

How to reinforce cable tray hoisting

Article Overview

Reinforcing cable tray hoisting requires proper use of hoisting frames, cross arms, suspension rods, and correct spacing to ensure stability and load-bearing capacity.

Key Reinforcement Techniques

1. Use Appropriate Hoisting Accessories

- o **Hoisting Frames:** Ideal for small-sized cable trays, these frames provide vertical support and are cost-effective and easy to install. Each frame should be paired with a suspension rod and a five-piece fastening kit for secure attachment. The recommended spacing is one hoisting frame every 1.5 to 2 meters of cable tray .
- o **Cross Arms:** For large or heavy cable trays, cross arms offer greater stability. Each cross arm typically requires two suspension rods and two sets of fastening kits, with the same 1.5 to 2-meter spacing to maintain structural integrity .

2. Proper Suspension Rod Installation

Suspension rods (lead screws) connect the ceiling or overhead structure to the hoisting frames or cross arms. Ensure rods are securely fastened with expansion nuts or appropriate anchors, and cut to the correct length to maintain level alignment of the tray .

3. Support Elements and Mounting

- o **Wall and Ceiling Brackets:** Use brackets to support horizontal or vertical runs, ensuring the tray is mechanically connected to the building structure .

- o **Center Suspensions:** For long spans, center suspensions prevent sagging and distribute the load evenly.

- o **Mounting Plates:** Attach junction boxes or other equipment securely to the tray system to avoid additional stress on the hoisting points .

4. Material and Environmental Considerations

- o Choose trays and supports made of steel, stainless steel, or corrosion-resistant materials depending on environmental conditions .

- o For corrosive or high-moisture environments, fiberglass-reinforced plastic (FRP) trays provide non-conductive, corrosion-resistant support .

5. Load and Span Management

- o Calculate the total cable weight and ensure the hoisting system can support it without excessive deflection.

- o Maintain recommended rung spacing (6-9 inches for ladder trays) to prevent cable sagging and ensure proper ventilation .

- o For ventilated trough trays, ensure continuous support along the bottom to prevent bending under heavy loads .

6. Secure Connections

- o Use bolts and fasteners to connect tray sections and accessories securely.

- o Ensure continuity of the system and proper bonding/grounding to meet electrical safety standards . By combining these techniques--selecting the right hoisting accessories, properly installing suspension rods, using adequate support elements, and considering material and load factors--you can reinforce cable tray hoisting effectively, ensuring safety, stability, and long-term reliability.

How to reinforce cable tray hoisting

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