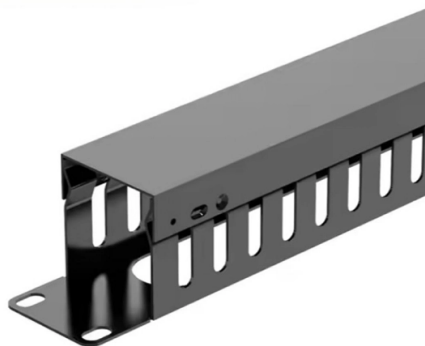


Tray-type cable tray span



Overview

Cable trays, wide span | OBOColour 6 products (30 Variants) 30 60 90 5 Variants
Wide span cable tray WKSG 110 FS To product 5 Variants Wide span cable tray.

Key Takeaways

The support span of a cable tray depends on its type, material, load, and installation environment, with ladder trays typically allowing the longest spans and wire mesh or channel trays requiring shorter spans.

Understanding Cable Tray Span

The support span is the distance between two supports that hold a cable tray in place. It is a critical factor in cable tray design because it directly affects the tray's structural integrity, load capacity, and long-term durability. The span must be carefully selected based on the type of tray, the weight of cables, and environmental conditions such as temperature, outdoor exposure, or vibration.

Typical Spans by Tray Type
Ladder Trays: Designed for heavy cable loads and long spans, ladder trays feature open rungs that allow air circulation and heat dissipation. They are ideal for power and solar DC runs and can span up to 20–40 feet outdoors with proper support and splice placement.
Perforated or Trough Trays: These provide continuous bottom support with ventilation openings.

They are generally used for lighter loads or where uniform cable support is needed. Their spans are shorter than ladder trays, typically 6–10 feet indoors, depending on material thickness and load.
Channel Trays: Often used for aesthetic or small instrumentation runs, channel trays have a solid or ventilated bottom and are suitable for shorter spans, usually 4–6 feet, due to lower structural strength.

Wire Mesh Trays: Lightweight and flexible, wire mesh trays are used for light cabling and require closer support spacing, often 3-5 feet, to prevent sagging.

Factors Affecting Span

Material and Thickness: Steel, aluminum, or fiberglass trays have different load capacities. Thicker side rails and rungs allow longer spans. **Load Class:** The total weight of cables, including future expansion, determines the allowable span.

NEM

A VE-1 and VE-2 standards provide guidance for support spacing. **Environmental Conditions:** Outdoor installations, temperature fluctuations, and exposure to corrosive environments may require shorter spans or additional supports. **Splice Plate Placement:** For long spans, splice plates should be carefully positioned, ideally one splice per support span, to maintain structural integrity.

Best Practices

Match tray length to support span to control splice locations. Use ladder trays for long runs and heavy loads to minimize the number of supports. Follow manufacturer guidelines and applicable standards (NEMA, NEC, IEC) for support spacing and load ratings.

Consider future cable additions when designing spans to avoid overloading trays. By selecting the appropriate tray type and support span, you ensure safe, reliable, and cost-effective cable management for both commercial and industrial installations.

Article Content

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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.

Cable Tray Load Capacity: Complete Guide for Safe

Learn how Cable Tray Load Capacity is determined by tray type, span distance, material, and cable weight for safer installations.

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®

Cable Tray Load and Span: Selecting the Right Tray for Your Cable

Cable tray sizing balances the total cable weight per metre against the tray's safe working load and the support span. Wider support spacing increases deflection, so heavier loads

TECHNICAL AND SIZING DATA

The optimum span, which varies according to the tray type, the type of support method and labour rates (field vs. shop) can be determined by doing estimates of cost installed for a few trial spans.

Guide to cable support systems

Four different mesh cable tray types are available, depending on the requirements, area of application and cable quantity. The innovative Magic connection system of the GRM and G-GRM mesh cable

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

Best Practice Guide to Cable Ladder and Cable Tray Systems

A typical multi-span cable ladder or cable tray installation behaves largely as a continuous beam and the greater the number of spans the closer the similarity.

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Cable Tray Systems: A Complete Guide to Types

Discover the essential guide to cable tray systems. Learn about ladder, trough, and wire mesh types, key components, and expert installation tips

IEC Standard for Cable Tray: Complete Technical Guide

Each tray type comes with design and load parameters as guided by IEC 61537. Tray selection depends on factors like cable type, environment, span

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Selecting Outdoor Cable Tray: A Project Engineer's Guide

Avoid costly mistakes. Our engineer's guide helps you choose the right outdoor cable tray based on environment, load, and corrosion resistance.

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What are Cable trays? Cable tray materials, Type of

Trough cable tray: Moderately ventilated trays with cable support, available metallic and non-metallic type. Available in all standard widths. Trough

Cable Tray Manufacturers

1. When the cable network that needs to be shielded from electrical interference or protection from external influences (such as corrosive liquids, flammable dust, etc.) is required, the (FB) type trough

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