



Unique Products for Missile and Air Defense Applications

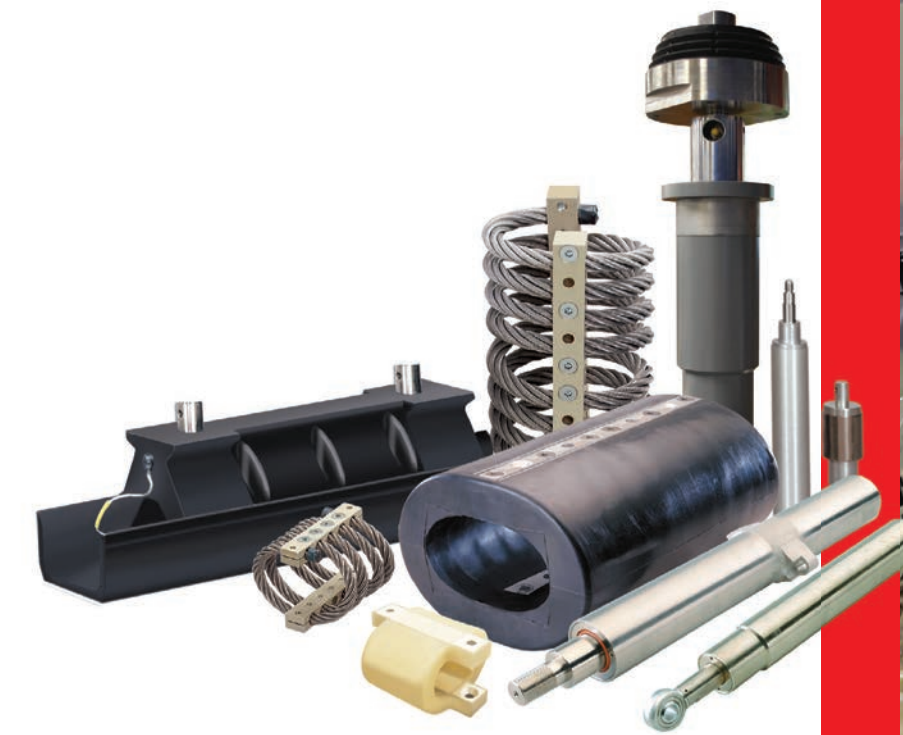
Our various shock and vibration protection products are continually expanding to provide customers with unique application solutions for various military programs. With our extensive knowledge and experience we are able to provide superior analysis, products, services and support. While our teaming and partnership approach sets us apart from the competition.

Applications/Products

- Missile and Munitions
 - PHST Isolators
 - Shipboard Shock Isolation
 - Hydraulic Dampers for Fin Control
- Engine, Drivetrain and Suspension
 - Rate Controls
 - Special Isolators
 - Time Delay Products
- Electronics and Radar
 - Wire Ropes
 - Elastomers
 - Hydraulic Shock Absorbers
- Weapon and Transport Systems
 - Recoil Management
 - Shock Absorption
 - Stabilization Skids

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Shock and Vibration Isolation Solutions for Missile and Air Defense Applications



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MISSILE TRANSPORT ISOLATION (PHST)

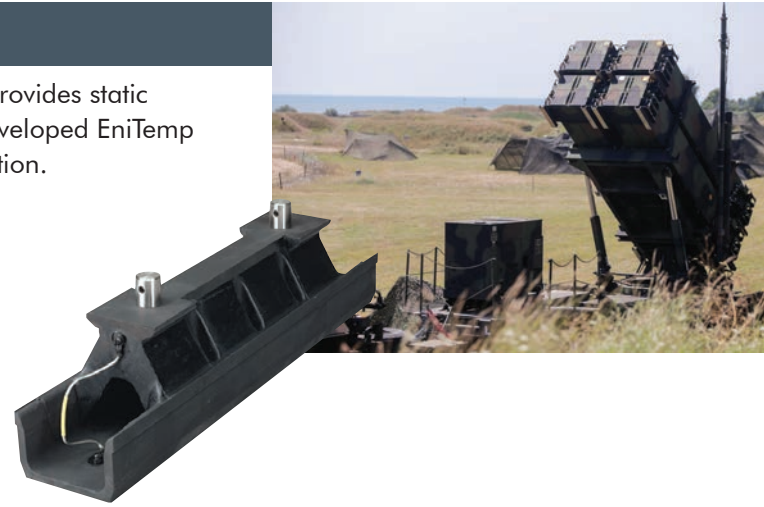
Elastomeric SKID Isolator

Molded/bonded elastomeric/metallic assembly provides static support and shock protection. Enidine custom developed EniTemp IV material provides low temperature shock isolation.

