

Construction of seismic-resistant supports for air ducts and cable trays





Overview

Suspended systems such as piping, equipment and ductwork need seismic braces to keep them from swaying during an earthquake. Seismic braces can be flexible using aircraft quality cables, or rigid (solid) using steel sections such as pipe, angles, or strut channels. The seismic restraint of pipe and duct is a task that requires several disciplines and trades to interface well in order to produce a building that meets the intent of the code. Many attachment examples and arrangements are presented, including anchors and the use of special devices called seismic restraint devices. The EasyBex EF5CK Series Seismic Cable Restraint Kits are engineered to secure suspended non-structural components—such as ductwork, piping, conduit, cable trays, and HVAC equipment—against seismic, wind, and blast forces.



Construction of seismic-resistant supports for air ducts and cable trays

Seismic Support and Hanger Solutions

Seismic Support and Hanger systems are no longer optional--they are non-negotiable safeguards for modern infrastructure. By combining rigorous



SECTION 230545

This section describes seismic restraints for piping, ductwork, conduit, tanks, and equipment, including clamps, rods, channels, struts, anchor bolts, nuts, and accessories.



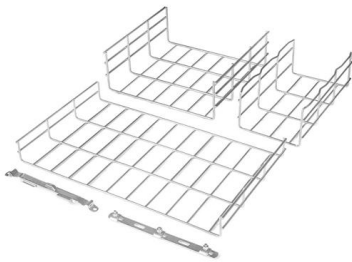
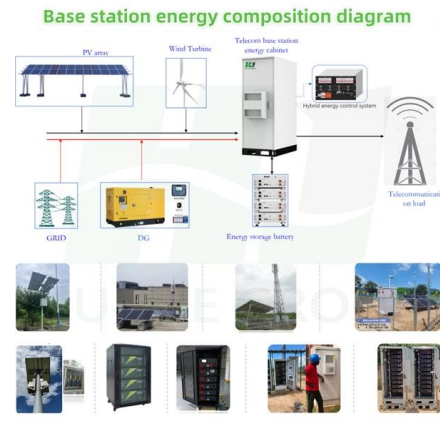
Seismic Bracing Requirements , Comprehensive Guide

Understand seismic bracing requirements to enhance building safety. Explore design, placement, and compliance strategies to protect structures and



Wind & Seismic Bracing for Piping

Our Roof Pipe Supports and Roof Duct Supports are built for job sites where wind bracing and seismic bracing are required. These systems support piping, HVAC



Seismic Restraint Systems

Seismic braces can be flexible using aircraft quality cables, or rigid (solid) using steel sections such as pipe, angles, or strut channels. Braces are typically installed 10-13 m apart, at system turns and at

INSTALLING SEISMIC RESTRAINTS FOR DUCT AND PIPE

Seismic restraint devices include vibration isolation systems, cable or strut suspension systems, roof attachment systems, and the use of steel shapes. Please note that this guide does not replace:



What Sheet Metal Contractors Need to Know About Seismic Bracing

It's looking at all aspects of seismic restraint systems, including supports, anchors and things of that nature, making sure





KINETICS(TM) Pipe & Duct Seismic Application Manu

S1.1 - Introduction: As with any task in the design and construction of buildings, there are certain terms, definitions, and standards of practice that must be understood and employed in order to maintain a

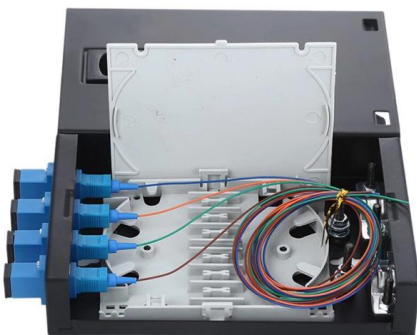


Seismic

Experience from around the world shows that failure of engineering services due to insufficient structural design of fixings of equipment, hangers and supports of pipes, ducts and electrical conduits in case

Facility Safety Management

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INSTALLING SEISMIC RESTRAINTS FOR DUCT AND PIPE

This guide shows installers how to attach ducts, pipes, and associated equipment to a building to minimize earthquake damage. Many attachment examples and arrangements are presented,



KINETICS(TM) Pipe & Duct Seismic Application Manu

Table S1-3 below will show the seismic restraint requirements for each length of pipe or duct, and then list which seismic restraint locations will fulfill those requirements.



Seismic Restraint Guide for Pipe & Duct

The KINETICS(TM) Pipe & Duct Seismic Application Manual outlines essential terms, definitions, and standards for seismic restraints in pipe and duct systems,



Pipe and Duct Seismic Application Manual

Pipe and Duct Seismic Application Manual Part II: Installation of Seismic Restraints for Pipe and Duct



KINETICS(TM) Pipe & Duct Seismic Application Manu

S4.1 - Introduction: The International Building Codes (IBC's) allow certain exemptions to be made for pipe and duct from the need for seismic restraint. These exemptions are based on the Seismic



WBDG Home , WBDG

Get Ready for the NEW Whole Building Design Guide: The Innovative Platform Advancing Building Standards Read More -> The Gateway to Whole Building



