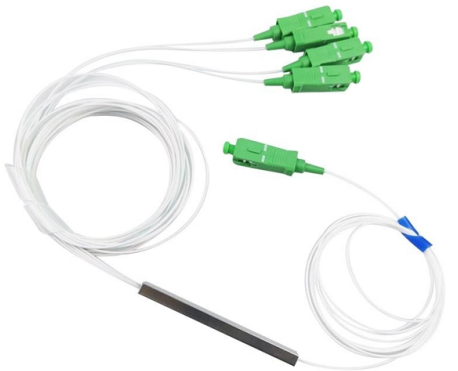
Specifications of Cable Trays and Metal Troughs



Overview

In accordance with its continuous impro-vement policy, Legrand reserves the right to change the specifications and illus-trations without notice.

Key Takeaways

Cable trays and metal troughs are engineered systems for safely supporting and routing electrical cables, available in various types, materials, and configurations to meet load, environmental, and safety requirements.

Types of Cable Trays

Ladder Type: Features side rails with rungs, ideal for heavy power cables and long horizontal runs. Provides excellent ventilation and easy cable access. Trough Type: Continuous rigid structure with a solid or ventilated bottom, offering superior cable support and protection against dust, moisture, and debris.

Suitable for horizontal runs where minimal cable sag is critical. Solid Bottom: Provides maximum protection for sensitive cables, preventing dust, moisture, and foreign object ingress. Ventilated Bottom: Allows heat dissipation and reduces weight while still supporting cables.

Channel Type: Compact, often used for aesthetic or short-run applications, available with solid or ventilated bottoms. Wire Mesh (Basket): Lightweight, flexible, and ideal for light-duty or instrumentation cables.

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Materials and Finishes

Steel: High load capacity; available in pre-galvanized, hot-dip galvanized, or stainless steel (AISI 316L) for corrosion resistance. Aluminum: Lightweight, corrosion-resistant, suitable for outdoor or humid environments; alloys selected for strength and durability. Fiberglass Reinforced Plastic (FRP): Pultruded trays with high resistance-to-weight ratio and excellent corrosion resistance, ideal for chemical or marine environments.

Structural Specifications

Side Rails: Provide structural strength and contain cables. Rung Spacing: Typically 6–9 inches (150–230 mm) for ladder trays to maintain cable support and minimum bend radius. Modular Design: Allows easy customization, expansion, and integration with bends, tees, elbows, and drop-outs.

Load Capacity: Depends on material, gauge thickness, support spacing, and tray width. Steel trays generally support higher loads than aluminum trays of the same dimensions. Example: a 300 mm wide steel trough may weigh 8–10 kg/m, while aluminum equivalent weighs 3–4 kg/m.

Installation Guidelines

Comply with ANSI/NFPA 70 (NEC), NEMA VE 1 & VE 2, and ASTM standards (A123, A653, A1011, A1008, B633) for materials and coatings. Ensure proper support spacing to prevent sagging and maintain structural integrity. Use covers where necessary to protect against accidental contact, dust, or spills.

Consider environmental factors such as moisture, chemical exposure, and temperature when selecting material and finish. Safety and Performance ConsiderationsSolid-bottom troughs prevent cable sag and protect sensitive instrumentation or control cables. Ventilated designs reduce heat buildup and allow airflow.

Enclosed designs enhance safety by reducing accidental contact with live conductors. Load charts and weight per meter calculations are essential for structural planning and safe installation.

Accessories and Components

Bends, elbows, tees, drop-outs, and supports. Covers, splice plates, and mounting brackets. Modular fittings for expansion and rerouting.

Cable trays and metal troughs are critical for organized, safe, and efficient cable management in industrial, commercial, and utility installations, with material selection, type, and installation practices tailored to the specific application and environmental conditions.

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Article Content

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

Cable Tray Technical Guide 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

GUIDE CABLE TRAYS TECHNICAL

In accordance with its continuous impro-vement policy, Legrand reserves the right to change the specifications and illus-trations without notice. All illustrations, descriptions and technical information

Product Catalogue Cable Management Solutions

Delivering engineered solutions in cable management ABB manufacturers a comprehensive range of cable tray systems and solutions including cable ladder, perforated tray, channel tray and metal

Trough Type Cable Tray Guide: Load, Installation & Benefits

A professional guide to trough type cable trays. Explore load capacity charts, installation guidelines, advantages over ladder type, and key selection criteria for your project.

Trough Trays | Cable Tray and Reels | Wire and Cable Management

Cablofil steel trough trays provide the strength and security required when then need to limit cable access is of primary importance. Multi purpose splice for straights, offsets, horizontal or vertical

LEGRAND CABLE TRAYS TECHNICAL GUIDE

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®

26 05 36 Cable Trays for Electrical Systems

Description: This product category covers metal cable trays and metal cable tray systems intended for field assembly and for use in accordance with Article 392 of NFPA 70.

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V-Trough cable tray keeps cabling cool, protected and easy to manage. Its high-strength steel construction matches many European OEM specifications and is available in smaller sizes for control

Cable Tray Systems | Cable Management Trays | Metsec

Industrial cable management, enhanced by our UK-manufactured cable trays, delivers optimised safety, maximised efficiency, and increased productivity within your industrial operations.

Cable tray | MetalEgypt

A cable tray is a robust structure used to ensure the safety and organization of your electrical systems with durable cable trays.

Network Cable Management: Types, Benefits, and Best Practices for ...

Explore network cable management types (horizontal, vertical, ring/cover/brush), benefits (organization, troubleshooting, cooling), and best practices to optimize data centers, offices, and

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Cable Tray Specifications and Sizes | PDF | Sheet Metal | Galvanization

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

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Adjustable Under Desk Cable Management Tray, No

Expert Specs Spec Details Product Type Under Desk Cable Management Tray Installation Type No-drill clamp mounting Main Function Under-desk wire, cable,

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

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