

Regulations for entrances and exits of cable tray rooms

Article Overview

Cable tray rooms must comply with NEC requirements for working space and egress, ensuring safe access for maintenance and emergency exit, with at least one entrance and egress for equipment over 6 feet wide containing overcurrent or control devices.

NEC Requirements for Electrical Room Egress

According to NEC 110.26(C)(2), rooms containing equipment rated 1200A or more and over 6 feet wide that include overcurrent devices, switching devices, or control devices must have at least one entrance and one exit from the required working space to ensure safe access and egress . This ensures personnel can safely enter and exit the room during maintenance or emergencies. If only a portion of the equipment contains overcurrent devices and is less than 6 feet wide, the requirement may be interpreted based on the width of that specific section, but local authority approval is recommended .

Cable Tray Entry and Exit Points

Cable trays allow cables to enter or exit from the top or bottom of the tray, depending on the type of tray used:

- o Ladder cable trays: Cables can exit through the top or bottom; proper bending radii must be maintained to avoid damage .
- o Ventilated trough trays: Small-diameter cables may exit through bottom ventilation holes or the top; drop-out bushings can protect cables in vibrating environments . When routing trays over equipment such as motor control centers (MCCs) or switchgear, cables typically exit the bottom of the tray into the top of the equipment, ensuring compliance with bending radius and safety standards .

Working Space Considerations

Cable tray rooms must maintain adequate working space around equipment for safe operation and maintenance:

- o Minimum clearances depend on voltage, equipment type, and NEC specifications.
- o Cable trays should not obstruct required egress paths or violate bending radius requirements.
- o Ladder or trough tray rung spacing should be selected to allow proper cable installation without modifications that could compromise safety .

Practical Recommendations

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- o Ensure at least one clear entrance and exit for rooms with large switchboards or cable tray systems.
- o Verify that cable tray routing does not block egress or violate NEC working space requirements.
- o Use drop-out bushings or protective fittings where cables exit trays to prevent abrasion or damage.
- o Coordinate with local authorities to confirm interpretations of NEC requirements, especially for sections of equipment partially containing overcurrent devices . By following these guidelines, cable tray rooms can meet both safety and code compliance, ensuring proper access, egress, and cable management.

There are several sections which cover the requirements for the use of single conductor cables in cable tray even though they only

The International Building Code (IBC) and NFPA 101 (Life Safety Code) both mention panic hardware and fire exit

Taking into account cable management requirements while ensuring compliance with applicable regulations and standards,

Switch rooms are crucial to the operation and maintenance of electrical equipment in a building but are often of restricted access

For many installations, the cable trays are routed over the top of a motor control center (MCC) or switchgear enclosure. Cables exit

Stakeholders such as Facilities Management, the PMO, architects and engineers that design physical pathways for the

Key factors such as safety, convenience, compatibility, and cost must be considered when planning the layout. In this

NEC Article 392 explains cable trays, their components, appropriate wiring methods for cable trays, and instances

This document deals with cables trays, cables and connector installation and segregation, cable trays earthing and E.M.C. directives.

Addresses shipping, handling, storing and installing cable tray systems. Information on maintenance and system modification is also

Core rules for selecting, installing, grounding, and filling cable trays--clearances, materials, separation, and

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bonding

The Cable Tray Institute (CTI) was founded in 1991 to support the cable tray industry by engaging in research, development,

As an industry leader in cable tray, Eaton offers one of the widest ranges of cable management solutions available in the market

The 2026 revision resolves this by defining a specific measurement: a minimum of 12 inches of space above cable

This is the second in a series of blogs on electrical rooms. Read Part 1 [here](#) and Part 3 [here](#). In my previous blog, we

Electrical rooms must also have properly-sized entrances/exits, which must be kept clear from obstructions

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