

Cable tray support beam



Overview

The following recommendations are intended to be a practical guide to ensure the safe and proper installation of cable ladder and cable tray systems and channel support and other support systems.

Key Takeaways

Cable trays can be securely supported on structural beams using specialized clamps, hangers, and brackets designed for I-beams, C-channels, and wide flange beams.

Types of Supports for Cable Trays

Beam Clamps and Hangers: Cable trays are often mounted directly to structural beams using beam clamps or C-clamps, which attach to I-beams, wide flange beams, or C-channels without drilling into the beam itself, reducing labor and maintaining structural integrity (MP Husky),. These clamps can support loads ranging from 300 to 500 lbs, depending on the clamp type and beam width. **Girder Clamps:** For heavy-duty applications, girder clamps provide a secure, adjustable connection to steel beams.

They are self-adjusting, ICC-ES approved, and eliminate the need for welding or drilling, which improves safety and speeds up installation (Lindapter),. **Brackets and Hangers:** Vertical or horizontal cable tray runs can be supported using custom or standard brackets. Supports should be placed at intervals that comply with NEMA VE-2 standards, typically not exceeding 20 feet for straight sections, with additional supports near expansion joints or fittings.



Installation Guidelines

Support Placement: Place supports so that splice joints fall between support points. For fittings with radii less than 12 inches, support within 2 feet of each extremity; for larger radii, add a center support. **Load Considerations:** Ensure the selected clamp or bracket can handle the maximum expected load, including cables and accessories.

Wide-flanged clamps accommodate beams up to 3/4 inch thick and 6–12 inches wide.

Material Selection: Clamps and supports are available in zinc-plated steel, aluminum, or copper alloy, depending on environmental conditions and grounding requirements.

Ease of Installation: Pre-punched holes in channel cable trays allow secure attachment without drilling, reducing labor and installation time.

Best Practices

Use heavy-duty hold-down clamps for high-vibration or bridge applications. Ensure proper grounding using copper alloy clamps with tin plating if required. Verify that all supports comply with NEMA VE-1 and VE-2 standards for safety and structural integrity.

Consider prefabricated support structures like mill-galvanized steel Trof systems for large installations to reduce field labor. By selecting the appropriate clamps, hangers, and brackets, and following recommended support spacing and load guidelines, cable trays can be safely and efficiently mounted to structural beams in industrial, commercial, or institutional settings.

Article Content

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The following recommendations are intended to be a practical guide to ensure the safe and proper installation of cable ladder and cable tray systems and channel support and other support systems.

Cable Tray Supports & Clamps

These special heavy duty tray hold down cable tray clamps and expansion guides are ideal for fastening tray to C-Channels and beams, such as those found on bridges. They are easy to install and reduce

Cable Tray Accessories | PohlCon – Partner from start

Cable support systems - Complete catalogue Catalogue for cable trays, mesh cable trays, cable ladders, wide-span systems, vertical ladders, floor ducts, cable

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Lindapter clamps are manufactured from high strength materials to resist high load requirements and harsh environments. Lindapter has earned a reputation

Cable Management Support Systems

Cable Support Systems are well designed to provide necessary support for cable trays, cable ladders and trunkings. Cable supports are manufactured according

Guide to cable support systems

The load capacity of the cable trays according to the support width can be read off in the diagram using load curves – here, shown as an example for a cable tray with the tray widths 100 to 600 mm.

Best Practice Guide to Cable Ladder and Cable Tray Systems

A single length of cable ladder, cable tray or channel mounted on, but not restrained by two supports, represents a simply supported beam (Figure 2a), which will bend as any load is applied to it with the

Cable Tray Accessories, Cable Tray Hangers & Support | RS

These fittings are used in conjunction with cable trays to support cables in ventilation holes, assist with directional change of piping systems, and aid cable channelling around obstacles.

BeamClamp heavy duty cable tray support • BEAMCLAMP

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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

An In-depth Analysis for Optimal Cable Tray Support Span

This study investigates how to define the longest cable tray support span considering constructability in order to reduce the number of supports which is a chief cost of a cable tray system.

Cable Tray Systems

Channel cable tray secures cables using Eagle Basket pre-punched holes. New pre-punched holes allow the secure attachment of cables to the inside of the channel
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