

## PRODUCT APPLICATION SHEET

Mechanical and electrical systems in and on many buildings today must be designed to withstand forces caused by extreme events, including hurricanes, earthquakes and even bomb blasts. According to the latest building codes, many non-structural components, including life-safety systems, such as sprinkler and emergency power, require proper restraint to resist the movements that can occur in an extreme event.



Examples of cable restraint sway bracing on ductwork and pipe (Vibro-Acoustics models SRK-400, SRK-800, SRK-1400) are shown here. Specific components may vary by location and project, but will consist of an attachment to duct or pipe support – typically a bracket of some kind, a wire rope terminated on both ends using thimbles, wire rope clips and/or compression sleeves, and an anchor bolt connection to the structure above. Restraints are in both longitudinal and transverse directions at specific intervals to keep the duct or pipe from breaking apart or damaging adjacent equipment or systems.

Proper installation of seismic restraints requires time and attention to details. Rigid bracing, using solid steel angles and/or struts, is popular for ductwork. However, cable restraint sway bracing is typically easier and quicker to install. Only cables can be used to restrain vibration isolated equipment, ductwork and piping, without short-circuiting the isolators. Cables can also allow thermal growth and movement common in many pipe systems.



Vibro-Acoustics engineers design projects to minimize contractors' efforts in meeting applicable building codes and project specifications. Our engineers frequently reference the 2006 International Building Code and the American

Society of Civil Engineers' document, ASCE-7-05 to determine the design forces used in selecting appropriate sway bracing and seismic restraints. Bracket size, cable diameter and anchor bolts must be selected correctly to resist the expected forces. Other guidelines are published by SMACNA, ASHRAE, and FEMA.



Vibro-Acoustics provides all documentation and seismic restraint components necessary, including in-state Professional Engineer review, stamping and on-site inspection to meet local code requirements. We are always available to assist with any seismic restraint, vibration or noise concerns you may have.