

Article Overview

Cable tray load rating should be selected based on cable weight, support span, environmental loads, and compliance with standards like IEC 61537 or NEMA.

Key Considerations for Load Rating

1. **Cable Load and Environmental Factors** The primary factor in selecting a cable tray load rating is the total weight of the cables it will carry. This includes power, control, communication, and instrumentation cables. Environmental loads such as wind, snow, and ice must also be considered, especially for outdoor installations, as they can significantly increase the required tray strength . 2. **Support Span and Tray Type** The distance between supports (support span) directly affects the tray's load-carrying capacity. Short-span trays (6-8 feet) are common for indoor installations, intermediate spans (10-12 feet) for general use, long spans (14-20 feet) for larger runs, and extra-long spans (over 20 feet) for outdoor or road-crossing applications. The tray's strength must be designed around the chosen support span, and splice plate placement becomes critical for long spans . 3. **Material and Construction** Cable trays are available in steel, stainless steel, aluminum, and fiberglass-reinforced plastic. Material selection affects both load capacity and corrosion resistance. For example, aluminum offers a high strength-to-weight ratio and corrosion resistance, while stainless steel is suitable for harsh or chemical environments . 4. **Standards Compliance** Adhering to standards ensures safety and performance. IEC 61537 specifies mechanical strength, load testing, and construction requirements for metallic cable trays. Compliance with NEMA or UL standards may also be required depending on the region. These standards define the load classes and testing methods to validate tray strength . 5. **Load Class Designation** Cable trays are often classified by load class, which defines the maximum load they can carry for a specific support span. Selecting the correct load class ensures the tray can safely support the intended cables without excessive deflection or risk of failure . 6. **Installation Best Practices**

- o Ensure the tray length is equal to or longer than the support span.
- o Use splice plates to connect tray sections, especially for long spans.
- o Consider thermal expansion and contraction in outdoor installations.
- o Verify that the tray width accommodates all cables with proper spacing .

Summary

To select the appropriate cable tray load rating, calculate the total cable weight, account for environmental loads, choose a support span, select a suitable material, and ensure compliance with IEC 61537 or other relevant standards. Proper installation, including correct support spacing and splice plate placement, is essential to maintain structural integrity and long-term reliability .

Cable tray load rating selection

Use this cable tray sizing calculator to check fill %, select tray size, and comply with IEC

The official guidelines that provide information about how strong a cable tray should be are the NEMA standards.

Cable tray systems are essential for supporting and routing instrument cables in industrial and commercial installations. Proper load

A guide to cable tray selection, focusing on strength, deflection, load capacity, and beam configurations. Ideal for engineering

Master how to choose cable trays with confidence. This complete selection guide covers load assessment, material choices, design

When selecting cable trays, enterprises often prioritize performance metrics, particularly safe working load. But how are

Melting point and flammability rating are primary concerns for non-metallic tray. Local building codes may restrict the use of a given

How do I calculate the cable load per metre for tray sizing? Sum the weight per metre of all cables planned in the run

The design and cost of the cable tray is greatly affected by this designation. In order to determine the most appropriate and

NEMA VE 1-2017 Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules

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

We partnered with the Eaton B-Line series experts for this article detailing the NEMA

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

* Published load chart has not been tested with Flexmate splice. Please consult the factory for load information when using the

Cable tray sizing balances the total cable weight per metre against the tray's safe working load and the support

Cable tray load rating selection

span.

This document provides guidelines for sizing cable trays. Cable trays should be sized based on the current and future expected cable

Web: <https://www.millstraining.co.za>

