How to construct cable tray outlets



Overview

A Guide to Installing and Supporting Electrical Cable TraysThis guide covers the critical steps, from selecting the right electrical cable tray and perform.

Key Takeaways

Cable trays for outlets are fabricated by selecting appropriate materials, cutting and forming tray sections, assembling components, and ensuring proper support and protection for cable branching points.

Material Selection

Cable trays are typically made from steel, aluminum, or stainless steel, chosen based on strength, corrosion resistance, and environmental conditions. Steel is preferred for heavy-duty applications, aluminum for lightweight and corrosion-resistant installations, and stainless steel for highly corrosive environments. The material choice affects the tray's durability and suitability for indoor or outdoor use.

Fabrication Process

Cutting and Forming: Raw metal sheets or profiles are cut to the required lengths. Sections are formed into ladder, perforated, or solid-bottom trays depending on the application. Ventilated trays are often used to prevent heat buildup, while solid trays are used for sensitive instrumentation cables.

Bending and Shaping: Special components like elbows, tees, crosses, and outlet branches are fabricated to allow cable routing to outlets or equipment. These are bent or pressed using mechanical or hydraulic presses to precise angles. Joining and Assembly: Tray sections are joined using bolts, rivets, or welding.

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For cable outlets, branch fittings are attached to the main tray to maintain proper cable support and spacing. Surface Treatment: Trays are often galvanized, powder-coated, or anodized to protect against corrosion and environmental damage.

Installation Considerations for Cable Outlets

Branching Points: Outlets require branch trays or drop-outs that maintain the minimum bend radius of cables to prevent damage. Support and Spacing: Proper support brackets and hangers are installed to prevent sagging and ensure mechanical stability. Rung spacing is typically 150–230 mm for ladder-type trays.

Compliance: Fabrication and installation should comply with standards such as BS EN 61537 for cable tray systems, ensuring safety and structural integrity.

Best Practices

Use pre-fabricated outlet fittings to simplify installation and maintain consistent cable routing. Ensure ventilation for heat-sensitive cables and avoid overcrowding at outlet points. Verify that all components are compatible and tested together to prevent mechanical failure.

Maintain clear labeling and documentation for future maintenance and expansion. By following these fabrication and installation methods, cable trays can provide a durable, safe, and efficient system for routing cables to outlets and other electrical devices.

Article Content

A Guide to Installing and Supporting Electrical Cable Trays

This guide covers the critical steps, from selecting the right electrical cable tray and performing accurate cable fill calculations to managing a safe cable pull through

Cable Tray Installation

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