Cable Tray Threading Tutorial

Overview

Welcome to our step-by-step guide on installing cable trays! In this video, we''ll explore the different types of cable trays available and provide detailed instructions for their...

Key Takeaways

Cable tray threading involves systematic routing and pulling of cables through trays using proper supports, bend management, and pulling equipment to ensure safety and efficiency.

Planning and Layout

Before threading cables, a pre-determined layout plan is essential. The system designer or engineer should consider building codes, equipment specifications, clearances, and tray routing to avoid conflicts with other trades. Proper planning reduces installation time and prevents damage to cables or structural components.

Pulling Techniques

Use of Pulling Equipment: For long runs or heavy conductors, mechanical pullers, rollers, and pulleys are recommended to reduce manual effort and prevent cable damage. Pulling Multiple Conductors: Pulling 2–4 conductors at a time is common for large feeders, ensuring the pull force does not exceed cable ratings. Vertical Transitions: Employ rollers or pulley systems to guide cables through vertical drops, maintaining the minimum bend radius to prevent insulation damage.

Bend Management: Avoid sharp bends; maintain the minimum bend radius as specified by the cable manufacturer. Use elbows or radius fittings to guide cables smoothly around corners.

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Support and Spacing

Tray Supports: Place supports within 24 inches of splices and follow recommended span limits for straight sections to prevent sagging. Rung Spacing: For ladder trays, a spacing of 6–9 inches is preferred to support instrumentation and control cables while minimizing stress. Securing Cables: Use cable ties or clamps to maintain spacing and prevent movement within the tray, especially in long horizontal or vertical runs.

Safety and Best Practices

Protective Covers: Use solid or ventilated covers to protect cables from environmental hazards and electromagnetic interference. Avoid Sharp Edges: When cutting or modifying trays, remove burrs and sharp edges to prevent cable damage. Qualified Personnel: Only trained electricians or technicians should perform cable tray threading, following local electrical codes and safety standards.

Summary

Effective cable tray threading combines careful planning, proper pulling techniques, adequate support, and adherence to safety standards. Using mechanical aids for long or heavy runs, maintaining bend radii, and securing cables properly ensures a reliable and code-compliant installation.

Article Content

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The tray can be cut and bent, allowing cable runs to be adjusted on the jobsite. The market-preferred "T" weld safety-edge protects the cable and the installer during installation.

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CABLE TRAY SYSTEMS GUIDE

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