

Article Overview

Cable routing frames are fixed using modular support systems, brackets, anchors, and specialized cable fixation blocks to ensure secure, organized, and standard-compliant installations.

Cable Support Systems Overview

Cable support systems are designed to support, house, and organize cables in electrical and communication installations. They can be installed on ceilings, walls, floors, or steel structures and typically consist of cable trays, ladders, or mesh trays, along with support elements, mounting elements, and accessories (OBO CMS). Support elements, such as wall brackets, suspended supports, and center suspensions, provide the mechanical connection to the building structure, while mounting elements attach devices or junction boxes to the cable supports.

Frame Fixation Methods

- o **Metal Framing Channels:** Modular metal framing systems, such as 1 1/2" channels, allow flexible attachment points for cable trays and supports. These channels can be plated or galvanized for corrosion protection and are compatible with a wide range of fittings and accessories (ABB).
- o **Concrete or Structural Anchors:** For concrete support frames, anchors such as M10, M12, or M16 bolts are used depending on load requirements. Hex bolts are commonly used for C-channel frames (UNITECH).
- o **Suspended Supports:** Cable trays can be suspended from ceilings using threaded rods, clamps, or hangers, ensuring proper load distribution and compliance with bending radius requirements (OBO CMS).

Cable Fixation Options

- o **Cable Fixation Blocks:** Clip or snap-in cable binder blocks can be mounted directly into aluminum or slot profiles. They secure cables without the need for traditional cable ties, protecting against rubbing and damage while maintaining order and aesthetics (FATH).
- o **Clamping Inside Enclosures:** For enclosures or plinths, relocating cable clamps to the base allows more space for structured routing and preserves bending radii (Rittal).
- o **Accessories:** Barrier strips, covers, and cable protection rings can be added to prevent mechanical damage and maintain separation between cable groups (OBO CMS).

Best Practices

- o Evaluate environmental and mechanical loads, such as wind, snow, or vibration, which are not always covered by standards and may require additional reinforcement (OBO CMS).
- o Use modular systems to reduce labor and allow easy adjustments or expansions.
- o Ensure compliance with standards such as DIN EN 61537 for cable support systems.

Support cable routing frame fixation

o Maintain proper bending radii and separation of power and communication cables to prevent interference and damage. By combining modular metal framing, appropriate anchors, and specialized cable fixation blocks, you can achieve a secure, organized, and flexible cable routing system suitable for industrial or commercial installations.

This guide covers cable ladder systems, cable tray systems, channel support systems and associated supports intended for the

The recently published 18th Edition regulations, stating that cables must be supported

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Cable Routing In an equipment room installed with supports and ESD floor, cables can go through the interlayer (the space between

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Support cable routing frame fixation

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