Which cable trays need bridging

Overview

The Comprehensive Guide to Cable Tray Systems: Engineering, A cable tray system is a metallic bridge that securely contains electrical wires. It has cables.

Key Takeaways

Cable bridging is typically required for ladder-type, wire mesh, and long-span fiberglass cable trays to support small-diameter or sensitive cables and prevent sagging.

Ladder-

Type Cable Trays

Ladder trays consist of two side rails connected by rungs. When supporting small-diameter multi-conductor control or instrumentation cables, bridging is often necessary to prevent drooping between rungs, especially if the rung spacing is wide (6, 9, or 12 inches) or if the tray carries light cables that do not naturally span the distance without sagging. Bridging ensures proper cable alignment, maintains minimum bend radii, and improves installation neatness.

Wire Mesh Cable Trays

Wire mesh trays, such as those used in Cablofil systems, often require bridging when there are gaps between trays or when the tray spans are long. Bridging provides additional support for cables, particularly in data centers or industrial environments, where maintaining cable integrity and preventing sagging is critical. It also allows installers to bridge gaps without field cutting, keeping installations efficient and safe.

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Fiberglass (FRP) Cable TraysFiberglass or FRP trays, including ladder and trough types, may require bridging for control, communication, or instrumentation cables. These cables are often sensitive to mechanical stress, and bridging helps maintain proper spacing and prevents damage from sagging or vibration. Trough or channel FRP trays provide more protection, but bridging may still be used for long runs or when multiple small cables are bundled.

Additional ConsiderationsLong-span trays: Trays with spans exceeding standard support intervals (e.g., 14–20 feet or more) often need bridging to maintain cable support and prevent excessive deflection. Heavy cable loads: While bridging is more common for small or sensitive cables, it can also be used to distribute weight evenly for heavy power cables in ladder trays. Environmental factors: Outdoor or industrial installations with vibration, wind, or thermal expansion may require bridging to maintain cable stability and prevent mechanical stress.

In summary, bridging is essential for ladder trays with wide rung spacing, wire mesh trays with gaps or long spans, and fiberglass trays carrying sensitive or small-diameter cables. Proper bridging ensures cable integrity, maintains bend radii, and supports neat, safe installations.

Article Content

The Comprehensive Guide to Cable Tray Systems: Engineering,

A cable tray system is a metallic bridge that securely contains electrical wires. It has cables organized, cool, and off the ground. In the case of large undertakings, it is not only the low

B-Line series Cable Tray Design Considerations

Our wind certification report provides you with list of acceptable B-Line series cable tray supports, fittings and covers based off of the environmental conditions, cable loading, and type of cable tray in your

Practices for grounding and bonding of cable trays

Metallic Cable Trays Cable tray may be used as the Equipment Grounding Conductor (EGC) in any installation where qualified persons will service the installed cable tray system. There is no restriction

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

ional Electrical Code (NEC), consider cable tray systems to be structural systems. The CEC defines a cable tray as “a raceway consisting of troughing and fittings formed and constructed so that insulated

7 Types of Cable Trays: How to Choose the Right One

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Selecting the correct cable tray type is not arbitrary—it depends on a combination of cable characteristics, environmental conditions, and installation requirements.

Fiberglass Cable Tray Types & Guide | Unicomposite

A fiberglass cable tray, also called an FRP cable tray or cable bridge in some regions, is a structural support system used to route and protect electrical and instrumentation cables.

Cable Tray Systems: A Complete Guide to Types & Installation

Discover the essential guide to cable tray systems. Learn about ladder, trough, and wire mesh types, key components, and expert installation tips for safe and organized cable management.

GUIDE CABLE TRAYS TECHNICAL

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®

Hxb300Ez

The unique design creates smooth cable transitions to keep cables from kinking and bunching. Bridges mount in place using a BC1 Bridge Clip bolted to CE35 or EZT90/RADT90 junction hardware.

Cable Tray Installation Rules (NEC 392) – Electrical Trader

All metallic cable trays must be grounded as outlined in NEC Article 250.96, even if the tray isn''t being used as an equipment grounding conductor (EGC). This precaution helps prevent

Cable Tray Institute

The Cable Tray Institute (CTI) was founded in 1991 to support the cable tray industry by engaging in research, development, education, and the dissemination of information designed to promote,

Core Principles for Electrical and Instrumentation Cable

In industrial settings, electrical and instrumentation (E&I) cable trays or bridge racks play a critical role in organizing and supporting power, control, and signal cables

Cable Trays and Reels – Is cable tray bonded or grounded?

Cable tray is commonly installed using steel trapeze supports, beam clamps and threaded rods. This installation facilitates the bonding practice. When firmly attached to building steel with threaded

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Equipment Grounding Conductors for Cable Tray Systems

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

B-Line series Cable Tray Design Considerations

As an industry leader in cable tray, Eaton offers one of the widest ranges of cable management solutions available in the market today with its B-Line series portfolio. With unmatched quality and service, we

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.

How to Install Cable Tray: A Comprehensive Guide to Different Cable ...

Welcome to our step-by-step guide on installing cable trays! In this video, we''ll explore the different types of cable trays available and provide detailed instructions for their installation.

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

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

Contact Us

Continue your research online:

Website: https://alfa-pro.co.za
Technical inquiry: https://alfa-pro.co.za/contact.html

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

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved