Where to install network cable trays

Overview

Cable Tray Installation Learn everything about cable tray installation with our complete guide. Discover types, steps, and safety tips for efficient electr.

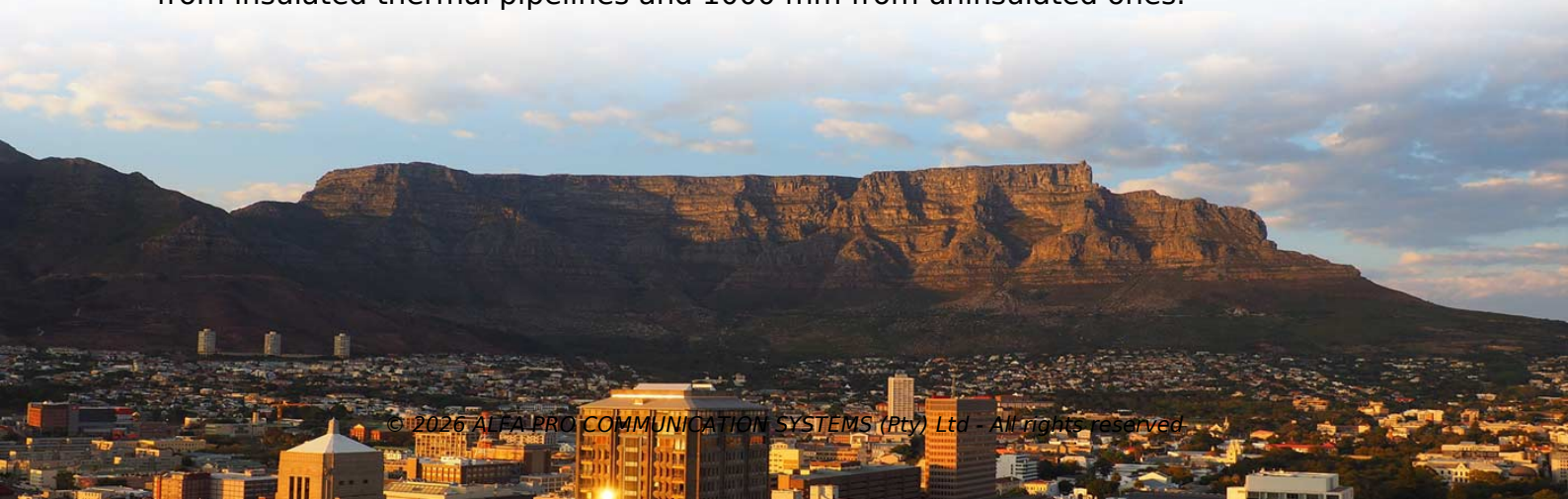
Key Takeaways

Network cable trays should be installed in accessible, structurally supported areas such as ceilings, walls, service corridors, and electrical or plant rooms, while maintaining proper clearances from pipes, heat sources, and other hazards.

Recommended Installation Locations

Ceilings and Overhead Spaces: Cable trays are commonly suspended from ceilings using trapeze hangers or other support systems. This allows easy access for maintenance and keeps cables organized and off the floor. Walls and Vertical Surfaces: Cantilever wall brackets can support cable trays along walls, particularly for vertical runs or when ceiling space is limited.

Electrical Rooms, Plant Rooms, and Service Corridors: These areas are ideal for cable trays because they provide controlled environments, easy access for technicians, and proximity to network equipment. Alongside Pipe Racks: Cable trays can be installed on one side of process pipe racks, ensuring they do not interfere with pipelines. Maintain minimum distances from corrosive or thermal pipelines: at least 500 mm from insulated thermal pipelines and 1000 mm from uninsulated ones.



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Clearance and Safety Considerations

Maintain at least 12 inches of vertical clearance above trays for installation and maintenance access. Avoid installing trays below pipelines carrying corrosive liquids or above corrosive gases; if unavoidable, use corrosion-resistant partitions and maintain minimum distances. Ensure trays are not installed in hoistways or enclosed spaces and remain accessible for inspection and maintenance.

Separate high-power and low-power cables to prevent electromagnetic interference, using solid dividers if necessary.

Structural Support

Cable trays must be supported according to manufacturer specifications and load requirements, with spans calculated to prevent excessive deflection (typically not exceeding 1/200 of the span, or 1/150 for spans ≥ 6000 mm),. Use appropriate support methods such as trapeze hangers for ceilings or cantilever brackets for walls, ensuring the tray is rigid and secure.

Environmental Considerations

Choose tray materials (aluminum, steel, or FRP) based on environmental conditions, including exposure to moisture, chemicals, or heat. Avoid routing trays parallel above thermal pipelines; if unavoidable, provide effective thermal insulation. When passing through walls into fireproof or explosion-proof areas, install appropriate sealing devices.

By following these guidelines, network cable trays can be installed safely, efficiently, and in compliance with NEC standards, ensuring organized cabling and ease of future maintenance.

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Cable tray

Combustible cable jackets may catch on fire and cable fires can thus spread along a cable tray within a structure. This is easily prevented through the use of fire-retardant cable jackets, or fireproofing

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