Longitudinal Seismic Resistance of Cable Trays

Article Overview

Longitudinal seismic resistance of cable trays is achieved through proper bracing, support spacing, and load transfer mechanisms to ensure stability and prevent damage during seismic events.

Key Principles

Longitudinal seismic resistance refers to the ability of a cable tray system to withstand forces along its length during an earthquake. This is critical for maintaining electrical continuity and preventing structural damage. Cable trays must be supported and braced to transfer seismic loads safely to the building structure, particularly in regions of high seismicity .

Support and Bracing Requirements

• Longitudinal Supports: Cable trays should have longitudinal seismic supports spaced no more than 24 meters, with reduced spacing for flexible trays, typically halved to ensure adequate support .
• Lateral Supports: Lateral supports are required at both ends of the tray and near any turning points, ideally within 0.6 meters of bends, to stabilize the system and prevent torsional or lateral movement .
• Gate-Type Braces: Implementing gate-type seismic braces with at least one lateral or two longitudinal supports enhances load distribution and structural integrity during seismic events ....

Article Content

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

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The shake on seismic bracing

For cables or anything else that runs in a line, the seismic force acts in two directions: transverse (perpendicular) and longitudinal

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Multi-Directional Bracing ForElectrical Conduit, Cable Tray And ...

Seismic restraints are designed to resist the horizontal seismic force in two primary directions: Transverse (perpendicular) and

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