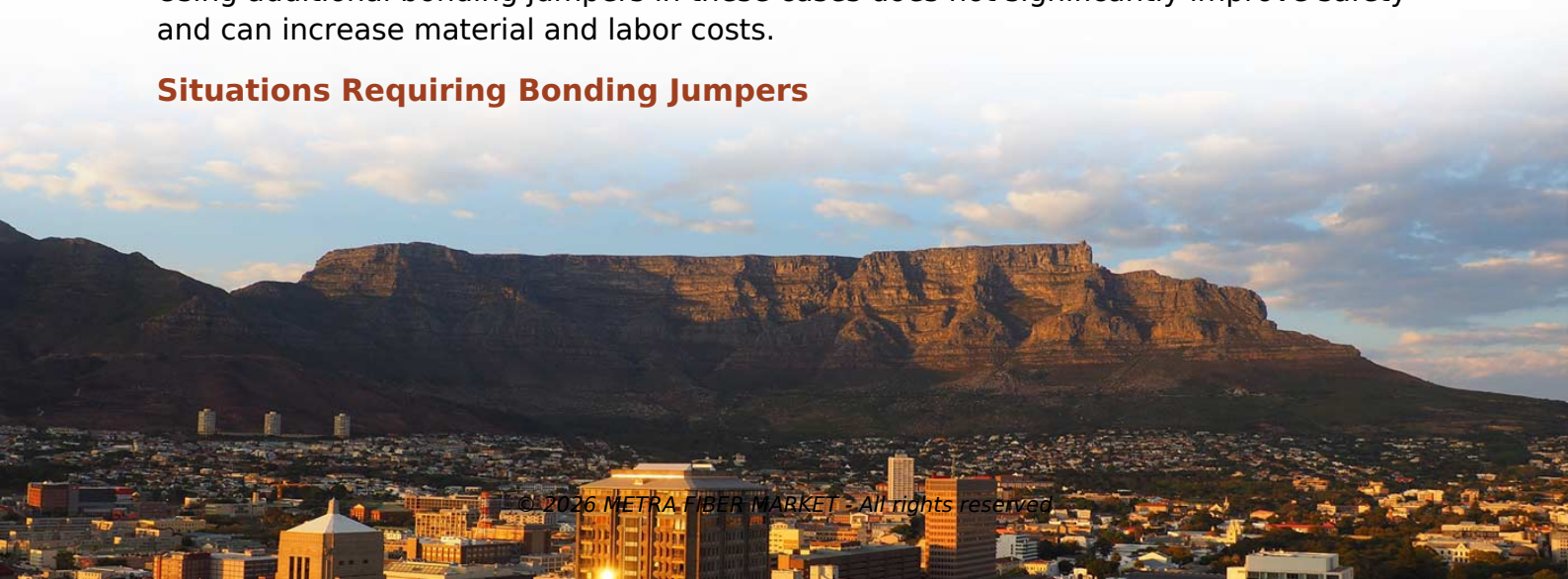
Standard metallic cable tray splice plates often provide sufficient electrical continuity, so bonding jumpers are not always required.

Electrical Continuity and Safety

For standard rigid aluminum or galvanized steel cable tray splice plates, bonding jumpers are generally not necessary. Properly installed splice plates, when UL Classified and tightly bolted, provide a reliable electrical path between tray sections, meeting the National Electrical Code (NEC) requirements for grounding and bonding (NEC 250 and 392. 60) and ensuring personnel and facility safety.

Using additional bonding jumpers in these cases does not significantly improve safety and can increase material and labor costs.

Situations Requiring Bonding Jumpers



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Bonding jumpers become necessary in specific conditions: Painted or powder-coated trays: Coatings can block electrical continuity, so a copper bonding jumper ensures a reliable path. Expansion joints or movement points: Flexible jumpers accommodate tray movement while maintaining grounding. Non-UL-rated or non-classified splice plates: If the splice plates are not tested for grounding, jumpers are required to maintain compliance.

High-vibration environments: Jumpers help prevent loosening of connections that could compromise continuity.

Installation Considerations

When bonding jumpers are used, they should be connected to dedicated grounding holes or bare metal surfaces, ensuring the serrated washer bites into the metal for reliable contact. Adequate slack must be provided to accommodate movement at expansion joints. For standard indoor installations using galvanized steel or aluminum trays without coatings or expansion joints, the splice plates alone are typically sufficient.

Summary

If your cable trays are standard, UL-rated, and properly bolted, you can safely omit bonding jumpers. However, painted trays, expansion joints, non-UL splice plates, or high-vibration areas require jumpers to maintain electrical continuity and code compliance. Always verify that the connection resistance is below 0.

0003 ohms to ensure safety and pass inspections.

Article Content

Are Bonding Jumpers Required for Standard Cable Tray Splice Plates?

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

Grounding Inspection of Steel and Aluminum Cable Tray Systems

The grounding inspection should start with the installation and should continue until all tray sections are connected together, either by bolted connections or bonding jumpers.

Five Common Cable Tray Installation Defects and Prevention Measures

This guide examines five of the most frequently observed cable tray installation defects, provides code-compliant prevention measures, and offers practical checkpoints for quality control.

Bonding Jumpers Not Required for Standard Cable Tray Splice

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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.

Practices for grounding and bonding of cable trays

A bare copper equipment grounding conductor should not be placed in an aluminum cable tray due to the potential for electrolytic corrosion of the aluminum cable tray in a moist environment.

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

Common cable tray installation mistakes and how to avoid them

Based on common findings during post-installation inspection and final acceptance, this article summarizes the most frequent cable tray installation mistakes, explains why they matter, and

Cable Tray Installation Rules (NEC 392) – Electrical Trader

Despite their versatility, cable trays are not suitable for every situation. They are strictly prohibited in hoistways or any location where they could face severe physical damage. Cable trays

Cable Tray and Raceway Installation Specification

For galvanized cable trays, jumpers are not required between connection plates. However, each connection plate must be secured at both ends with no fewer than two fixing bolts fitted with lock nuts

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To make an electrical connection for an adaptor that is not listed, an equipment bonding jumper must be run from the conduit to the cable tray. When using a conduit system to exit or enter a cable tray

Cable Tray Installation Procedure Guide

This document provides procedures for installing cable trays according to international standards. It describes inspecting and storing cable trays upon

CABLE TRAY

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

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Technical Guidelines for Cable Tray Installation and

Use dedicated splice plates and bolts. Ensure firm electrical continuity through grounding jumpers at each connection point. Sharp edges or foreign debris

NEC Article 392 Requirements for Cable Tray Systems

NEC Article 392 sets the rules for cable tray systems, from permitted wiring methods and installation requirements to cable fill and ampacity adjustments.

Practices for grounding and bonding of cable trays

Correct Bonding Practices To Assure That The Cable Tray System Is Properly Grounded If an EGC cable is installed in or on a cable tray, it should be bonded to each or alternate cable tray sections via

Cable Tray Conductor Sizing Guide

Size conductors installed in cable tray with NEC 392, NEC 310.16, tray fill, ampacity adjustment, voltage-drop checks, grounding, and IEC design cross-checks.

Cable Tray Trunking & Ladder Installation Method for Projects

Cable Tray, trunking and ladder will be properly supported and stacked in a flat surface. Tray, trunking and ladder will be stored in a covered area to prevent water or other foreign materials

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

What is Cable Tray? In electrical cabling, a cable tray is a metallic structure used to handle insulated electrical power distribution, control, and communication cables. A cable tray is

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