Span of Trapezoidal Cable Tray

Article Overview

The span of a trapezoidal cable tray is the distance between support points, typically ranging from 1.5 m to 3 m for standard loads, but it can be extended with reduced load or stronger materials.

Understanding Cable Tray Span

The span of a trapezoidal cable tray is the distance between two consecutive support points, such as trapeze hangers, cantilever brackets, or strut systems. It is a critical factor in ensuring the tray can safely carry the intended cable load without excessive deflection or structural failure .

Typical Span Guidelines

o Standard spans: Most ladder or trapezoidal cable trays are designed for spans of 1.5 m to 3 m under typical load conditions .
o Longer spans: For trays carrying lighter loads or using higher-strength materials, spans can be extended to up to 9 m or more, but this requires careful consideration of deflection limits and load per metre .
o Shorter spans: Heavier cable loads or critical installations may require shorter spans to reduce deflection and increase load capacity .

Factors Affecting Span
o Load per metre: Higher cable weight reduces the maximum allowable span. Shorter spans support more weight and exhibit less deflection .
o Tray material: Steel, aluminum, or fiberglass trays have different strength characteristics. Steel trays generally allow longer spans than aluminum or fiberglass for the same load .
o Tray width and design: Wider trays or those with trapezoidal rungs may require closer support spacing to maintain rigidity .
o Environmental conditions: Temperature variations, vibration, and corrosive environments can affect material strength and deflection, influencing span decisions .
o Compliance with standards: NEC, IEC, CSA, or manufacturer specifications provide maximum allowable spans for different tray types and loads .

Best Practices

o Always consult the manufacturer's technical data for maximum allowable spans based on tray type, material, and load.
o Use shorter spans for heavier loads to minimize deflection.
o Consider intermediate supports for long runs or critical installations.
o Factor in thermal expansion and contraction for long spans, especially in outdoor or high-temperature

environments . By carefully considering these factors, designers can ensure that trapezoidal cable trays are installed safely, efficiently, and in compliance with applicable standards.

3. CM150 Wire Cable Tray SWL Considering safety and costs, the wire cable trays are suggested to be supported at a span of 2.0m

The document discusses several key factors to consider when designing a cable tray system, including: 1) The width and height of

Wyr-Grid® Cable Tray Load Rating Report Limits on deflection from cable loading are set forth in EN 61537:2007. The safe working

Cable Tray Selection - Strength Deflection Deflection in a cable tray system is primarily an aesthetic consideration. When a cable

Cable trays are components of support systems for power and communications cables and wires. A cable tray system supports and

This guide for engineers and installers has been developed by ABB as a practical reference regarding cable tray characteristics,

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

Worried about cable tray capacity? Learn simple cable tray load calculation steps. This guide helps you pick the right

Wire Mesh Cable Tray Installation Notice: Bends, Risers, T Junctions, Crosses and Reducers can be made from wire mesh cable

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

Safe working loads are represented graphically as shown and are based on the cable tray being continuous over four spans or more.

For ladder or ventilated trough trays, the total sum of the cross-sectional areas of all the cables to be installed in the cable tray must

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

Large span cable trays can be divided into ladder style, channel style, perforated style with galvanized, powder coated surface to

In accordance with its continuous impro-vement policy, Legrand reserves the right to change the specifications and illus-trations

The constructability for the longer span obtained from finite element analysis has been validated in view of manual handling of the

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