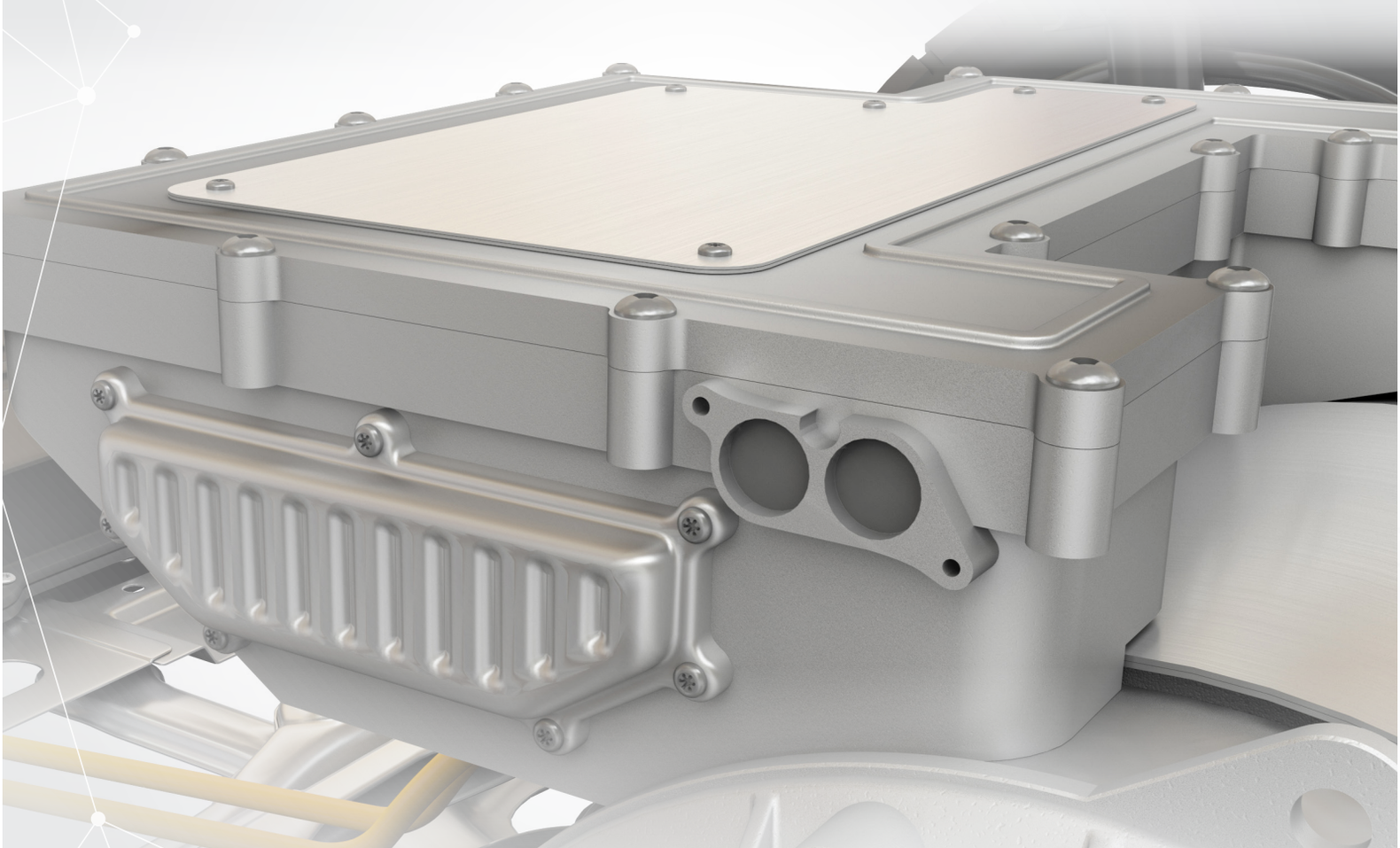
Noise & Vibration Damping

CONCEPTS & APPLICATIONS



YOUR PARTNER FOR DAMPING SOLUTIONS

Your Partner in Reducing Noise and Vibrations

Trelleborg Damping Solutions delivers better performance and overall profitability through the use of pioneering techniques.

Our global teams work through local contacts with our customers to deliver solutions and **innovative products**

Trelleborg Damping Solutions offers **leading-edge expertise** in polymer technology

Global engineering

We provide the right solution for any damping application


AUTOMOTIVE


TRUCKS


AGRICULTURE


INDUSTRIAL


WHITE GOODS


TWO-WHEELER

Trelleborg Damping Solutions has been a leader in damping technology for more than 30 years, with a wealth of experience in the automotive industry as well as every other area in which this technology is used.

