Specifications of Large Span Cable Trays



Overview

Technical specifications Load ratings: 1.5 safety factor. All tray sections will support an additional 200 lb concentrated load on any portion of tray (side rail, rung, etc.) above and beyond published load class.

Key Takeaways

Large span cable trays are designed to support heavy cable loads over extended distances, typically using ladder-type or perforated trays with high-strength materials and standardized spans.

Types and Materials

Large span cable trays are commonly available in ladder, channel, and perforated styles. Ladder trays are preferred for heavy-duty applications due to their open rung design, which allows air circulation and heat dissipation while supporting large power cables. Materials include stainless steel (304/316), fiberglass reinforced plastic (FRP), and aluminum alloy, with finishes such as pre-galvanized, hot-dipped galvanized, or powder-coated for corrosion resistance.

These trays are suitable for both indoor and outdoor industrial environments.

Dimensions and Load Capacity

Typical dimensions for large span trays are: Width: 200 mm – 800 mmHeight: 60 mm – 150 mmLength: 6000 mm per section The load capacity depends on the tray type, material thickness, and support span. Ladder trays are ideal for long spans and heavy cable loads, while perforated trays provide uniform support with ventilation openings. For large spans, the span/deflection ratio is critical; a common design limit is span/100 under full working load.

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Span and Support Considerations

Support spacing directly affects tray deflection and structural integrity. Common spans are 1. 5 m, 2 m, or 3 m, with longer spans requiring thicker materials or ladder-type trays to prevent sagging.

For heavy industrial cables, IEC 61537 load classes (light, medium, heavy, very heavy) guide the selection of trays based on safe working load at a given span. A 20–25% future expansion margin is recommended when calculating cable load per metre to ensure long-term reliability.

Installation Accessories

Large span trays require corbels, hangers, and other fixations for secure installation. Modular systems allow mounting to floors, walls, ceilings, or equipment racks, and fittings such as bends, tees, and reducers enable complex routing. Proper installation ensures mechanical support, strain relief, and safe cable management.

Summary

When designing or selecting large span cable trays: Choose ladder-type trays for heavy loads and long spans. Select material and finish based on environmental conditions. Calculate load per metre plus expansion margin and select a tray rated above this load.

Follow span/deflection limits and IEC/IS standards for safety. Use appropriate accessories and modular fittings for secure installation and maintenance. This approach ensures durable, safe, and code-compliant cable management for industrial and commercial applications.

Article Content

GUIDE CABLE TRAYS TECHNICAL

NEMA VE 1-2017 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®

PRODUCT BROCHURE T&B® Cable Tray Specialty aluminum solutions

Technical specifications Load ratings: 1.5 safety factor. All tray sections will support an additional 200 lb concentrated load on any portion of tray (side rail, rung, etc.) above and beyond published load class.

Large Span Cable Tray | Heavy Duty Cable Tray

Large span cable trays are designed to support heavy cable loads across long distances without intermediate supports. Made from high-strength galvanized

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Long Span Cable Tray

Long Span Cable Tray Tthe long span cable tray is suitable for long support spans and high cable load capacity, and conforms to the load/span design specified in IEC 61537. The long

Long-Span Cable Tray | Heavy-Duty Support for Large Industrial

Long-span cable trays have a larger support span than ordinary cable trays, with a more sophisticated structural design and greater load-bearing capacity.

Full cable tray systems specification document

The drawings which constitute a part of these specifications indicate the general route of the cable tray systems. Data presented on these drawings is as accurate as preliminary surveys and planning can

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

Cable tray length is selected based on the load to be supported, the distance between the supports (also referred to as the span), and handling and installation constraints.

Joint large span set

Characteristic of this steel type is that – prior to mechanical deformation – it is given a zinc coating by means of a continuous dipping process. This zinc coating is

Polymer Cable Trays Types: Your Guide to Choosing Right

Explore different Polymer Cable Trays Types. We break down solid, hollow, and steel-lined options for your cable management needs. Find the best fit.

Large Span Cable Trays Lay Heavy Cables in Industries

Large span cable trays can be divided into ladder style, channel style, perforated style with galvanized, powder coated surface to resist corrosion. They are widely used in heavy corrosive environment to

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

B-Line series Cable Tray Design Considerations

As an industry leader in cable tray, Eaton offers one of the widest ranges of cable management solutions available in the market today with its B-Line series portfolio. With unmatched quality and service, we

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CABLE TRAY SYSTEMS GUIDE

Some applications may require the cable tray to support the weight of a single, dead object in addition to the cable loads. Specifications typically require this to be applied at the midpoint of the span between

Wire Mesh Tray Technical Guide

Cablofil wire mesh tray and sup-ports are designed to support any cable load allowed by the NEC when supports are spaced on 8'' spans. Only the hea-viest cables (750 kcmil mulitconductor power or

Wire Mesh Cable Trays Technical Information Detailed, Material ...

Wire Mesh Cable Tray Trays shall be supported at a maximum span of 2.5m by trapeze, wall, floor or channel mounting methods and will not exceed maximum loads as specified by the manufacturer.

TECHNICAL AND SIZING DATA

Small diameter flexible cables i.e. control cables (require continuous bearing support) – use ventilated or solid tray. Large diameter more rigid cable i.e. telephone/control cables – use ladder tray. Rung

Technical information

Technical information CSA and NEMA loading classes The standard classes of cable trays, as related to their maximum design loads and to the associated design support spacing based on a simple beam

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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