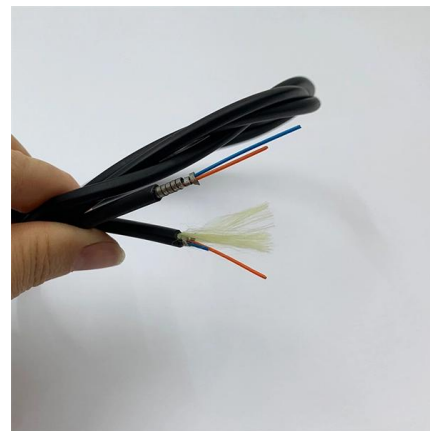
BR_Seismic-Design-Installation-Guide_EN_AU

Seismic Design coordination of mechanical services and other plenum located elements, including lights, air conditioning, cable trays, fire suppression systems etc, with the suspended ceiling is



Seismic Cable Restraint Kits

The Easy ex EF5CK Series Seismic Cable Restraint Kits are engineered to secure suspended non-structural components--such as ductwork, piping, conduit, cable trays, and HVAC



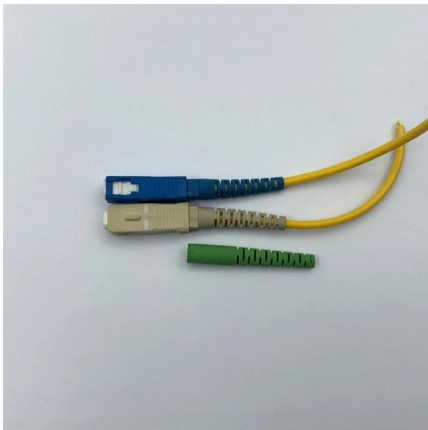
SMACNA Releases Major Updates to Two Duct Construction Guides

The Sheet Metal and Air Conditioning Contractors' National Association released major updates to the Seismic Restraint and Industrial Duct Construction manuals, which are available



Seismic Bracing for Ductwork, HVAC, Electrical & Pipe

Protecting HVAC, electrical, and piping systems from earthquakes saves money and lives. Learn the basics of seismic protection for these systems.



SEISMIC DESIGN MANUAL

Seismic Forces Acting on Conduit and Cable Trays (D9.1) This section provides a brief overview of the forces encountered by electrical distribution systems exposed to seismic forces and

INSTALLING SEISMIC RESTRAINTS FOR DUCT AND PIPE

Refer to approved construction documents that show the overall layout of the duct and pipe runs throughout the building. Normal vertical supports are provided at intervals as defined in codes and



Guidelines for Seismic Verification of HVAC Duct and Damper Systems

The guidelines are applicable to any HVAC duct and damper system at any elevation in a plant where the nuclear plant free-field ground motion 5% damped seismic design spectrum does not exceed the



KINETICS(TM) Seismic & Wind Design Manual Section

For cases where restraints are required, however, the forces involved can be significant. This is due to the difference between the spacing of the system supports and their restraints. Supports for these



KINETICS(TM) Pipe & Duct Seismic Application Manu

S5.1 - Introduction: The code based horizontal seismic force requirements for pipe and duct are either calculated by the seismic restraint manufacturer as a part of the selection and certification process,

Vogtle, Units 3 and 4, Updated Final Safety Analysis Report

These design criteria maintain structural integrity for seismic Category I and II ducts and functional capability for seismic Category I duct. The structural components of a typical HVAC duct system



Mechanical, Electrical and Plumbing Seismic Bracing Systems

From design to construction to inspection, the nVent CADDY team makes seismic simple by walking you through the full process for applications including Mechanical, HVAC, Electrical, Plumbing and Fire

Seismic Proof Systems



This document covers the rules of longitudinal, transversal and 4-dimensional bracing, seismic retrofitting and calculation methods using Sikla products,



KINETICS(TM) Seismic & Wind Design Manual Section

When subjected to an earthquake, ductwork must resist lateral and axial buckling forces, and the restraint components for these systems must resist pullout and localized structural failures.

Westinghouse AP1000 Design Control Document Rev. 19

These design criteria maintain structural integrity for seismic Category I and II ducts and functional capability for seismic Category I duct. The structural components of a typical HVAC duct system



Seismic MEP Solutions , Eaton

Seismic bracing also uses rod stiffeners to keep the whole system strong enough to be braced. To break it down even further, a seismic bracing assembly consists of three items: a system brace, a brace





Ensuring Safety: A Guide to Seismic Restraints for

Seismic Restraints for Ventilation Ducts Earthquakes are unpredictable natural phenomena that pose significant dangers



Criteria for Distribution System Analysis and Support

Heating, Ventilation, and Air Conditioning Ducts and Supports HVAC ductwork and its associated support structures are designed to withstand the loadings and load combinations presented in

Seismic Bracing for Ductwork, HVAC, Electrical & Pipe

Protecting HVAC, electrical & piping systems from earthquakes saves money & lives. Learn the basics of seismic protection for these systems.



SMACNA Releases Updates to Two Duct Construction

Chantilly, VA (April 7, 2025) -- The Sheet Metal and Air Conditioning Contractors' National Association (SMACNA), the leader in promoting quality and excellence



SMACNA Updates Duct Construction Guides

The Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) has released major updates to its Seismic Restraint and



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