

Specifications for Trough-Type Tray Cable Trays

Article Overview

Trough-type cable trays are rigid, continuous structures with solid or ventilated bottoms, side rails, and modular designs, designed to support and protect electrical and data cables in industrial and commercial applications.

Design and Structure

Trough-type cable trays feature a solid or ventilated bottom that provides uniform cable support and protection against dust, moisture, and debris. Side rails contain cables and add structural strength, while the modular design allows for easy customization, expansion, and integration with bends, tees, elbows, and drop-outs (). Solid bottoms offer maximum protection for sensitive cables, whereas ventilated bottoms improve heat dissipation and reduce weight ().

Materials and Surface Treatments

Common materials include steel, aluminum, and stainless steel, selected based on load requirements, corrosion resistance, and environmental conditions. Steel trays generally have higher load capacity, while aluminum offers a better strength-to-weight ratio and corrosion resistance (). Surface treatments may include hot-dip galvanization, pre-galvanization, or electrodeposited zinc coatings to enhance durability and compliance with standards such as ASTM A123, A653, and B633 ().

Dimensions

Trough-type trays are available in standard widths, sidewall heights, and lengths, which affect cable fill, heat dissipation, and structural performance (). Typical specifications include:

- o Widths: Vary according to cable volume requirements.
- o Sidewall Heights: Selected to contain cables securely and maintain structural integrity.
- o Lengths: Standard sections are modular for easy installation.
- o Material Thickness: Determined by duty class and load requirements.

Load Capacity

The maximum load a trough tray can support depends on material, gauge thickness, tray width, and support spacing. Exceeding the load capacity can cause structural failure or cable damage. Load charts are used to ensure safe installation ().



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Standards and Compliance

Trough-type cable trays must comply with ANSI/NFPA 70 (NEC), NEMA VE 1, and relevant ASTM standards for materials and coatings (). Compliance ensures safety, durability, and compatibility with other cable management components.

Applications

These trays are ideal for horizontal runs, environments requiring minimal cable sag, and installations where cable protection and organization are critical, such as industrial plants, commercial buildings, and data centers (). In summary, trough-type cable trays are robust, modular systems with customizable dimensions, materials, and load capacities, designed to provide secure, organized, and code-compliant cable management solutions.

With over 20 years of experience T&B Cable Tray provides a complete solution in cable management systems including design,

B. Cable tray systems are defined to include, but are not limited to straight sections of [ladder type] [trough type] [solid bottom type]

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

CONCENTRATED STATIC LOADS: Some applications may require the cable tray to support the weight of a single, dead object in

Include scaled cable tray layout and relationships between components and adjacent structural, electrical, and mechanical elements.

SOLID-BOTTOM CABLE TRAY Providing additional cable protection, solid-bottom cable tray is sometimes preferred to support and

A professional guide to trough type cable trays. Explore load capacity charts, installation guidelines, advantages over

Cable Tray Type Selection With all the choices in cable trays styles, ladder, ventilated, solid bottom and wire basket, it can be difficult

In accordance with its continuous improvement policy, Legrand reserves the right to change the specifications

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and illustrations

The solid bottom trough is a versatile cable tray system available in a broad range of NEMA and CSA load classes.

Cable Tray Technical Guide A practical guide to product selection and installation This guide for engineers and installers has been

Tray cables (TC) are multi-conductor cables designed and rated for installation in cable trays and raceways or

A. Complete assembly of steel or aluminum (select one) cable tray system and necessary accessories shall be provided as shown

Cablofil steel trough trays provide the strength and security required when then need to limit cable access is of primary importance.

Explore the types of cable trays, their advantages, applications, and standard sizes. Learn how they improve cable

The flexible coupler provides easy installation without measuring and cutting cable tray side rails. Once installed, the coupler allows

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