Application

Large displacement PHST missile transport Skid Isolators provide shock isolation, protecting the missile during transport ensuring mission readiness and effectiveness.

Ten unique Skid isolator designs used on advanced air defense systems.



Hydraulic Dampers

Custom orificed, fluid filled, dampers provide shock attenuation and motion control for a variety of applications.

Application

Three Enidine damper designs are installed within the missile cradle assembly to provide protection against PHST transportation shock loads.



SHIPBOARD SHOCK ISOLATION

Mechanical Shock Isolators

DAMSI (Double Acting Mechanical Shock Isolator) is a patented non-hydraulic mechanical friction spring element design used to absorb energy during a shipboard shock event. Unlike hydraulic shock absorbers, DAMSI utilizes pre-compressed lubricated friction spring elements, offering superior performance, system preload, and 30 year lifespan.

Application

Approved by the Navy for shock protection of MK14 Vertical Launch System. Provides static preload and MIL-STD-901D shipboard shock isolation, replacing previously used high pressure liquid springs on the Tactical Tomahawk missile launch system.



SHIPBOARD SHOCK ISOLATION

Hydraulic and Elastomeric Isolator

Hydraulic shock absorber combined with molded shimmed elastomer to provide shipboard shock protection in vertical and lateral directions.

Application

Provides system preload and shock protection against 901D shipboard shock inputs for weapon systems. Used on Phalanx CIWS and SeaRAM Supersonic Anti-Ship Missile Defense system.



Hydraulic Shock Isolator

SIDAS (Shock Isolator Double Acting Spring) combines a preloaded mechanical spring with a low-pressure hydraulic damper to provide both static preload and dynamic damping forces to protect sensitive electronic equipment. Damping coefficients less than 1 can be achieved to provide optimal damping functions.

Application

MIL-STD-901E shipboard shock requirements for sensitive electronic equipment. Currently used on Aegis Weapons Consoles.



Wire Rope Isolators

Standard Wire Rope Isolators use stainless steel cables threaded through aluminum alloy bars providing effective shock and vibration isolation through coulomb damping. Enidine's all-metal construction ensures high-performance isolation resistant to temperature extremes, chemicals, oils, and abrasives.

Application

Multi-axis shock and vibration isolation of electronics, weapon systems, vertical launch systems, and PHST missile transport applications.



SHIPBOARD SHOCK ISOLATION

HERM (High Energy Rope Mount) Isolator

HERM isolators incorporate a traditional wire rope isolator encased in a proprietary elastomer for enhanced damping and stiffness. It combines friction (Coulomb) damping with elastomeric viscoelastic properties for enhanced performance over standard wire ropes.

Application

Initially developed for Navy cabinet isolation and rafted deck systems, the HERM is effective for multi-axis shock and vibration isolation for electronics, weapon systems, vertical launch systems, and PHST missile transport applications.



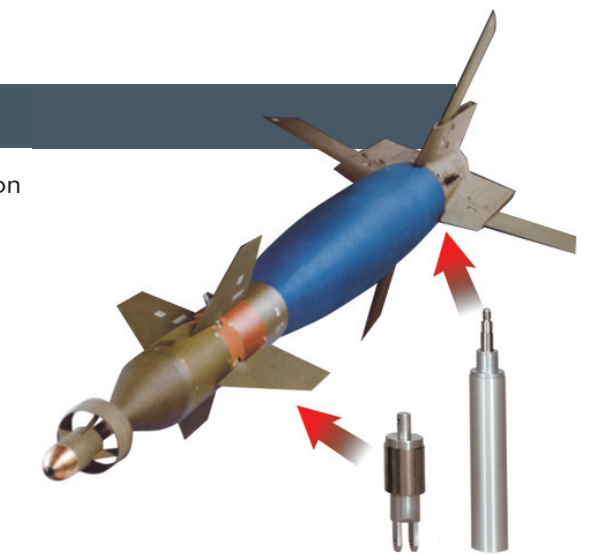
FIN MOTION CONTROL

Hydraulic Dampers and Rate Controls

Custom orificed, fluid filled dampers provide shock attenuation and motion control for a variety of applications.

Application

Dampers control aerodynamic forces on control surfaces while rate controls slow the deployment of retracted airfoil surfaces on the wing on the Paveway Laser Guided Bombs.



OUR CAPABILITIES

With nearly 60 years of experience, Enidine is an industry leader and trusted source for the design and manufacture of diversified energy absorption and vibration isolation products in the defense, aviation, space, and industrial markets.

Enidine has an in-house manufacturing and testing facility for rapid prototype development. This provides the ability to move quickly through the process development and evaluation phase of a project.

