

New National Standard Cable Tray



Overview

IEC 61537:2023 | IECWhere necessary, cable tray systems and cable ladder systems can be used for the arrangement of cables into groups. This document does.

Key Takeaways

The latest national standard for cable trays is NEMA VE 1, harmonized with CSA C22. 2, covering metal and nonmetallic cable tray systems in accordance with NEC and CEC rules.

Overview of NEMA V

E 1NEMA VE 1 specifies manufacturing, design, and installation requirements for metal cable trays, including ladder, ventilated, solid bottom, channel, single-rail, and wire mesh types, along with associated fittings. It provides load/span class designations, guidance on shipping, handling, storing, installation, maintenance, and system modifications, ensuring compliance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC). This standard is harmonized with CSA C22.

2 Specification #126. 1, meaning it aligns with Canadian safety requirements without deviation.

Nonmetallic Cable Tray Standards

For fiberglass or other nonmetallic trays, NEMA FG-1 (now rescinded) and UL 568 define construction and performance requirements. These standards cover ladder, ventilated, solid bottom, and channel trays designed to support power or control cables safely.

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L 568 ensures that fiberglass trays meet performance and safety criteria for continuous systems.

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C 2023 UpdatesThe 2023 NEC Article 690. 31(C) introduces updated guidance for small conductors, such as PV wire and distributed generation cables, in cable trays. It clarifies ampacity calculations, conductor layering, tray sizing, and correction factors for different installation methods, aligning with broader NEC language like Article 392.

This update ensures safe and standardized use of smaller conductors in modern electrical installations.

International and Comparative Standards

For projects with international scope, IEC 61537 and BS EN 61537 provide global standards for metal and nonmetallic cable trays. Key differences include thickness specifications, corrosion classifications, and protective earth conductor use.

NEM

A standards focus on load testing, while IEC/BS standards are more prescriptive with thickness tables and corrosion categories. Engineers should verify compliance with the applicable standard for their project location.

Material and Installation Considerations

Cable trays are manufactured from aluminum, steel, stainless steel, or fiberglass, with finishes such as pre-galvanized, hot-dip galvanized, or electro-galvanized to enhance corrosion resistance. Aluminum offers excellent corrosion resistance due to its natural oxide layer, while stainless steel alloys (e.g., AISI 316L) provide superior resistance in harsh environments. Proper tray selection depends on environmental conditions, load requirements, and cable types.

Practical Guidance

The Cable Tray Institute provides installation guidelines for aluminum and steel trays, including rung spacing, bend radius, and cable support. These guidelines are essential for engineers, contractors, and maintenance personnel to ensure safe, durable, and code-compliant installations. Periodic reviews of standards reflect advances in technology and construction techniques.

Key TakeawaysNEMA VE 1 is the primary national standard for metal cable trays, harmonized with CSA C22. 2.

U

L 568 governs nonmetallic cable trays. 2023 NEC updates clarify small conductor use and ampacity calculations. Material selection and corrosion protection are critical for long-term performance.

International standards (IEC/BS) may differ in thickness and corrosion requirements, requiring careful specification for global projects. Following these standards ensures safe, reliable, and code-compliant cable tray installations across residential, commercial, and industrial applications.

Article Content

IEC 61537:2023 | IEC

Where necessary, cable tray systems and cable ladder systems can be used for the arrangement of cables into groups. This document does not apply to conduit systems, cable trunking systems and

CABLE TRAY INSTITUTE

Fabricated in numerous styles (wiremesh, ladder, ventilated trough, channel, and solid-bottom) and sizes, cable tray provides the greatest versatility among cable support systems, while offering

Cable Tray Installation Rules (NEC 392) – Electrical Trader

Core rules for selecting, installing, grounding, and filling cable trays—clearances, materials, separation, and bonding explained.

Cable tray manual

These documents: ANSI/NEMA VE-1, Metal Cable Tray Systems; NEMA VE-2, Cable Tray Installation Guidelines; and NEMA FG-1, Non Metallic Cable Tray Systems, are an excellent industry resource in

Codes and Standards | Cable Tray Institute

The Cable Tray Institute is making available the current edition of this practical guide for the proper installation of aluminum or steel cable tray systems. These guidelines will be useful to engineers,

What is the latest content of the national standard for cable tray, and ...

What is the latest content of the national standard for cable tray, and what are the materials and structure of cable tray?

NEMA Standards Publication VE 2-2018

NEMA VE 2 addresses shipping, handling, storing, and installing cable tray systems and provides information on maintenance and system modification. WARNING! Do not use a cable tray as a

NEC Standards for Cable Trays: Grounding, Fill Capacity

This article provides a comprehensive framework that governs various aspects of cable tray installations, including the types of cables that are deemed acceptable for use, requirements for

What is the latest content of the national standard for cable tray ...

2017 Bridge Standard issued by China Engineering Construction Standardization Association, the implementation date is March 1, 2018. Cable tray manufacturers need to follow this

NEMA BI 50016-2024

Cable tray system design shall 269 comply with National Electrical Code® (NEC®) Article 392, NEMA BI-50015 (formerly VE 1), and NEMA 270 FG 1, and follow safe work practices as described in NFPA

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Cable Tray SHIB NAL

The National Electrical Manufacturers Association (NEMA) also publishes three consensus standards that apply to the proper manufacture and installation of cable trays: ANSI/NEMA-VE 1-1998, Metal

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CABLE TRAY INSTITUTE

The Cable Tray Institute (CTI) was founded in 1991 to support the cable tray industry by engaging in research, development, education, and the dissemination of information designed to promote,

Atkore | Electrical Cable Management, Safety, & Infrastructure Solutions

Atkore manufactures electrical conduit, cable management, and infrastructure solutions that improve safety, efficiency, and performance across industries.

Cable tray manual

INTRODUCTION The B-Line series Cable Tray Manual was produced by our technical staff. We recognize the need for a complete cable tray reference source for electrical engineers and designers.

Cablofil Cable Management | Legrand

Cablofil® Products Cablofil is the global gold standard for total cable management. Explore the one-stop shop for innovative, fast, and dependable cable management systems including wire mesh tray,

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