How to select angle steel for cable tray supports

Overview

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.

Key Takeaways

Angle steel supports are chosen for cable trays based on load requirements, structural stability, environmental conditions, and installation method. Key Selection Criteria1.

Load-

Bearing Capacity Angle steel supports must be selected according to the weight of the cable tray and the cables it will carry. They are highly customizable and can accommodate both light and heavy cable loads. The span between supports and the thickness of the angle steel directly affect the load-bearing capability, ensuring the system remains stable under mechanical stress or vibration.

2. Structural Stability Angle steel provides strong resistance to deformation, making it ideal for environments with vibrations, heavy impacts, or frequent mechanical stress. The L-shaped profile ensures rigidity, and when properly welded or bolted, the support maintains long-term stability.

3. Material and Corrosion Resistance Steel or stainless steel is commonly used for angle supports. Galvanized or coated finishes improve corrosion resistance, especially in industrial or outdoor environments.

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Stainless steel grades such as AISI 316L offer enhanced resistance to chlorides and harsh chemicals, which is critical for long-term durability. 4. Installation Environment The choice of angle steel depends on the environment.

Industrial plants, power substations, and manufacturing facilities benefit from angle steel due to its robustness. For areas with frequent adjustments, rod supports may be preferable, but angle steel excels where stability is paramount. 5.

Installation Method Angle steel supports can be welded or bolted. Welding provides a permanent, highly stable connection, while bolting allows some flexibility for adjustments. The installation method should match the project requirements, considering labor, accessibility, and long-term maintenance.

6. Compliance with Standards Ensure that the selected angle steel and cable tray system comply with relevant standards such as DIN EN 61537 or BS EN 61537 for cable support systems. This ensures safety, reliability, and compatibility with other system components.

7. Span and Configuration The spacing between supports, the orientation of the angle steel, and the type of cable tray (ladder, perforated, or solid-bottom) influence the selection. Proper design prevents sagging and maintains the minimum bend radius for cables.

Summary

When selecting angle steel for cable tray supports, prioritize load-bearing requirements, structural stability, material durability, environmental conditions, installation method, and compliance with standards. Properly designed and installed angle steel supports ensure a safe, durable, and efficient cable management system suitable for industrial and commercial applications.

Article Content

Cable Tray Support: Rod vs. Angle Steel

Learn about the different types of cable tray support, including rod supports and angle steel supports, and how to choose the right one for your

Guide to cable support systems

This chapter deals with the correct dimensioning and the final selection of a cable support system, depending on the application, according to various influencing factors, such as cable volume, cable

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.

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

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

GUIDE CABLE TRAYS TECHNICAL

Galvanic corrosion must be taken into account within the whole cable management system and makes it essential to choose the right supports, accessories (coupling, screws, equipotential bonding, etc).

CableTray Book English

To ensure that your channel tray installation will meet your present and future needs, a sequence of decisions must be made. These decisions are relatively simple and can be condensed down to four

Chapter 14 Cable Support systems

To assist this selection process a useful approach can be to choose a likely size of tray or ladder and then to estimate the maximum cable weight which is capable of being contained within it.

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 to common standards from high quality

How to Calculate the Cable Tray Support Quantity

Learn how to accurately calculate cable tray support quantities in electrical installation projects. Our guide covers

Support methods

13 – Wall termination Wall termination angles or universal blind ends (page C25) can be used as wall and floor-to-ceiling supports or to safely terminate runs of ExpressTray. The termination angle

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

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 characteristics, installation, and

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Best Practice Guide to Cable Ladder and Cable Tray Systems

Cable ladder systems and cable tray systems are designed for use as supports for cables and not as enclosures giving full mechanical protection. They are not intended to be used as ladders, walk ways

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Cable Tray Load and Weight Calculations | PDF | Steel

The document provides details on calculating the load capacity of cable trays installed in a plant room. It lists the length, weight, and number of cable trays, cables, and supports at different installation tiers.

Full cable tray systems specification document

B. Cable tray systems are defined to include, but are not limited to straight sections of [ladder type] [trough type] [solid bottom type] [channel type] cable trays, bends, tees, elbows, drop-outs, supports

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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