

Article Overview

Outdoor galvanized cable trays should be installed with proper planning, corrosion protection, secure supports, and adherence to manufacturer and electrical standards to ensure durability and safety.

Material Selection and Preparation

For outdoor installations, galvanized steel cable trays are preferred due to their corrosion resistance, provided by the zinc coating which forms a protective patina over time . Ensure all trays, fittings, and supports are approved by the project engineer and free from damage or debris before installation . Use tools such as cable tray cutters, bolt cutters, and screwdrivers suitable for galvanized materials .

Planning and Layout

- o Route Planning: Mark the tray route considering clearance, load capacity, and separation from other services .
- o Tray Type Selection: Ladder-type trays are ideal for outdoor use as they allow airflow and prevent water accumulation, while solid-bottom trays may be used for sensitive cables .
- o Sizing: Calculate tray width and depth based on cable count, type, and spacing to avoid overheating or overcrowding .

Support Structures

- o Supports: Use wall-mounted brackets, floor pedestals, or roof-mounted supports as per approved drawings .
- o Spacing: Typical support spacing ranges from 1.5 to 3 meters depending on tray type and load .
- o Trapeze or Swing Supports: For suspended trays, thread hex nuts and washers on vertical hangers, ensuring cross members are level and allow horizontal adjustment .
- o Pedestals: For floor-mounted trays, provide pedestals with mounting holes for secure fixing .

Installation Steps

- o Clean and Inspect: Remove dust, debris, and ensure trays are free from coating damage .
- o Assemble Supports: Install hangers, brackets, or pedestals, ensuring they are level and aligned with the planned route .
- o Install Trays: Place trays on supports, secure with clamps or screws, and maintain proper gaps for cable laying .
- o Cover Top Layers: For trays exposed to direct sunlight, install covers secured with clamps to protect cables .
- o Cable Laying: Organize cables neatly using ties or straps, separating by voltage and function, and leave slack for expansion .



Installation Method of Outdoor Galvanized Cable Trays

- o Grounding and Bonding: Ensure all metal trays are properly grounded using bonding jumpers to maintain electrical continuity .
- o Labeling: Clearly label trays and cables for identification and future maintenance .

Safety and Compliance

- o All personnel should be trained and competent in cable tray installation .
- o Follow IEC 61537, NEMA VE-2, and local electrical codes for outdoor installations .
- o Inspect and document all installations, including supports, tray alignment, and grounding continuity . By following these steps, outdoor galvanized cable trays will provide a durable, corrosion-resistant, and safe cable management system suitable for long-term use in harsh environments .

The Cable Tray Institute is making available the current edition of this practical guide for the proper installation of aluminum or steel

Conclusion Mastering cable tray installation is crucial for creating a safe, organised, and efficient cable management

Here is a step-by-step guide on how to install a standard metal cable tray system (e.g., ladder or perforated type).

Learn the best practices for installing cables in trays. This guide covers essential steps,

Outdoor: Hot-dip galvanized or stainless steel trays. Corrosive/High Humidity: Aluminum alloy or fiberglass

Professional guide to cable tray and raceway installation: covers design, materials, step-by-step

NEMA Standards Publication VE 2-2006 Cable Tray Installation Guidelines Published by: National Electrical Manufacturers

Whether you're building a commercial setup or upgrading an industrial plant, proper cable tray installation ensures

2. Purpose This document shows and explains the procedure and detailed installation method statement not only for cable tray but

It describes inspecting and storing cable trays upon receipt, installing trays flat or vertically, fixing trays to structures, designing trays

Understanding the IEC Standard for Cable Tray Cable trays play a vital role in supporting

CABLE TRAY INSTALLATION PROCEDURE / METHOD STATEMENT 1. All cable trays & accessories received at

This method statement covers the site installation of the cable tray & ladders and the requirements of checks to be

If it has excellent electrical continuity and is integrated in the installation's equipotential bonding system, a metal cable tray reduces

The choice of method should be discussed with a local inspector. The best decision may be to extend only the cables, creating a

Suitability of Cable Trays for Outdoor Installation Types of cable trays commonly used outdoors Outdoor installations

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