

Elevator cable tray reserved hole



Overview

Cable tray installed in a hazardous location must contain only those cables that are appropriate for this type of environment as defined in Chapter 5 of the NEC.

Key Takeaways

Reserved holes in elevator cable trays are pre-planned openings that allow cables to pass through structural elements while maintaining system integrity and compliance with standards.

Purpose of Reserved Holes

Reserved holes in cable trays are designed to allow penetration of cables through walls, floors, or other structural elements without compromising the mechanical support of the tray or the safety of the installation. In elevator systems, these holes are critical for routing power, control, and communication cables from the main cable tray to the elevator shaft, machinery, and control panels.

Hole Management Process

Modern projects often use Hole Management applications to coordinate and control reserved holes. The process typically involves: Specification and Request: The penetrating discipline (e.g., cable tray designer) specifies the hole in the design software, creating a virtual hole with associated fixing elements. Approval: The structural discipline reviews the request and approves or rejects it.



Approval generates the actual hole in the structural element, ensuring proper alignment and safety. Validation and Reporting: The system validates hole placement, checks for conflicts, and generates reports for project coordination. This ensures that holes are only created by authorized personnel and that all disciplines are aware of the penetration, reducing the risk of clashes or structural compromise.

Cable Tray Considerations

Elevator cable trays can be ladder, ventilated, solid bottom, or channel types, depending on the number and type of cables. Key considerations for reserved holes include: Location and Size: Holes must accommodate the cable bundle while maintaining tray strength. Pre-punched or reserved holes in side rails or tray bottoms simplify installation.

Environmental Protection: Solid bottom trays may require weep holes to prevent water accumulation, especially in humid or outdoor locations. Material and Finish: Steel, aluminum, or fiber-reinforced plastic trays are selected based on mechanical load, corrosion resistance, and environmental conditions. Compliance: All cable tray installations must comply with NEC Article 392 and OSHA regulations, ensuring safe support and routing of elevator cables.

Best Practices

Plan reserved holes early in the design phase to avoid conflicts with structural elements. Use pre-punched or modular tray systems to simplify installation and future modifications. Coordinate with all disciplines using hole management software to ensure approvals and proper documentation.

Consider cable fill, bend radius, and EMI/RFI shielding when designing holes for sensitive elevator control cables. By following these guidelines, reserved holes in elevator cable trays can be safely and efficiently implemented, ensuring reliable cable routing and compliance with industry standards.

Article Content

Cable Tray Technical Guide A practical guide to product selection and ...

Cable tray installed in a hazardous location must contain only those cables that are appropriate for this type of environment as defined in Chapter 5 of the NEC.

Document DICOS

To install the cable tray supports, first find the required elevation from the floor to the bottom of the cable tray and establish a level line with a laser or a nylon string.

GUIDE CABLE TRAYS TECHNICAL

NEMA VE 1-2017 Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules of Canadian Electrical Code, Part I and the National Electrical Code®

Channel cable tray specification document

Channel cable tray straight sections shall be constructed with ventilated flat bottom. Ventilating bottom shall be perforated with 2.25" diameter holes and have slots to facilitate the use of cable ties to

ITER Cabling Handbook

A necessary space must be devoted to workers on the cable trays under the false floor (cable tray modifications, pulling and crimping cables) to avoid walking on it.

Cable Tray Support Spacing: Key Guidelines Explained

Explore the essential cable tray support spacing requirements for safe and efficient installations. Learn NEC guidelines for perforated, ladder, and wire

LEGRAND CABLE TRAYS TECHNICAL GUIDE

Not all cable trays are equivalent. The mechanical and electrical characteristics, tests, certifications, overall quality management, recommendations mentioned in this technical guide only apply to our

Cable tray manual

Instead of large conduits, cable channel may be used very effectively to support cable drops from the cable tray run to the equipment or device being serviced and is ideal for cable tray runs involving a

Cable Tray Design and Standards Guide

Design and construction requirements specify that cable trays must be ladder or perforated type depending on cable, fabricated from hot rolled steel sheet. Tray dimensions, hole spacing, and

CableTray Book English

The tray itself and the support material are highly ductile, and the cables moving within the tray tend to dissipate energy. However, if you have specific seismic specifications for selected cable tray, please

Cable tray

In the electrical wiring of buildings, a cable tray system is used to support insulated electrical cables used for power distribution, control, and communication.

Cable Tray Design and Standards Guide

1. The document outlines codes and standards that must be followed for design and construction of cable trays and their components. Standards listed include those for materials, rolling and cutting

Best practice guide to cable ladder and cable tray systems

Cable ladder and cable tray systems The following recommendations are intended to be a practical guide to ensure the safe and proper installation of cable ladder and cable tray systems

Complete cable tray manual for electrical engineers and designers

How to design cable tray? Most projects are roughly defined at the start of cable tray design. For projects that are not 100 percent defined before design start, the cost of and time used in

CABLE TRAY SYSTEMS GUIDE

Cable Tray Systems Guide HUBBELL Hubbell Wiring Device-Kellems and Hubbell Premise Wiring are divisions of Hubbell Incorporated, a U.S. headquartered manufacturer with over 130 years of

Cable Tray Technical Guide A practical guide to product selection and ...

A practical guide to product selection and installation This guide for engineers and installers has been developed by ABB as a practical reference regarding cable tray characteristics, installation, and

Best Practice Guide to Cable Ladder and Cable Tray Systems

This guide covers cable ladder systems, cable tray systems, channel support systems and associated supports intended for the support and accommodation of cables and possibly other electrical

Full cable tray systems specification document

B. Cable tray systems are defined to include, but are not limited to straight sections of [ladder type] [trough type] [solid bottom type] [channel type] cable trays, bends, tees, elbows, drop-outs, supports

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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