National Standard Wall Thickness Table for Cable Trays



Overview

Tray-rated cables are required for cable tray installation, so using a channel cable tray system or wire mesh system for exits may be more convenient and economical.

Key Takeaways

Cable tray wall thickness varies by material, tray type, and duty class, with NEMA VE 1/VE 2 providing standard specifications for metallic trays and UL 568 for nonmetallic trays.

Metallic Cable Trays

For steel and aluminum cable trays, wall thickness is determined by tray type, load class, and span: Ladder and ventilated trays: Typical wall thickness ranges from 1. 2 mm (16 gauge) to 2. 5 mm (12 gauge) for side rails and rungs, depending on load rating and span length (light, medium, or heavy duty) as per NEMA VE 1/VE 2 guidelines.

Solid bottom or channel trays: Sidewalls and bottom panels generally range from 1. 5 mm to 3 mm, with thicker walls for heavy-duty or long-span installations. Aluminum trays: Due to higher strength-to-weight ratio, aluminum trays may have slightly thinner walls than steel, typically 1.

2 mm to 2 mm, while still meeting mechanical and corrosion resistance requirements. Galvanized steel trays: Hot-dip or electro-galvanized coatings add minimal thickness, but the base steel thickness follows the same NEMA VE 1/VE 2 specifications.

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Nonmetallic Cable Trays

For fiberglass or other nonmetallic trays, wall thickness is specified under UL 568 and NEMA FG 1 (for fiberglass): Ladder, trough, or channel types: Wall thickness typically ranges from 3 mm to 6 mm, depending on tray width, span, and load class. Nonmetallic trays are designed to meet mechanical strength, fire resistance, and environmental durability, so thickness may vary with resin type and reinforcement.

Key Considerations

Duty class: Light, medium, or heavy-duty trays require different wall thicknesses to support the intended cable load and span. Tray width and span: Wider trays or longer unsupported spans require thicker walls or additional reinforcement. Environmental factors: Corrosive or outdoor environments may necessitate thicker walls or protective coatings.

Compliance: Always verify that the tray meets NEMA VE 1/VE 2, UL 568, NEC, or CEC requirements for your region. In summary, wall thickness is not uniform but depends on material, tray type, load class, and environmental conditions, with NEMA and UL standards providing the authoritative specifications for safe and code-compliant installations.

Article Content

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

In designing supports for a cable tray system, consideration should be given to the loads associated with future cable additions and any additional loading that may be applied to the cable tray system (e.g.,

NEMA Standards Publication VE 2-2018

Tray-rated cables are required for cable tray installation, so using a channel cable tray system or wire mesh system for exits may be more convenient and economical.

GUIDE CABLE TRAYS TECHNICAL

Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules of Canadian Electrical Code, Part I and the National Electrical Code®

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

Cable Tray Size Guide: How to Choose the Right

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

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,

Cable Tray Dimensions and Specifications as per NEC

Many electrical systems employ cable trays. They route cables safely & efficiently. NEC defines minimum cable tray size & electrical installation specifications. These guidelines protect

Guide to cable support systems

The load capacity of the cable trays according to the support width can be read off in the diagram using load curves – here, shown as an example for a cable tray with the tray widths 100 to 600 mm.

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.

Cable Tray Specifications and Sizes | PDF | Sheet Metal

The data sheet provides specifications for standard cable trays and accessories. Standard cable trays are 2.5 meters in length with a maximum thickness deviation of 0.01mm and dimensional deviation of

Full cable tray systems specification document

B. Cable tray systems are defined to include, but are not limited to straight sections of [ladder type] [trough type] [solid bottom type] [channel type] cable trays, bends, tees, elbows, drop-outs, supports

Cable Tray Specifications and Guidelines

This document provides general guidelines for cable trays and their installation. It discusses the different types of cable trays, including perforated and ladder types, and specifies their

LEGRAND CABLE TRAYS TECHNICAL GUIDE

Not all cable trays are equivalent. The mechanical and electrical characteristics, tests, certifications, overall quality management, recommendations mentioned in this technical guide only apply to our

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IS 14927-1 (2001): Cable Trunking and Ducting Systems for Electrical ...

This standard is based on corresponding IEC publication 61084-1:1991 ''Forcable trunking and ducting system for electrical installations: Part 1General requirements'' issued by the International

Metal Cable Tray Systems Standard NEMA VE 1-2017

NEMA VE 1-2017 standard for metal cable tray systems. Covers construction, materials, dimensions, load capacity, and testing.

NEMA BI 50016-2024

Foreword 267 For cable tray installers: NEMA BI-50016-2024 (hereinafter referred to as NEMA BI-50016) is intended 268 as a practical guide for the proper installation of cable tray systems. Cable

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 Width Selection for Installations with 600 Volt Single

Cable Tray Width Selection for Installations with 600 Volt Single Conductor Cables National Electrical Code (NEC) Section 318-11 Ampacities of Cables, Rated 2000 Volts or Less, in Cable Trays. (b)

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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