

Article Overview

Cable tray and metal trunking systems provide organized, safe, and accessible pathways for electrical cables, ensuring efficient installation and long-term protection.

Overview

Cable trays and metal trunking are essential components in electrical installations, used to support, route, and protect electrical cables in industrial, commercial, and residential projects. Cable trays are typically open or ventilated structures, while metal trunking provides enclosed pathways for cables, offering additional protection against dust, moisture, and mechanical damage .

Materials and Components

- o Cable Trays: Available in ladder, perforated, or solid-bottom designs, usually made from steel, stainless steel, or aluminum for strength and corrosion resistance .
- o Metal Trunking: Includes industrial trunking, compact PIK-trunking, and floor trunking, designed for high load capacity, ventilation, and hygienic applications .
- o Accessories: Brackets, fasteners, threaded rods, screws, bends, tees, and reducers are used to create continuous, secure runs .

Installation Methodology

- o Preparation:
 - o Survey the installation area according to approved drawings.
 - o Ensure the site is clean, free of debris, and safe for work .
 - o Verify materials against approved submittals and specifications.
- o Material Handling and Storage:
 - o Deliver components to site and store in dry, ventilated areas.
 - o Protect painted surfaces from scratching, sunlight, and moisture using tarpaulins or indoor storage .
 - o Stack trays and trunking by type and width to prevent damage.
- o Support and Fixation:
 - o Install steel brackets or supports at intervals to maintain rigid fixing and limit deflection to $\leq 5\text{mm}$ mid-span under full load .
 - o Ensure earth continuity conductors are installed across gaps and bolted connections for grounding .
 - o Maintain sufficient clearance from ceilings, walls, and other services for accessibility.

o Routing and Layout:

Cable tray metal trunking

- o Plan routes to allow ease of access for cable installation and maintenance.
- o Horizontal runs should navigate around vertical services, and offsets should maintain free space within the tray or trunking .
- o Allow a 25% reserve margin in tray size to accommodate future cable additions.
- o Safety Considerations:
 - o Follow manufacturer and project-specific health and safety plans.
 - o Use scaffolding, lifting equipment, and personal protective equipment as required .
 - o Conduct pre-start meetings with engineers, supervisors, and safety officers to ensure all personnel are aligned on procedures.

Best Practices

- o Use high-quality metals and compatible accessories to ensure durability and flexibility in layout .
- o Protect cable containment systems from environmental exposure during construction.
- o Verify alignment, support spacing, and grounding continuously during installation.
- o Document installation with inspection and test records for quality assurance .

Applications

- o Industrial plants, commercial buildings, and data centers for organized cable management.
- o Floor trunking for walkable, high-load areas.
- o Hygienic environments like food and pharmaceutical industries using corrosion-resistant, ventilated trunking . By following these guidelines, cable tray and metal trunking installations can achieve structural integrity, safety compliance, and long-term reliability in electrical systems.

ABB designs and manufactures cable tray systems, including perforated tray, cable ladder, channel tray and strut (metal framing),

FEMI-CZ specialises in the production of custom metal cable trunking for large installations or standard

Wire-tray Trunking from PFLITSCH - open for safety and hygiene Non-enclosed cable trunking system meeting the highest hygienic

What Are Cable Trays, Cable Ladders, and Cable Trunking? Cable trays are open support systems

They are an alternative to open wiring and commonly used for cable management in commercial and industrial construction projects.

Cable tray metal trunking

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Guide you learn what is cable tray and what is cable trunking in details, learn more on their

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