

Installing lights using cable trays



Overview

Cable Tray Installation Whether you're building a commercial setup or upgrading an industrial plant, proper cable tray installation ensures A Guide to Inst.

Key Takeaways

Installing lights in cable trays involves selecting the right tray, securing supports, and integrating lighting fixtures or busbars safely and efficiently. Step 1: Plan the Layout

Before installation, plan the cable tray route and lighting positions. Consider clearance, load capacity, and separation from other cables. Mark the path on walls or ceilings using a chalk line or laser level to ensure alignment and straight runs .

Step 2: Choose the Right Cable Tray

Select a tray type suitable for your application:

- Ladder trays: Ideal for power cables and allow airflow.
- Perforated trays: Support lighter loads and smaller cables.
- Solid-bottom or ventilated troughs: Provide continuous support for sensitive or small-diameter cables .

Step 3: Install Supports



Install wall brackets or ceiling suspension systems at proper intervals (typically 1.5–3 meters depending on load). Use anchors, threaded rods, or Unistrut channels to secure the tray. Ensure supports are level and capable of handling the combined weight of cables and lighting fixtures .

Step 4: Mount the Cable Tray

- Cut trays to fit the route, deburr edges to prevent cable damage.
- Lift tray sections onto supports and secure with hold-down clips or bolts.
- Join sections end-to-end using couplers or splice plates .

Step 5: Install Lighting Fixtures

- Direct mounting: Attach luminaires directly to the tray using brackets or clamps designed for the fixture.
- Busbar systems: For faster installation, use a lighting busbar (e.g., E-Line KY-S) that plugs into the tray. This allows multiple fixtures to connect safely without additional wiring, reduces installation time, and prevents overheating .
- Ensure all fixtures are properly grounded and comply with IP ratings for the environment.

Step 6: Cable Management

- Route power cables neatly along the tray, maintaining separation from other conductors.
- Use cable ties or straps to secure cables without exceeding fill ratios (usually max 50% of tray capacity).
- Verify that cables are not pinched or stressed at bends or joints .

Step 7: Testing and Safety

- Check all electrical connections and grounding.
- Test the lighting system before finalizing installation.
- Ensure compliance with local electrical codes and NEC Article 392 for cable tray installations . By following these steps, you can safely and efficiently install lights in cable trays, whether using traditional mounting or modern busbar systems, while maintaining proper support, cable management, and code compliance.

Article Content

Cable Tray Installation

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Cable tray manual

These documents: ANSI/NEMA VE-1, Metal Cable Tray Systems; NEMA VE-2, Cable Tray Installation Guidelines; and NEMA FG-1,

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By following these steps, you can ensure a safe, stable, and well-organized cable tray installation.

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