

How to fix a trough-type vertical cable tray

Article Overview

Vertical trough-type cable trays are fixed using wall-mounted brackets, trapeze hangers, or specialized tracks, with cables secured via binding tape, hooks, or spiral arrangements depending on size and weight.

Support and Fixing Principles

Material and Structural Requirements: Vertical cable trays are typically made from cold-rolled steel, galvanized steel, or aluminum alloy, with surface treatments like hot-dip galvanizing or electrostatic spraying to ensure corrosion resistance and mechanical strength. The load-bearing capacity should meet at least 200 kg/m, and fire resistance must comply with GB 8624 Class B1 standards . **Support Methods:**

- o Wall-mounted brackets: Cantilever brackets are fixed directly to walls to support vertical runs.
- o Trapeze hangers: Suspended from ceilings or structural beams, these provide additional support for long vertical sections .
- o Spacing: Maintain proper clearances from other services (≥ 300 mm from ducts or pipes) and between multiple tray layers (≥ 150 mm), using isolation plates where necessary .

Cable Fixing Techniques

- o Binding Tape Method: Cables are threaded with binding tape and secured to the inner wall of the tray. This method is simple but best suited for smaller cables .
 - o Hook Method: Hooks are installed on the tray's inner wall to hang larger cables. This requires additional hook fabrication but is effective for heavy cables .
 - o Ladder or Trapezoidal Track Method: Cables are arranged along a trapezoidal track and fixed with binding tape, suitable for large cables and organized routing .
 - o Spiral Track Method: Cables follow a spiral track and are secured with binding tape, ideal for large or flexible cables requiring controlled spacing .
- Best Practices:**

- o Ensure all cables are firmly fixed to prevent detachment or safety hazards.
- o Maintain neat and orderly cable arrangement for accessibility and maintenance.
- o Select the fixing method based on cable size, weight, and the vertical tray configuration .

Compliance and Standards

All installations should comply with NEMA VE 1 standards for load-bearing capacity and material quality, and follow national codes such as GB 50303 for construction quality and fire safety . Proper planning of support spans and cable fill is essential to prevent overloading and ensure long-term safety and reliability . By combining appropriate support structures with the correct cable fixing method, vertical trough-type cable trays



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can provide a safe, organized, and code-compliant solution for routing electrical and communication cables in buildings.

The only reason to select a ventilated trough cable tray over a ladder type cable tray is aesthetics. No drooping of small cables is

A professional guide to trough type cable trays. Explore load capacity charts, installation guidelines, advantages over

Discover the essential guide to cable tray systems. Learn about ladder, trough, and wire

Nearly every aspect of cable tray design and installation has been explored for the use of the reader. If a topic has not been covered

On vertical cable trays and on edgewise - horizontal cable trays, each cable shall be fixed with 20mm wide stainless

This installation guide provides comprehensive instructions for the assembly, cutting, and installation of the Trough (P31) cable tray

General Installation Guidelines: For more information refer to the latest NEMA standards and local building codes. Trough tray field

This guide covers the critical steps, from selecting the right electrical cable tray and performing accurate

Cable Tray System Overview Cable tray is simply a "rigid structural system" for cables. In its simplest form, a cable tray is a

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

A professional guide to installing electrical cable tray systems per NEC Article 392. Covers support,

This method statement covers the site installation of the cable tray & ladders and the requirements of checks to be

This publication is intended as a practical guide for the proper and safe* installation of cable ladder systems, cable tray systems,

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Cable Tray Installation Method Statement 1. Cable Tray Installation Cable trays should be installed in accordance with the latest

The document outlines steps for laying cables, including installing supports, fixing the tray, laying cables with proper spacing, and

A cable tray system is used to support insulated electrical cables used for power distribution, control, and communication. Cable

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