

# Requirements for vertical cable tray installation support

## Article Overview

Vertical cable tray supports must secure cables at the top and at intervals not exceeding 1.5 meters to ensure stability, prevent sagging, and maintain system integrity.

## Support Spacing and Placement

For vertical cable runs, cables should be secured at the top of the tray and every 1.5 meters along the vertical section to prevent undue mechanical strain and maintain proper alignment . This spacing ensures that the weight of the cables does not cause sagging or stress on terminations, which could compromise safety and performance . For horizontal runs, supports are typically placed at the start, end, and turns, and every 3 to 5 meters along straight sections .

## Structural Considerations

Vertical supports must be strong enough to handle the total anticipated cable weight and maintain stability under mechanical loads . Common support methods include cantilever wall brackets mounted directly to walls or trapeze hangers for suspended installations . The material of the support system is usually steel or stainless steel, often with galvanization or other corrosion-resistant finishes for durability .

## Fire Resistance and Safety

All cable supports, including vertical supports, should be fire-resistant to prevent premature failure in case of fire, in accordance with BS 7671 Clause 521.10.202 . Supports must also avoid obstructing access or egress routes to ensure safe evacuation and firefighting operations.

## Additional Guidelines

- o Binding and cable ties: When binding cables within the tray, ties should be spaced no more than 1.5 meters apart to maintain even tension and prevent cable movement .
- o Tray clearance: Vertical trays should maintain a minimum distance of 0.3 meters from ceilings or obstructions, and the tray width should be at least 0.1 meters to allow proper airflow and heat dissipation .
- o Load and fill rate: The cross-sectional fill of cables should not exceed 50% of the tray to prevent overheating and maintain structural integrity .

## Summary

Proper vertical cable tray support involves securing cables at the top and every 1.5 meters, using structurally



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sound, fire-resistant materials, and ensuring adequate clearance and fill rates. Following these guidelines ensures mechanical stability, safety, and compliance with electrical standards while facilitating maintenance and future expansion.

In vertical installations, the weight of the suspended cable creates a tensile load on itself and is the factor, from a cable perspective,

As an industry leader in cable tray, Eaton offers one of the widest ranges of cable management solutions available in the market

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

NEMA VE 2-2018 Cable Tray Installation Guidelines. Learn best practices for cable tray installation, support, and accessories.

Discover efficient cable tray support structures for optimal cable management. Learn about

Vertical cable tray elbows at the top of runs should be supported at each end. At the bottom of runs, they should be supported at the

For vertical installations, the cables may hang away from the cable tray if not tied down. Although this section of the NEC does not

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

In vertical trays, cables shall also be secured at intermediate locations as necessary to keep all cables completely

Complete vertical cable tray installation guide: materials, grounding, firestop, and GB standards compliance for

Explore the essential cable tray support spacing requirements for safe and efficient installations. Learn NEC guidelines

To install the cable tray supports, first find the required elevation from the floor to the bottom of the cable tray and establish a level

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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),

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

What is a vertical cable tray? This guide explains its types (ladder, solid-bottom), benefits for safety & organization,

Learn about ladder, solid bottom, ventilated trough, wire mesh, and channel trays, fill calculations, permitted cables, support

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