

Rectangular Grid Cable Tray Installation



Overview

Whether you're building a commercial setup or upgrading an industrial plant, proper cable tray installation ensures neat wiring, safe access, and easy maintenance.

Key Takeaways

Proper installation of rectangular grid cable trays ensures safe, organized, and code-compliant cable management in industrial and commercial settings.

Material Preparation and Inspection

Before installation, all cable trays, ladders, and fittings should be inspected for damage and verified against approved material submittals to ensure compliance with project specifications. Trays should be stored horizontally on flat surfaces with timber supports at regular intervals to prevent deformation and protect against moisture and sunlight exposure. Any damaged or non-compliant materials must be removed from the site immediately.

Layout Planning

A pre-determined layout plan is essential. The system designer or engineer should consider building codes, equipment locations, and clearances required by other trades. This ensures that the tray routing is efficient, avoids obstructions, and meets safety standards.

Approved shop drawings should be reviewed to confirm tray lengths, locations, and fittings.



Support Structures

Rectangular grid trays are typically supported using trapeze or swing supports. Vertical hangers are installed first, projecting through cross members. Cross members are then positioned and secured with hex nuts and washers, ensuring they are level and properly aligned.

The tray clips are attached to the cross members, allowing for minor horizontal adjustments. Proper positioning of hangers is critical to maintain tray stability and load distribution.

Installation Procedure

Assemble Supports: Install vertical hangers and cross members according to the layout plan, ensuring all components are level and secure. **Attach Tray Sections:** Place tray sections onto the supports, using tray clips to secure them. Clips may be installed inside or outside the tray depending on site conditions.

Alignment and Adjustment: Check that all tray sections are aligned horizontally and vertically, and adjust as necessary to maintain a continuous, level pathway. **Fittings and Accessories:** Install elbows, tees, reducers, and other fittings as per the approved drawings, ensuring smooth cable transitions and minimal stress points. **Final Inspection:** Verify that all fasteners are tight, supports are secure, and the tray system is free from obstructions.

Confirm compliance with electrical codes and safety standards.

Safety and Compliance

Installation must be performed by qualified personnel familiar with electrical hazards and construction standards. Adherence to local electrical codes, such as the Canadian Electrical Code (CEC) or NEC, is mandatory. Proper installation prevents personal injury, property damage, and operational issues.

Environmental Considerations

Material selection should account for environmental conditions. Steel, aluminum, or stainless steel trays may be chosen based on corrosion resistance, mechanical strength, and exposure to moisture or chemicals. Proper grounding and bonding are also essential for electrical safety.

By following these steps, rectangular grid cable trays can be installed efficiently, safely, and in compliance with industry standards, providing a durable and organized cable management solution.

Article Content

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These documents: ANSI/NEMA VE-1, Metal Cable Tray Systems; NEMA VE-2, Cable Tray Installation Guidelines; and NEMA FG-1, Non Metallic Cable Tray Systems, are an excellent industry resource in

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s p e c i f i c a t i o n s The overhead cable tray routing system shall consist of pathway sections, splice connectors, sidewalls, waterfalls, mounting brackets, and accessories designed to route and manage

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