

Article Overview

Seismic bracing for cable trays in Tunisia should follow performance-based design principles, using trapeze supports, diagonal bracing, and proper anchor spacing to ensure stability during earthquakes.

General Requirements

Cable trays in seismic zones require more than standard hanger spacing to prevent lateral sway, longitudinal movement, anchor pullout, or cable spill during seismic events. A coordinated seismic bracing system should create a continuous load path from the tray to the building structure, using strut channels, clamps, connectors, and anchors as one integrated system (Sinotianying) . Seismic bracing is typically required when:

- o The tray carries high-density power or critical communication cables.
- o The route is suspended above occupied areas, equipment rooms, or evacuation paths.
- o The tray supports emergency power, fire alarm, control, or data center systems.
- o Documentation of brace location, anchor type, and component traceability is required. Tray type affects bracing design: ladder trays for power cables have different requirements than light-duty trays for data cabling (Sinotianying) .

Bracing Components and Methods

- o Trapeze Supports: Use threaded rods (commonly 3/8") to suspend trays from the ceiling or structural deck. Predrilled tabs allow direct attachment to concrete (Fivesunsecoenergy) .
- o Diagonal Bracing: Install diagonal braces between layers of trays in the longitudinal direction using steel members, bolts, and clamps. Rigid bracing resists both tension and compression, while sway bracing resists tension only. Two opposing brace assemblies are recommended for tension-only bracing at each location (Fivesunsecoenergy) .
- o Support Spacing: Typical spacing for trapeze supports is every 30 feet, but spacing must be verified based on tray weight, cable fill, and seismic design category (Fivesunsecoenergy) .
- o Anchors and Fasteners: Use anchors suitable for the structural element (concrete, steel, or composite). Ensure all fasteners are rated for seismic loads and properly documented.

Design Considerations

- o Seismic Category: Determine the tray's seismic category (I or II) based on importance of the system and local seismic hazard.
- o Load Calculations: Calculate the tray weight per meter, including cable fill, to select appropriate brace type and spacing.
- o Standards Reference: IEC 61537 provides cable tray performance classification, but seismic bracing must be

Tunisian cable tray seismic bracing

project-specific and reviewed by the engineer of record (Sinotianying) .

o Documentation: Maintain records of brace locations, anchor types, and component traceability for inspection and compliance.

Practical Recommendations

- o Use performance-based design rather than generic spacing rules.
 - o Select tray type and bracing method according to expected cable load and route elevation.
 - o Ensure all components are compatible and form a continuous load path to the building structure.
 - o Consider local building codes and seismic regulations in Tunisia, adapting international standards as needed.
- By following these guidelines, cable tray systems in Tunisia can maintain structural integrity and operational reliability during seismic events, protecting critical electrical and communication infrastructure.

Seismic Supports Cable trays are systems used for the safe transportation and protection of electrical cables, designed to fit the

Cable Trays and Cable Tray Supports This appendix provides the design criteria for seismic Category I cable trays and their

Connect cables directly to 3/8" threaded rod in trapeze installations for seismic bracing. Use 2 EZ BN 3/8 to attach cables to FAS

In the case of nuclear power plant cable trays, it is the seismic analysis that will govern the cable tray lateral and longitudinal bracing.

Raceways/Conduits/Cable Trays: Covers the different ways to install raceways, conduits, and cable trays.
Attachment Types: Gives

Overview of a cable tray seismic bracing load path from tray rail to structure. This guide serves EPC engineers, MEP

CADDY Seismic Bracing Installation Best Practices: Pipe Bracing for Trapeze Applications In the final blog of the

Eaton's B-Line series cable tray with TOLCO seismic bracing is the recommended total solution for your project. Our cable tray,

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The seismic performance levels of cable tray systems are presented according to current seismic design codes. A

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Cable tray seismic bracing is a support device that limits the displacement of electromechanical pipelines

Our seismic cable bracing systems are easy to install and require minimal maintenance, making them a cost-effective

The cable trays have diagonal bracing between layers of cable trays in the longitudinal direction using proprietary steel members and

Seismic Solutions Flexible Bracing Accessories Rigid Bracing Accessories Seismic Catalogue Download

This article discusses the importance of seismic resistance for cable trays, detailing when seismic braces are

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