

Article Overview

Cable tray hangers must comply with NEMA VE 1/VE 2, UL 568, IEC-61537, and NEC guidelines to ensure safe, reliable support of electrical cables.

Overview of Standards

NEMA VE 1 and VE 2 provide the primary guidance for metal cable tray systems, including ladder, ventilated, solid-bottom, and wire mesh trays. VE 1 specifies manufacturing requirements, load/span class designations, and associated fittings, while VE 2 focuses on installation practices, including hanger spacing, support methods, and load considerations (Cable Tray Institute) . UL 568 covers performance requirements for nonmetallic (fiberglass) cable trays, ensuring that hangers and supports maintain structural integrity under load and environmental conditions . IEC-61537 is an international standard that specifies requirements and tests for both metal and nonmetallic cable tray systems, including hangers, to ensure proper support, accommodation of cables, and resistance to mechanical and environmental stresses . NEC (NFPA 70, Article 392) provides installation requirements for cable trays, including hanger spacing, secure attachment, and load ratings. It ensures that hangers maintain proper support for power and control cables while preventing sagging or mechanical damage .

Key Requirements for Cable Tray Hangers

- o **Material and Corrosion Resistance:** Hangers are typically made of steel, stainless steel, or aluminum, with galvanization or protective coatings to resist corrosion in industrial or outdoor environments .
- o **Load and Span Ratings:** Hangers must support the weight of the cable tray and its contents, with spacing determined by tray type, load class, and manufacturer specifications. Ladder trays often require hangers every 4-6 feet, while solid-bottom trays may have closer spacing .
- o **Attachment and Stability:** Hangers should be securely anchored to structural elements (walls, ceilings, or floors) and allow for thermal expansion and vibration without compromising cable integrity .
- o **Compliance with Codes:** Installation must follow NEC, NEMA, and UL guidelines to ensure safety, including proper grounding and separation of power and communication cables .

Practical Considerations

- o **Environmental Conditions:** For outdoor or corrosive environments, stainless steel or coated hangers are recommended.
- o **Instrumentation and Control Applications:** Smaller, sensitive cables may require additional protection or closer hanger spacing to prevent mechanical stress .
- o **Inspection and Maintenance:** Periodic checks ensure hangers remain secure, corrosion-free, and capable of



National Standards for Cable Trays and Hangers

supporting the intended load. By adhering to these standards, cable tray hangers provide safe, durable, and code-compliant support for electrical and communication systems in industrial, commercial, and institutional installations.

NEMA VE 2 addresses shipping, handling, storing, and installing cable tray systems and provides information on maintenance and

The Cable Tray Institute (CTI) was founded in 1991 to support the cable tray industry by engaging in research, development,

This standard specifies the requirements for nonmetallic cable trays and associated fittings designed for use in accordance with the

Explore the cable tray standards of 30 countries across five continents. Learn about the key

3.2 Wire Mesh Cable Tray 3.2.1 Cable trays shall be sized (including 10% growth) as per the drawings and will accommodate all

Available Standard widths of 25, 50, 150, 200, 300, 400, 450, 500, and 600 millimeters Standard depths of 25, 50, and 100

ASTM International: ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy

IEC 61537:2023 specifies requirements and tests for cable tray systems and cable ladder systems intended for the support and

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

This article provides a comprehensive framework that governs various aspects of cable tray installations, including

Foreword 267 For cable tray installers: NEMA BI-50016-2024 (hereinafter referred to as NEMA BI-50016) is intended 268 as a

Cable tray system design shall 269 comply with National Electrical Code (NEC) Article 392, NEMA BI-50015 (formerly VE 1), and

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Cable Tray Cable trays are mechanical support systems that provide a rigid structural system for electrical cables, raceways, and

INTRODUCTION The B-Line series Cable Tray Manual was produced by our technical staff. We recognize the need for a complete

Core rules for selecting, installing, grounding, and filling cable trays--clearances, materials, separation, and bonding

The flexibility and scalability of cable trays make them an ideal choice for environments where cable density and

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