

How to Select Seismic-Resistant Cable Tray Supports



Overview

Engineers typically use seismic design codes and standards to determine the appropriate design parameters for cable trays based on the seismic hazard level of the site. However, one often overlooked aspect is the seismic resistance of cable trays. During an earthquake, cable trays are exposed not only to gravity loads and normal service loads, but also to lateral movement, vertical acceleration, vibration, and building drift. If these. Eaton's TOLCO seismic bracing solutions help protect people and non-structural components during an earthquake. Box 23205, Pleasant Hill, CA 94523, (510) 934-4212. There is no charge for reports requested by EPRI member utilities. Cable trays, being an integral part of building electrical and communication systems.



Article Content

Feb 08, 2026

Seismic design and qualification of cable trays in nuclear power plants

Cable trays are light equipment components. They consist of steel ladder type cable trays and a support system. In case of horizontal cable trays, the trays are supported by cantilevers

Jun 28, 2025

Circuit Integrity of Cable Tray Wiring Systems During Natural Disasters

Wiring System Selection Cable Tray Wiring Systems vs. Conduit Wiring Systems Due to the materials that make up the systems, the circuit integrity of cable tray wiring systems will often excel that of

Oct 28, 2025

What are the seismic design considerations for cable trays?

By carefully considering the material selection, component sizing, connection details, dynamic response, installation, and support, we can design cable tray systems

Nov 26, 2025

Performance-based optimum seismic design of cable tray system

The seismic performance levels of cable tray systems are presented according to current seismic design codes. A performance-based optimum seismic design procedure for cable tray

Jul 24, 2025

Installing Seismic Restraints for Electrical Equipment

Raceways/Conduits/Cable Trays: Covers the different ways to install raceways, conduits, and cable trays. Attachment Types: Gives instructions on installing equipment in different arrangements known

Mar 10, 2026

A Method for Seismic Qualification of Cable Tray Systems in Nuclear ...

This paper presents an approach to seismically qualify cable tray systems in nuclear power plants. The approach allows the use of standard tray and support designs by giving realistic consideration to the

Dec 06, 2025

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 layout to ensure it meets applicable building codes and standards.

Nov 15, 2025

SEISMIC BRACING OF A DISTRIBUTED CABLE TRAY SYSTEM

Above these cabinets, are cable trays that provide power and communications cabling to the cabinets. Since the facilities were located in a area of high seismicity, the cable tray system was required to be

Aug 20, 2025

Test-based approach to cable tray support system ...

Abstract Nuclear power plant safety-related cable tray support systems subjected to seismic loadings were originally understood and designed to behave as linear elastic systems.

Nov 18, 2025

Seismic Bracing Ensures Stability and Safety of Cable

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

May 15, 2026

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, bolted framing, and seismic bracing are approved as one system through

Mar 20, 2026

Seismic performance sensitivity analysis to random variables for cable ...

The final results demonstrate the need to consider the effects of random variables in modeling assumption in seismic performance analyses of cable tray and can be further used in

Mar 03, 2026

Understanding the Seismic Resistance of Cable Trays

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

Apr 25, 2026

Vogtle Electric Generating Plant (VEGP) Units 3 and 4 Updated ...

Cable Trays and Cable Tray Supports This appendix provides the design criteria for seismic Category I cable trays and their supports. Seismic Category II cable trays and their supports are also designed

Dec 18, 2025

KINETICS™ Seismic & Wind Design Manual Section

As with cable restraints, floor- or roof-mounted electrical distribution support systems will normally involve a box frame that supports the system (single or multiple runs) with some kind of a trapeze bar.

Mar 17, 2026

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

Kit contains items needed for seismic bracing long cable tray runs. Each kit contains: (4) 11" cables with mounting eyelets (2) Metal brackets for attachment to support members (4) Cable clamp collars (4)

Jan 31, 2026

Appendix 3F Cable Trays and Cable Tray Supports

This appendix provides the design criteria for seismic Category I cable trays and their supports. Seismic Category II cable trays and their supports are also designed utilizing the design criteria of this appendix.

Oct 24, 2025

Guide to cable support systems

This chapter deals with the correct dimensioning and the final selection of a cable support system, depending on the application, according to various influencing factors, such as cable volume, cable

Dec 03, 2025

Seismic Supports

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

Mar 18, 2026

Cable Tray and Conduit System Seismic Evaluation Guidelines

The checks of the analytical review guidelines are formulated to ensure that cable tray and conduit supports are seismically rugged, consistent with the above observations from the seismic experience

Jun 01, 2026

Cable Tray Support Solutions: Safety, Compliance, and

Earthquake resistance/corrosion resistance: To ensure long-term safety and reliability, cable trays must withstand seismic forces and be corrosion resistant.

Feb 18, 2026

Cable Tray Checklist for High-Seismicity Projects

The right tray type should be selected based on the expected cable load, support spacing, bracing method, and required retention performance—not on ordinary installation habit alone.

Sep 10, 2025

Seismic MEP Solutions | Eaton

Eaton's TOLCO seismic bracing solutions help protect people and non-structural components during an earthquake. For over 60 years, the mechanical, electrical, and fire protection trades have relied on

Dec 16, 2025

Cable Tray and Conduit System Seismic Evaluation Guidelines

Guidelines are presented here for conducting in-plant seismic ruggedness review of conduit, cable trays, and their support systems. The in-plant review has two purposes.

Jul 07, 2025

Performance-based optimum seismic design of cable tray system

The results show that the proposed performance index (drift ratio between adjacent supports) for cable tray systems is a reasonable criterion for performance-based seismic design and

Contact Us

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