

What size seismic bracing should the cable tray be



Article Overview

Cable trays that exceed 150 N/m (approximately 15 kg/m) or are 300 mm wide or larger typically require seismic bracing, with the exact tray size determined by cable load, tray type, and project-specific seismic criteria.

Key Considerations for Seismic Tray Selection

Weight Thresholds: According to GB50981-2014, seismic bracing is required if the cable tray's weight exceeds 150 N/m (≈ 15 kg/m) or if the conduit diameter is ≥ 60 mm. This weight includes both the tray's self-weight and the weight of cables, assuming a maximum 40% fill rate for cables. Smaller trays, such as 200 mm wide trays carrying only lightweight control cables, often remain below this threshold and may not require bracing.

Tray Type: Ladder trays are generally preferred for high-seismic applications due to their structural stiffness and efficient weight-to-strength ratio. Perforated or trough trays can be used but require careful evaluation of mass, support spacing, and cable retention. Wire mesh or basket trays are suitable in some cases but need detailed review of splice and support details under seismic loads.

Support and Bracing: The seismic performance of a tray depends more on the support and bracing system than the tray section itself. Braces must resist lateral, longitudinal, and uplift forces. Typical guidance includes transverse braces every 40 ft and longitudinal braces every 80 ft, with additional bracing near elbows or branches. Manufacturer specifications and project-specific seismic calculations should govern brace spacing and attachment methods.

Tray Dimensions: Trays 300 mm wide or larger, or 100 mm high or larger, often exceed the 150 N/m threshold...

Article Content

B-Line series Cable Tray Design Considerations

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

Cable Trays

Cable trays are systems that distribute bundles of insulated electrical cables from power supplies to electrical equipment, consisting

Specifications of seismic bracing for cable trays in basements

The right tray type should be selected based on the expected cable load, support spacing, bracing method, and required retention

6.4 Mechanical, Electrical, and Plumbing Components

ASCE/SEI 7-10 exempts electrical raceways, conduit, cable trays, and bus ducts from seismic bracing requirements in Seismic

Seismic Bracing Kit | Seismic Bracing | Wire and Cable Hangers | Wire ...

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

Seismic Bracing Ensures Stability and Safety of Cable Trays

Seismic Bracing – Enhancing System Stability and Seismic Resistance Seismic bracing, typically made of high-strength metal, is key

Seismic Bracing Kit | Seismic Bracing | Wire and Cable Hangers | Wire ...

Features Kit contains items needed for seismic bracing long cable tray runs. Each kit contains: (4) 11" cables with mounting eyelets

Seismic Bracing Installation Best Practices: Cable Bracing for ...

Jun 05, 2019 CADDY Seismic Bracing Installation Best Practices: Cable Bracing for Trapeze Applications No matter where in the

Understanding Seismic Support for Electrical Installations

For rigid cable trays, it is established that the seismic supports should be spaced no more than 12 meters apart. Additionally,

SEISMIC BRACING OF A DISTRIBUTED CABLE TRAY SYSTEM

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

Rev 7 to Procedure SAG.CP3, "Seismic Design Criteria for Cable Tray ...

A cable tray hanger is classified as a seismic Category I structure, and therefore, it shall be adequately designed for the effect of

EARTHQUAKE PROTECTION

Suspended equipment requires bracing as shown in Figure 8 using rigid steel sections or Figure 7 using cables. Connections to the

Seismic and cable tray solution flyer

Our team of experts can help you select the best cable tray series for your application, as well as designing your seismic bracing

Rev 7 to Procedure SAG.CP3, "Seismic Design Criteria for Cable Tray ...

The design requirements for seismic Category I structure are delineated in Regulatory Guide 1.29. This document provides the

Cable Tray and Conduit System Seismic Evaluation Guidelines

A number of shake table tests on portions of cable tray and conduit systems confirm these observations from past earthquakes and

Seismic Standards: Cable Management Guide – Electrical Trader

In U.S. work, cable tray bracing often starts at 12 inches tray width. Typical ASCE 7 spacing is 40 ft transverse and 80 ft

Seismic and cable tray solution flyer

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

Contact Us

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