2020 National Standard Thickness for Cable Trays



Overview

A channel cable tray can be added to an existing cable tray system using the method illustrated in Figure 3-89 to add approved cabling systems.

Key Takeaways

Cable tray thickness is governed by NEMA VE 1/VE 2 standards, with minimum metal thickness varying by tray type, material, and load class.

Overview of Standards

The National Electrical Manufacturers Association (NEMA) VE 1 and VE 2 standards define the manufacturing requirements for metal cable trays, including ladder, ventilated trough, solid bottom, and channel types, for use in accordance with the National Electrical Code (NEC). These standards specify minimum material thickness, load/span ratings, and construction requirements to ensure structural integrity and safe cable support.

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L 568 covers fiberglass (nonmetallic) cable trays, specifying performance and thickness requirements for safe application.

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Both NEMA V

E 1 and UL 568 are harmonized with the Canadian Electrical Code (CEC), ensuring consistent safety and performance criteria across North America.

Typical Thickness Guidelines

While exact thickness depends on tray type, material, and load class, typical ranges are: Steel cable trays (galvanized or painted): Ladder and ventilated trays: 14–16 gauge (1. 9–2. 5 mm) for standard spansSolid bottom trays: 12–14 gauge (2.

5–3. 0 mm) depending on load requirementsAluminum trays: Ladder and ventilated trays: 1. 5–2.

0 mmSolid bottom trays: 2. 0–2. 5 mmFiberglass trays (UL 568): Thickness varies by load class and span, typically 6–12 mm for standard industrial applications.

Galvanization or coating thickness also affects structural performance. For hot-dip galvanized steel, the zinc coating is applied to all surfaces, including joints, and thickness varies by process, typically 45–85 µm (1. 8–3.

3 mils) for corrosion protection. Load and Span ConsiderationsNEMA VE 1/VE 2 standards classify trays by load/span ratings, which directly influence the required material thickness. Higher loads or longer spans require thicker metal or additional reinforcement.

Engineers must consult the NEMA VE 2 tables for specific thicknesses based on tray width, span, and load class.

Practical Guidance

Always verify the manufacturer's specifications, as thickness may vary slightly depending on production methods and coatings. Ensure compliance with NEC Article 392 for installation and support requirements. For corrosive or outdoor environments, consider hot-dip galvanization or fiberglass trays to meet both structural and environmental standards.

In summary, the 2020 national standard thickness for cable trays is defined by NEMA VE 1/VE 2 and UL 568, with steel trays typically 14–12 gauge, aluminum 1. 5–2. 5 mm, and fiberglass 6–12 mm, adjusted according to load, span, and environmental conditions.

Compliance with these standards ensures safe, durable, and code-compliant cable tray installations.

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Codes and Standards | Cable Tray Institute

This standard specifies the requirements for nonmetallic cable trays and associated fittings designed for use in accordance with the rules of the Canadian Electrical Code (CEC) Part 1, and the National

NEMA Standards Publication VE 2-2018

A channel cable tray can be added to an existing cable tray system using the method illustrated in Figure 3-89 to add approved cabling systems. Refer to the loading information of the existing cable

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The document outlines codes and standards that must be followed for design and construction of cable trays and their components. Standards listed include those for materials, rolling and cutting

IEC Standard for Cable Tray: Complete Technical Guide

All trays must undergo salt spray tests and coating thickness tests to ensure the coatings meet the durability levels required under the IEC standard

Introduction to National Standards for Cable Tray

The length, width and height of the cable tray. The length of the cable tray is generally required to be between 2000mm-6000mm, the width to be between 100-800mm, and the thickness

Cable Tray Dimensions Guide: Standard Sizes, Tray Types & Sizing

Explore standard sizes by tray type, understand width and depth limits, and see how to calculate and choose compliant cable tray sizes for real projects.

B-Line series pan tray catalog

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Solid flanged covers should be used when maximum enclosure of the cable is desired and no accumulation of heat is expected. Louvered flanged covers should be used when heat dissipation is

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QCS 2010: Cable Tray Specifications | PDF | Cable | Screw

It specifies that cable trays shall be constructed from hot-dipped galvanized mild steel with a minimum thickness of 1.5mm. Tray components must be accurately formed to tolerances with rounded edges.

Cable Tray Specifications and Sizes | PDF | Galvanization

The document specifies requirements for cable trays, including that they be fabricated from galvanized sheet steel in standard lengths and widths. It provides details on perforated and ladder cable tray

222 MANUFACTURING LTD

CODE cable tray and fittings are manufactured to CSA standard C22.2 Nn. 126.1-98 (latest version) from designs ofering unprecedented attention to detail and ease of installation.

Cable Tray Technical Guide A practical guide to product selection and ...

A practical guide to product selection and installation This guide for engineers and installers has been developed by ABB as a practical reference regarding cable tray characteristics, installation, and

Cable Tray Size Guide: How to Choose the Right

Complete cable tray sizing guide with standard size chart, NEC calculation methods, and real engineering examples. Learn how to select the right cable tray

Safely Installing, Maintaining and Inspecting Cable Trays

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

What is the national standard for the thickness of cable tray

The national standard of cable tray thickness refers to the thickness of plates that should be selected for the main structure and fittings of different specifications and materials according to

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National standard for cable tray thickness, weight per meter-Shandong ...

The national standard for cable tray thickness specifies the minimum allowable plate thickness for different specifications of steel bridge, FRP bridge and aluminum alloy bridge.

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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