

Standard cable tray connectors



Overview

Cable Tray Connectors | McMaster-Carr Choose from our selection of cable tray connectors, including cable and hose trays, steel formable cable and hose tray.

Key Takeaways

Cable tray connectors must ensure mechanical strength, electrical continuity, and compatibility with tray types, following industry standards such as NEMA VE 1/2 and ASTM specifications.

Cable tray connectors are used to join sections of cable trays, maintain alignment, and provide structural support. Common types include:

- Splice Plate Connectors: Flat plates bolted across tray ends to join straight sections.
- Couplers: Integral or external devices that connect tray ends quickly, often used in modular systems.
- Expansion Joint Assemblies: Allow for thermal expansion and contraction in long tray runs.
- Adjustable Bends and Risers: Facilitate changes in direction or elevation while maintaining cable support.

Material and Finish

Connectors are typically made from steel, stainless steel, or aluminum, with finishes selected based on environmental conditions:

- Hot-dip galvanized steel (ASTM A123, A653) for corrosion resistance.
- Electrodeposited zinc coatings (ASTM B633) for indoor applications.

- Stainless steel (AISI 316L) for high-corrosion environments.

- Aluminum connectors provide a lightweight, corrosion-resistant alternative .

Mechanical and Electrical Requirements

- Load Capacity: Connectors must support the tray's rated load, considering span and cable weight.

- Rung Spacing: Typically 6–9 inches (150–230 mm) to maintain cable support and prevent sagging.

- Electrical Continuity: Connectors should maintain grounding and bonding across tray sections, ensuring safe current paths and minimizing electromagnetic interference .

- Installation: Fastening methods include bolts, clips, or Swiftclip systems, designed for quick assembly while maintaining strength and alignment .

Standards and Compliance

- NEMA VE 1: Metallic cable tray system standards.

- NEMA VE 2: Installation guidelines for cable trays and connectors.

- ANSI/NFPA 70 (NEC): Electrical code compliance.

- ASTM Standards: A123, A653, A1011, A1008, B633 for material and coating specifications .

Installation Considerations

- Field verification of dimensions and routing is required before installation.

- Submittal drawings should include all connectors, clamps, brackets, and fittings with accurate scaling.

- Product data must specify materials, finishes, fitting radii, and inside depths to ensure compatibility with the selected cable tray system . By following these specifications, cable tray connectors provide structural integrity, electrical safety, and ease of installation, ensuring reliable cable management in industrial, commercial, and data center environments.

Article Content

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Attaching a channel cable tray by using the method illustrated in Figure 3-88 maintains the electrical requirements, and the bolted

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The various standards STANDARD IEC 61 537 "INTERNATIONAL ELECTROTECHNICAL CONTRACTORS STANDARD FOR

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The total load supported by the cable tray, uniformly distributed. This will be the combined weight of all of the cables or tray contents,

Standard Cable Tray Types and Fittings

This document describes the types, materials, dimensions, and fittings for standard cable tray systems. It outlines ladder, perforated,

Practices for grounding and bonding of cable trays

If a wire mesh cable tray is supporting cable with a built-in equipment grounding conductor or

Cable Tray Dimensions Guide: Standard Sizes, Tray

Explore standard sizes by tray type, understand width and depth limits, and see how to

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SOLID-BOTTOM CABLE TRAY Providing additional cable protection, solid-bottom cable tray is sometimes preferred to support and

Cable Tray Installation and Cable Handling Method Statement

3. Cable Tray Support Locations Cable tray supports should be strategically positioned so that connectors between horizontal

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INSTALLATION GUIDE

Center hung tray supports allow for quicker and easier cable installation by allowing cables to be deposited into tray systems from

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