Concepts of Damping

Within most market segments we experience an increasing demand for NVH damping solutions. Depending on the type of challenge one of the following concepts can be utililized.

NOISE RADIATION

Noise radiation from structures is the effect of transmission of vibrations to the surrounding air creating audible sound pressure. Noise radiation can be reduced by following three methods or the combination of:

- Structural Damping
- Encapsulation of radiating surfaces
- Reduction of surface velocity

STRUCTURAL DAMPING

Structural damping is the process of absorbing vibration energy in structures. All structures, regardless of design and materials, exposed to a dynamic force may affected by vibrations and or radiation of noise.

Material loss coefficient is a material parameter that defines the ability of materials to absorb vibrating energy. By use of metal-to-polymer materials having a high loss coefficient it is possible to reduce vibrations in structures significantly, this is called Structural Damping.

VIBRATION ISOLATION

Vibration isolation is the process of isolating a structure from the source of vibration.

By use of metal-to-polymer materials having a high isolation ability it is possible to effectively isolate the structure from source the of vibrations.

NOISE ENCAPSULATION

Noise encapsulation is an effective method in preventing noise radiation from structures.

By use of metal-to-polymer materials shape formed to encapsulate the surface of the structure there by preventing transmission of noise to surrounding air.

From start to finish;

We engineer, prototype, validate and produce an optimized solution that our customers can rely on.

Your Partner in Noise and V

We provide our customers...

...with high quality materials by taking pride in our manufacturing processes to ensure that all of our products are manufactured to the highest standards.

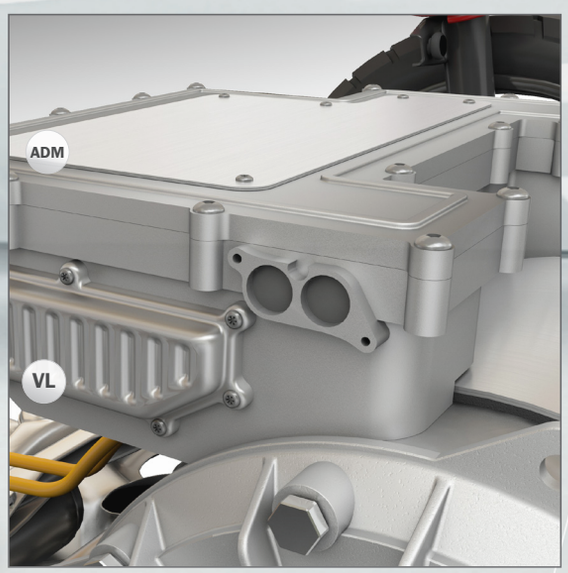
Made in Sweden and distributed worldwide, we are proud of the high performance these materials provide our customers in their many applications. We strive to deliver innovative products and solutions...

...with global presence and local expertise.

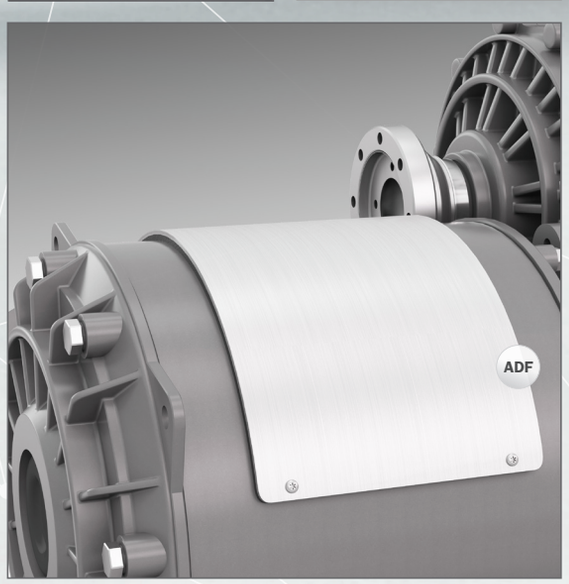
Reducing Vibrations

Global Market Leader

Trelleborg Damping Solutions is leading the way in the production and development of noise and vibration damping solutions for a wide range of applications in many industries.



