

# Helical Isolators

## Shock and Vibration Solutions



 **John Evans' Sons, Inc.**

America's Oldest Springmaker Est. 1850

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## Typical Helical Vibration Isolator Application

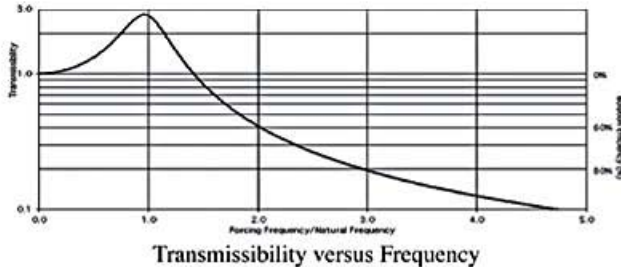
Shock and vibration influence the performance and life expectancy of nearly every kind of mechanical and electrical device, large or small. Typically, protection from shock and absorption of vibration are accomplished through the combination of a resilient element (metal mesh, an elastomer, a steel spring, etc.) and a metallic supporting frame. However, a **helical vibration isolator**-also known as a **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, sheer and roll, thereby providing protection in all axes simultaneously.



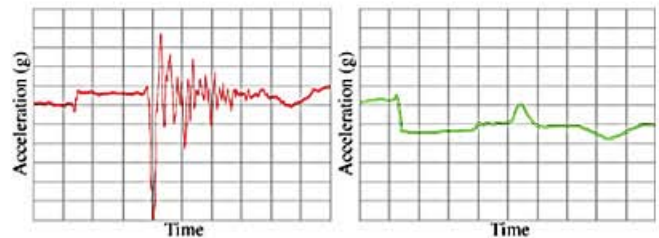
Shown above is an application for ground transport, airframe or shipboard installation. Not only does this arrangement dampen shock and vibration in three axes, but also allows designer/engineers to use COTS equipment rather than the more expensive ruggedized electronic equipment.

*Photo courtesy of A & J Mfg. Co.*



Transmissibility versus Frequency

Typical transmissibility curve for wire rope isolators. This shows 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 flexure hysteresis (the friction between two strands of cable), absorbs the input shock (left curve) reducing the shock levels transmitted to the equipment (right curve).

Our isolators demonstrate an excellent ability to resist corrosion and to withstand severe environmental conditions, remain essentially maintenance-free, and are easy to install as sets in larger base assemblies.

Helical isolators provide the solution of choice for protecting a broad range of loads composed of the very fragile (electronic equipment, computer hardware, optical devices) or the very substantial (heavy engines, machinery) during transit or while in operation-even 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 the broad range represented by our family of isolators.

From basic transportation to aerospace, there is an application for helical vibration isolators from America's oldest springmaker.

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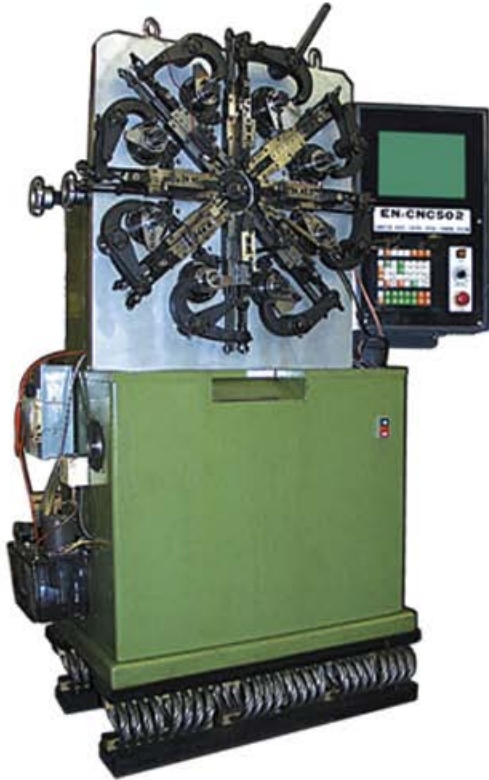
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to precision machinery...



to heavy industrial equipment...



...there is an Evans'  
Helical Isolator for  
your application !

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