How to match cable tray shaft supports



Overview

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.

Key Takeaways

Cable tray shaft supports should be matched to the tray length, load, and span requirements to ensure structural integrity and compliance with standards.

Determine Support Span and Load

The first step is to identify the support span, which is the distance between two consecutive supports. Cable trays are classified by span types: short span (6–8 ft), intermediate span (10–12 ft), long span (14–20 ft), and extra-long span (over 20 ft) depending on installation type and environmental conditions. The load includes the weight of the cables plus environmental factors such as wind, snow, or ice.

Ensure the tray length is equal to or longer than the support span to avoid overloading.

Select Compatible Support Elements

Support elements include trapeze hangers, wall brackets, cantilever supports, and center suspensions. The choice depends on the building structure and tray routing: Trapeze hangers: Ideal for ceiling suspensions. Wall brackets: Used for vertical or wall-mounted runs.

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Cantilever supports: Suitable for projecting tray sections from walls or beams. Center suspensions: Provide additional support for long spans. Ensure that the support type is compatible with the tray design (ladder, ventilated trough, or mesh) and the splice plate system used to connect tray sections.

Align Tray Length and Splice Plates

To maintain structural integrity, splice plates should be positioned between support spans, ideally with only one splice plate per span. Some tray systems, like Eaton's KwikRail, feature a splice-retention groove to guide and secure splice plates, simplifying alignment and grounding. Proper alignment ensures that the tray sections are mechanically stable and electrically continuous.

Installation Best Practices

Follow standards such as DIN EN 61537 or BS EN 61537 for cable tray systems. Avoid overfilling trays; calculate cable fill according to NEC 392. 22 to prevent overheating.

Ensure supports are level and plumb, and that the tray is properly anchored to the building structure. Consider environmental factors like corrosion, moisture, and chemical exposure when selecting materials (steel, stainless steel, or FRP) and finishes.

Summary

Matching cable tray shaft supports involves: Calculating the support span based on tray type and load. Selecting compatible support elements for the installation environment. Aligning tray lengths and splice plates to maintain structural and electrical integrity.

Following standards and best practices for safe, durable, and code-compliant installations. Proper planning and adherence to these guidelines ensure a reliable cable tray system that supports cables safely and facilitates future maintenance.

Article Content

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.

A Guide to Installing and Supporting Electrical Cable Trays

This guide covers the critical steps, from selecting the right electrical cable tray and performing accurate cable fill calculations to managing a safe cable pull through

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

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Cable tray length is selected based on the load to be supported, the distance between the supports (also referred to as the span), and handling and installation constraints.

Best Practice Guide to Cable Ladder and Cable Tray Systems

This guide covers cable ladder systems, cable tray systems, channel support systems and associated supports intended for the support and accommodation of cables and possibly other electrical

INSTALLATION GUIDE

Where metal supports for metal cable trays are bolted to the tray and are in good electrical contact with the grounded structural metal frame of a building, the tray shall be deemed to be bonded to ground.

GUIDE CABLE TRAYS TECHNICAL

Stainless steel Zinc Zinc cable tray and stainless steel accessory Galvanic corrosion must be taken into account within the whole cable management system and makes it essential to choose the right

LEGRAND CABLE TRAYS TECHNICAL GUIDE

Not all cable trays are equivalent. The mechanical and electrical characteristics, tests, certifications, overall quality management, recommendations mentioned in this technical guide only apply to our

Decoding Cable Tray Support Structures: Tips and Insights

Discover efficient cable tray support structures for optimal cable management. Learn about hanger, wall-mounted, and Unistrut systems for safer

CABLE TRAY SYSTEMS GUIDE

The design and cost of the cable tray is greatly affected by this designation. In order to determine the most appropriate and economical system, a class should be selected that reflects the actual total

Cable Tray Systems & Support Brackets | TechLine Mfg

Supports should be located so that connectors (splice joints) between horizontal runs fall between the support point and quarter point of the span. The Support Span should not be greater than the straight

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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.

Wire Mesh Cable Tray Accessories for Equipment Side Routing

For contractors or distributors working on equipment-side cable routes, layout sketches are enough for us to check tray size, bend points and accessory matching.

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