

HELICAL ISOLATORS

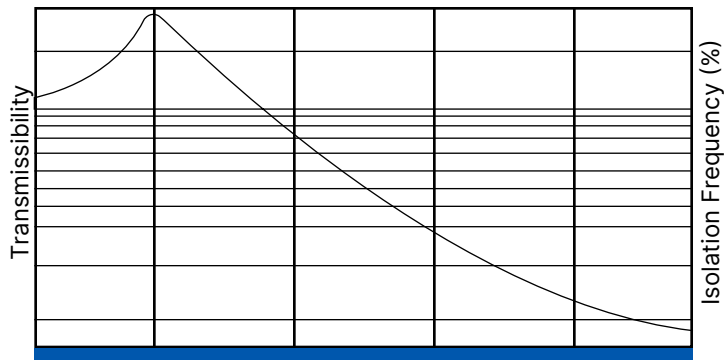
Shock and Vibration Solutions



Typical Helical Vibration Isolator Application

Shock and vibration influence the performance and life expectancy of nearly every kind of mechanical and electrical device, both large and small. Typically, shock protection and vibration absorption are accomplished through the combination of a resilient element (metal mesh, an elastomer, a steel spring, etc.) and a metallic supporting frame. However, a **helical vibration isolator**-also known as **helical mount** or a **cable mount**-provides a higher level of isolation from shock and vibration than any other type of isolation device.

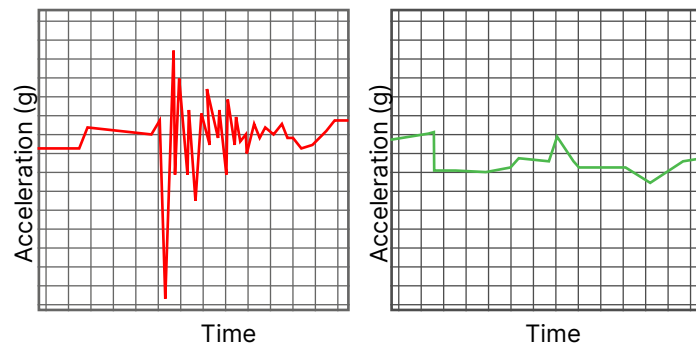
Evans' helical vibration isolators are mounting assemblies made of aircraft-quality, stranded, stainless steel cable, wound into metal retainers in a helical arrangement. The twisted cable (ranging in diameter from 1/16" to 7/8") and its helix configuration provide the specific resilience required to adequately cushion loads as small as a few pounds or as large as thousands of pounds. The assemblies can function in compression, extension, shear, and roll, thereby providing protection in all axes simultaneously.



Forcing Frequency / Natural Frequency

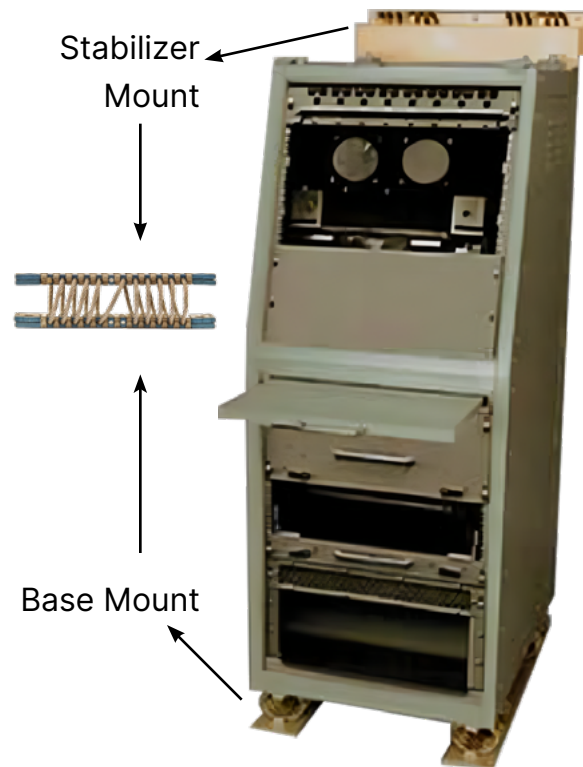
Transmissibility versus Frequency

Typical transmissibility curve for wire rope isolators. This shows the percentage of isolation achieved based on the ratio of the forcing (driving) frequency and the natural frequency of a wire rope isolator.



Input Shock versus Damping

Inherent damping, provided by nexure hysteresis (the friction between two strands of cable), absorbs the input shock (left curve), reducing the shock levels transmitted to the equipment (right curve).



Shown above is an application for ground transport, airframe, or shipboard installation. Not only does this arrangement dampen shock and vibration in three axes, but it also allows designers/engineers to use COTS equipment rather than the more expensive ruggedized electronic equipment.

Our isolators offer excellent corrosion resistance, can withstand severe environmental conditions, are essentially maintenance-free, and allow for easy installation as sets in larger base assemblies.

Helical isolators are the solution of choice for protecting a broad range of loads composed of very fragile (electronic equipment, computer hardware, optical devices) or very substantial (heavy engines, machinery) elements during transit or while in operation, including operation in a moving vehicle.

Please contact us to discuss your design specifications or to obtain pricing information about production quantities. Our engineering staff is also available to assist you in selecting the best configuration for your application from our broad selection of isolators.

As America's oldest spring maker, our helical vibration isolators can be used in applications ranging from basic transportation to aerospace.

From COTS firmware



to precision machinery



to heavy industrial equipment



there is an Evans' Helical Isolator for your application!



Applications

Shipboard Electronics

Ordnance Equipment

COTS Ruggedizing

Over-the-road Vehicles

Avionics

Shipping Containers

Industrial Equipment

Solutions from John Evans' Sons

Helical Isolators

Precision Springs

Spring Powered Reels

Wire Forms

Constant Force Springs

Stampings

Mechanical Assemblies

Contact John Evans' Sons Today

Our experts offer a depth of expertise to assist you with all parts of the process. We are ready to answer your questions in a timely manner and will help you define what you need. We produce custom springs for all purposes, and we are here to work with you on any of your customization needs. [Contact us today.](#)