

Article Overview

Proper construction of cable tray supports involves selecting the right tray type, preparing the site, installing support elements, and ensuring compliance with standards for safety and load-bearing capacity.

Planning and Site Preparation

Before installation, review approved shop drawings to determine tray routes, lengths, and locations. Ensure the site is cleared of debris and civil works are complete. Materials should be inspected for compliance with approved submittals, and any damaged or non-conforming items must be removed from the site. Cable trays and ladders should be stored horizontally on flat surfaces with timber supports at regular intervals to prevent deformation and protect from moisture and sunlight .

Selection of Cable Tray and Support Type

Choose the appropriate cable tray type based on application, cable type, and environmental conditions. Common types include:

- o Ladder trays: Ideal for power cables, provide ventilation and convenient tie points for large conductors .
- o Ventilated trough trays: Offer continuous support for smaller control or instrumentation cables .
- o Mesh trays: Suitable for flexible routing and lightweight cables . Support elements include wall brackets, suspended supports, and center suspensions, which connect trays to ceilings, walls, floors, or steel structures. Mounting elements like plates may be used for junction boxes or devices, while accessories such as covers or barrier strips provide additional protection .

Installation Guidelines

- o Mark tray routes according to shop drawings, maintaining horizontal and vertical runs only, and ensure clearance for cable pulling and future maintenance .
- o Install support elements at intervals specified by the tray manufacturer or standards (typically every 1.5-3 meters for ladder trays, depending on load and span) to prevent sagging and maintain structural integrity .
- o Secure trays to supports using bolts, clamps, or other approved fasteners, ensuring proper alignment and level installation.
- o Bonding and grounding must be implemented to meet electrical safety requirements and prevent potential hazards .

Safety and Compliance

All personnel should undergo safety induction and competency verification. Inspect the work area for unsafe



Construction site cable tray supports

conditions before starting, and do not proceed until hazards are mitigated . Follow IEC 61537 and other relevant standards for load classification, galvanization, and environmental protection to ensure long-term reliability . Proper spacing inside trays is critical to prevent overheating and insulation degradation.

Maintenance Considerations

A well-installed cable tray system facilitates future maintenance, upgrades, and cable management. Ensure that trays are accessible, properly supported, and free from obstructions to reduce operational risks and rework costs . By following these steps, construction teams can achieve a safe, durable, and code-compliant cable tray support system that meets both mechanical and electrical requirements on industrial or commercial construction sites.

Learn how to accurately calculate cable tray support quantities in electrical

Cable Management Support Systems Cable Support Systems are well designed to provide necessary support for cable trays, cable

Provide sufficient space around cable tray for access. Cable Support System Use fish plate to joint & align cable tray

Different types of cable trays offer key benefits, optimizing cable management and

Need help selecting the right cable ladder or -tray for your project? We offer a wide range of cable tray

Cable ladder and cable tray systems The following recommendations are intended to be a practical guide to ensure

This document provides guidance on best practices for installing cable ladder and cable tray systems, including channel support

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Reliable support systems for cable tray and busbars, designed for electrical and mechanical installations. Available in corrosion

Cable Tray Technical Guide A practical guide to product selection and installation This guide for engineers and installers has been

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Cable trays are not raceways, but they are treated as a structural component of a facility's electrical system. Cable trays are a part of

At Hilti we can help from the moment you start your design to the moment you install the final solution. Easy-to-design and simple to

2.2 Structural characteristics When considering the installation of the cable supports system it is imperative to avoid the cutting or

All changes of direction must be supported in the immediate vicinity of the joints (distance ≤ 150 mm) by an appropriate supporting

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

Welcome to our step-by-step guide on installing cable trays! In this video, we'll explore the

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