

Drilling holes in cable trays to install lights



Overview

The document outlines the procedure for installing cable trays, including essential tools, equipment, and safety measures.

Key Takeaways

You can drill holes in cable trays for light installation, but it must be done carefully to avoid damaging the tray, cables, or violating electrical codes. Key Considerations

1. Check Code Compliance: Before drilling, consult the National Electrical Code (NEC) or local regulations. Cable trays have fill ratios (usually max 50%) and spacing requirements for supports, and modifications should not compromise these standards.
2. Choose the Right Location:

- Avoid drilling near tray rungs or structural supports to maintain strength.
- Ensure holes do not interfere with existing cables or create pinch points.
- Maintain at least 12 inches of clearance above and to the side of the tray for accessibility.
- 3. Hole Size and Placement:
 - Drill holes slightly larger than the mounting hardware (e.g., 1/16" to 1/8" larger than threaded rods) to allow adjustment.
 - For solid-bottom trays, field drill holes 1 inch from the inside edge to prevent weakening the tray.

- Use templates or measure carefully to align lights consistently. 4. Tools and Safety:
- Use a power drill with the appropriate bit for metal trays.
- Wear PPE: gloves, safety glasses, and a hard hat .
- Deburr all holes with a file to remove sharp edges that could damage cable insulation . 5. Securing Fixtures:
- Use washers and nuts to attach light brackets securely.
- Ensure the tray can still support its rated load; do not exceed maximum weight per support .
- If using ladder or perforated trays, consider attaching lights to the tray rungs or side rails rather than the tray bottom to maintain structural integrity. 6. Avoid Structural Damage:
- Never cut or drill into structural building members.
- Do not use trays as lifting points or attach heavy fixtures that exceed the tray's load rating .

Summary

Drilling holes in cable trays for lights is feasible if done with proper planning, correct hole sizing, and adherence to safety and code requirements. Always deburr edges, avoid critical structural points, and ensure the tray's load capacity is not compromised. Following these steps ensures a safe and compliant installation .

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