Your Partner for Damping Solutions in E-Mobility



Our Solutions for Damping

Applied Damping Material - ADM

ADM- is a Constrained Layer Damping (CLD) material based on metal layers vulcanized together with rubber to produce a strong and durable laminate. This provides superior damping of structure-borne noise and can be cut and formed to fit most surfaces. Typical applications are cast engine covers such as inverter covers, valve covers, chain covers and oil pans. *ADM

ADM

Pressed vulcanized steel and rubber for robust design, ADM can be formed and cut to part using conventional press operations such as press forming, deep-drawing and die cutting. We use these materials to produce made-to-measure customer specific components.

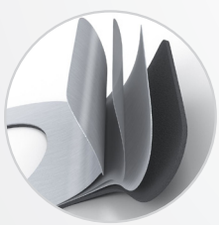
Applications

Housings and covers where damping is needed:

- Power electronic units
- Engine covers & oil pans
- Cast covers such as valve covers, chain covers
- Flex plates
- Supercharger/intercooler
- Start/stop system
- Transmissions/flywheel

Benefits

- Reduces structural vibrations and radiated noise
- Formable to various shapes
- Damping where it matters



Applied Damping Foam - ADF

ADF is a constrained damping material is made of metal and viscoelastic material (VEM) combined with a layer of closed cell foam.
Designed to reduce structural-borne noise by combining damping and isolation. *ADF

ADF

Provides superior damping of structure-borne noise of complex 3D surfaces. It combines the functions of damping and isolation tuned to minimize radiation from vibrating surfaces. ADF is especially suitable for stiff structures such as cast iron- or aluminum structures.

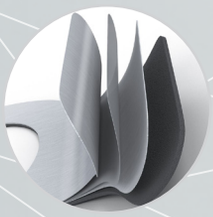
Applications

Housings and covers where damping and isolation is needed:

- Gearbox housings, transmissions
- Engine covers
- Super chargers
- Oil pans
- Electrical motors

Benefits

- Vulcanized metal and rubber for robust design
- Can be used on complex surfaces
- Formable to various shapes
- Reduces both resonant vibrations and forced excited vibrations



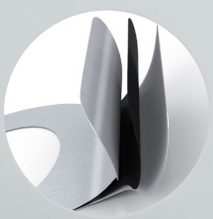
Visco-LAM

Visco-LAM is a sandwich material made of two layers of sheet metal laminated together with an intermediate layer of viscoelastic polymer. Various types of metals and alloys can be used, in different thicknesses, with surface treatment if needed. The material performance can also be optimized by changing the dynamic properties of the polymer. *VL

VISCO-LAM
Visco-Lam is typically used for replacing existing resonant components.

Applications
- Dash panels, floor and roof panels
- Electronic covers, engine covers, valve covers oil pans
- End covers/access covers, transmission/gearbox covers
- Wheelhouse, consoles/brackets
- White goods
- Dual wall concepts, acoustic enclosures

Benefits
- Improved NVH without adding components
- No added mass when replacing existing part
- Weldable options available
- The material combination can be optimized for the specific application



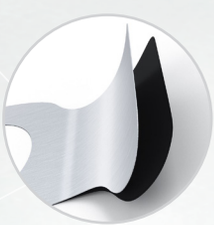
Duru-LAM

Duru-LAM is an excellent choice where a strong and robust material is needed for sound and vibration damping. Duru-Lam is a sandwich material made of two layers of sheet metal vulcanized together with an intermediate layer of elastomer. Various types of metals and alloys can be used, in different thicknesses, with surface treatment if needed.

DURU-LAM
Stands for durability, rubber and laminate. Duru-Lam is used in demanding environments where media resistance and mechanical properties are of high importance.

Applications
Replacing existing resonant components, for example:
- Baffle plates, splash shields
- Brackets/consoles
- Motor mounts

Benefits
- Improved NVH without adding components
- Superior durability
- Can be used inside engines/transmissions



Rub-LAM

Rub-LAM is an excellent choice of material for sealing, isolation, friction as well as sound and vibration damping. Various types of metals and alloys can be used, with surface treatment if needed. The choise of elastomer and thickness is based on the requirements of the application. *RL

RUB-LAM
Rub-LAM is an elastomer to metal sandwich material where the elastomer is vulcanized on one or two sides of the metal layer.

Applications
– Washers, seals/gaskets
- Radial dampers for gear wheels and pullys
- Steering systems,
- Cealings, flooring

Benefits
- Improved NVH
- Durable in stamping and forming
- Sealing properties
- Various friction levels available

Contact Details
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our contact details.

TRELLEBORG

We are part of the Trelleborg Group, which is the world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Its innovative solutions accelerate performance for customers in a sustainable way.

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