

Specifications and thickness of metal cable trays

Article Overview

Metal cable tray thickness depends on tray width, type, and load rating, typically ranging from 1.2 mm to 3.0 mm for standard steel trays.

Standard Thickness Guidelines

Metallic cable trays are manufactured according to NEMA VE-1 or equivalent IEC standards and are designed to support standard cables with adequate mechanical strength and rigidity . The thickness varies depending on the tray type (ladder, perforated, solid-bottom, or wire mesh), width, and load requirements.

Tray Type	Width (mm)	Standard Steel Thickness (mm)	Notes
Ladder Tray	100-300	1.2-1.5	Light-duty, indoor use
Ladder Tray	400-600	1.5-2.0	Medium-duty, supports heavier cables
Ladder Tray	700-900	2.0-2.5	Heavy-duty, industrial applications
Ladder Tray	1000+	2.5-3.0	Extra-heavy-duty, high load
Perforated Tray	100-300	1.2-1.5	Provides ventilation, reduces weight
Perforated Tray	400-600	1.5-2.0	Medium-duty, good for heat dissipation
Solid-Bottom Tray	100-300	1.5-2.0	Protects cables from dust and debris
Solid-Bottom Tray	400-600	2.0-2.5	Heavy-duty protection
Wire Mesh Tray	100-300	1.2-1.5	Flexible routing, light loads
Wire Mesh Tray	400-600	1.5-2.0	Medium loads, corrosion-resistant options

Design Considerations

- o Load Capacity: Cable trays must support the static weight of cables plus a 20% spare allowance, with a safety factor of at least 1.5 .
- o Deflection: Maximum allowable deflection is 12 mm for all span lengths .
- o Material: Steel trays may be pre-galvanized, hot-dip galvanized, or stainless steel (AISI 316L) for corrosion resistance . Aluminum trays are also used for lightweight and corrosion-resistant applications .
- o Environmental Factors: Outdoor or corrosive environments require thicker or coated trays to prevent degradation.
- o Tray Selection: When the calculated load falls within a NEMA range, select the next higher tray designation to ensure safety .

Summary

The metal thickness of cable trays is primarily determined by tray width, type, and load requirements, with standard steel trays ranging from 1.2 mm for light-duty small trays to 3.0 mm for extra-heavy-duty large trays. Always verify compliance with NEMA VE-1 or IEC standards and consider environmental conditions, load factors, and safety margins when selecting tray thickness .

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Eaton B-Line series Engineer-approved equal METAL CABLE TRAYS Description: This product category covers metal cable trays

It specifies that cable trays shall be constructed from hot-dipped galvanized mild steel with a minimum thickness of 1.5mm. Tray

FDG CABLE TRAY FDG Cable Tray is designed to continuously support cable systems including; Power, Data, and Audio Visual. A

The data sheet provides specifications for standard cable trays and accessories. Standard cable trays are 2.5 meters in length with a

This document provides installation guidelines for cable trays, including: 1) Cable trays come in perforated and ladder types, with

Perforated Cable Tray Load Capacities ... All tests per NEMA VE-1. 1.0mm thickness to maximum width of 300mm. All others tested

Not all cable trays are equivalent. The mechanical and electrical characteristics, tests, certifications, overall quality management,

Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules of Canadian

The document is a compliance statement for cable trays being used on a construction project. It lists the project details and 14

The drawings which constitute a part of these specifications indicate the general route of the cable tray systems. Data presented on

Explore standard sizes by tray type, understand width and depth limits, and see how to calculate and choose compliant

Cable tray Technical data sheet - Free download as PDF File (.pdf), Text File (.txt) or read online for free. The technical data sheet

IEC Standard for Cable Tray: Complete Technical Guide The International Electrotechnical

In practice, cable tray dimensions are a system of interrelated measurements --width, depth, length, and

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material

2.02 Cable Tray Sections and Components General: Except as otherwise indicated, provide metal cable trays, of types, classes, and

Due to its unique composition it offers a self healing property on cut edges. HRCA (Hot Rolled and Close Annealed); Trays are made

Web: <https://www.morwarreconst.co.za>

