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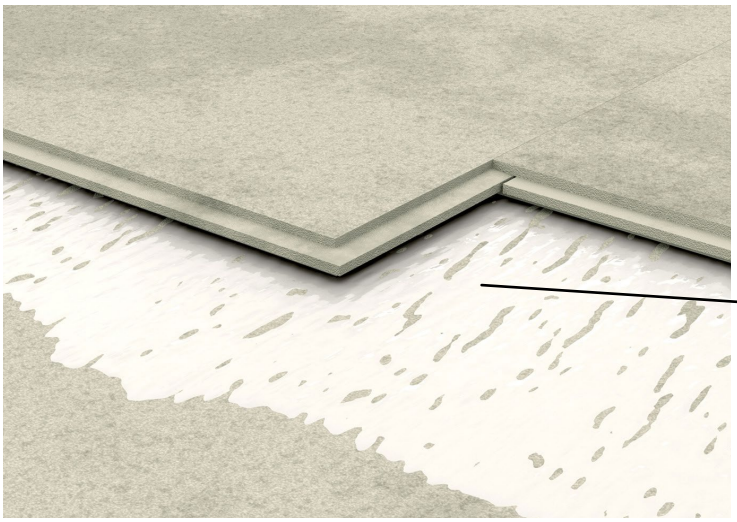

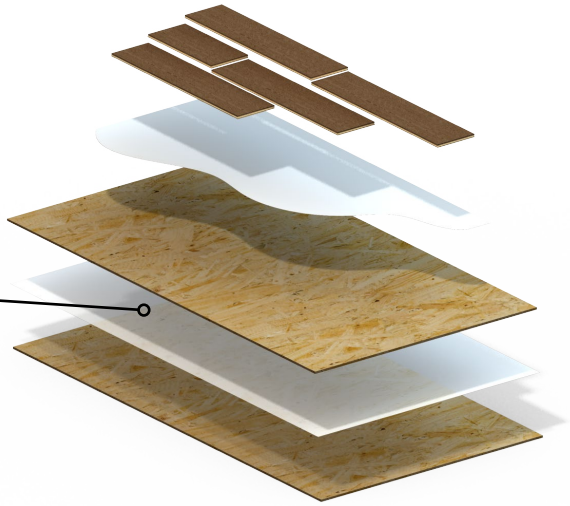

Damping glue DG-2000

DG-2000 is a water-based acrylic, one-component viscoelastic damping glue, optimized for wooden and fibre based constrained layer damping (CLD) applications.

Stiff sheet materials used for floor and wall constructions, like plywood, chipboard and plasterboard have very low damping. Therefore, these materials easily generate resonant structure borne vibrations, which causes noise radiation and fatigue problems.

To counter these problems, DG-2000 should be used in a sandwich construction (CLD), where DG-2000 is constrained between two sheets of floorboard, for example plywood.

DG-2000 is easy to apply and the loss factor of your construction will be increased and the radiated noise will be decreased.

Application areas

- Structural damping of floors in bus and rail vehicles, stages and walls.
- Impact damping of floors, e.g. in buildings and trains.
- Increased transmission loss of walls and doors.
- Further more is the glue an excellent solution for loudspeaker constructions.

Characteristics	
Color	Whitish
Solvent	Water
Density (dry)	~ 1300 kg/m3
Density (wet)	~ 1050kg/m3
Flammability	Non-flammable
Solid content	~ 80 % by weight
Drying time at 20°C	5 to 7 hours (about 35 minutes at 80°C, in a heated press.)
Storage	Can be stored at least one year in unopened containers. Protect from frost!
Size	16 kg

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The thickness ratio between the constraining layers should be 1:3. However it is actually the stiffness ratio that is of interest. About 1 kg/m² DG-2000 should be applied, preferable by a roller or toothed trowel, between two sheets of for example plywood, chipboard, or MDF. This gives a damping layer of about 1 mm thickness.

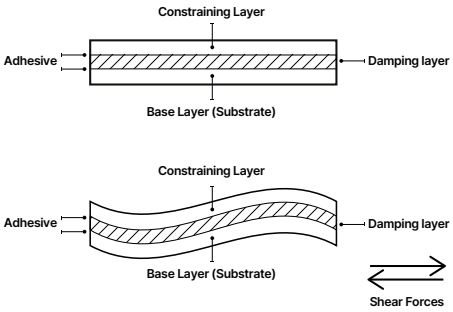
The surfaces of the two sheet materials should be joined together while the glue is still wet and held under firm contact (maximum pressure about 30 KN/m²).

When gluing sheets on site, the top sheet may be nailed or screwed tightly to the structure layer. Ensure that there is no air cavities trapped between the two sheets. It is important to note that the bending stiffness of the damped structure is lower than a homogenous sheet with equal thickness. It is possible to drill holes or cut the laminated sheet in the same way as a homogenous sheet.

Pre-treatment of surface: Clean the surface free from dirt and dust.

Constraned Layer Damping
During vibration distortion the system flexes creating sheer forces on the constrained layer.

It is these shear forces that cause the energy to dissipate and turn into heat.

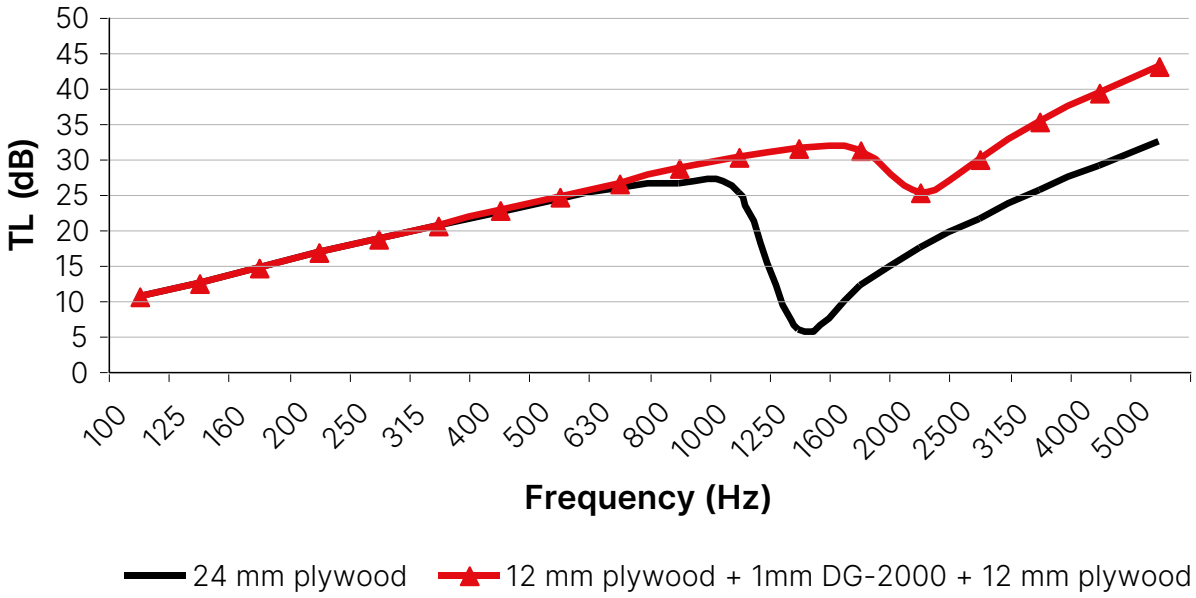


Acoustic Properties

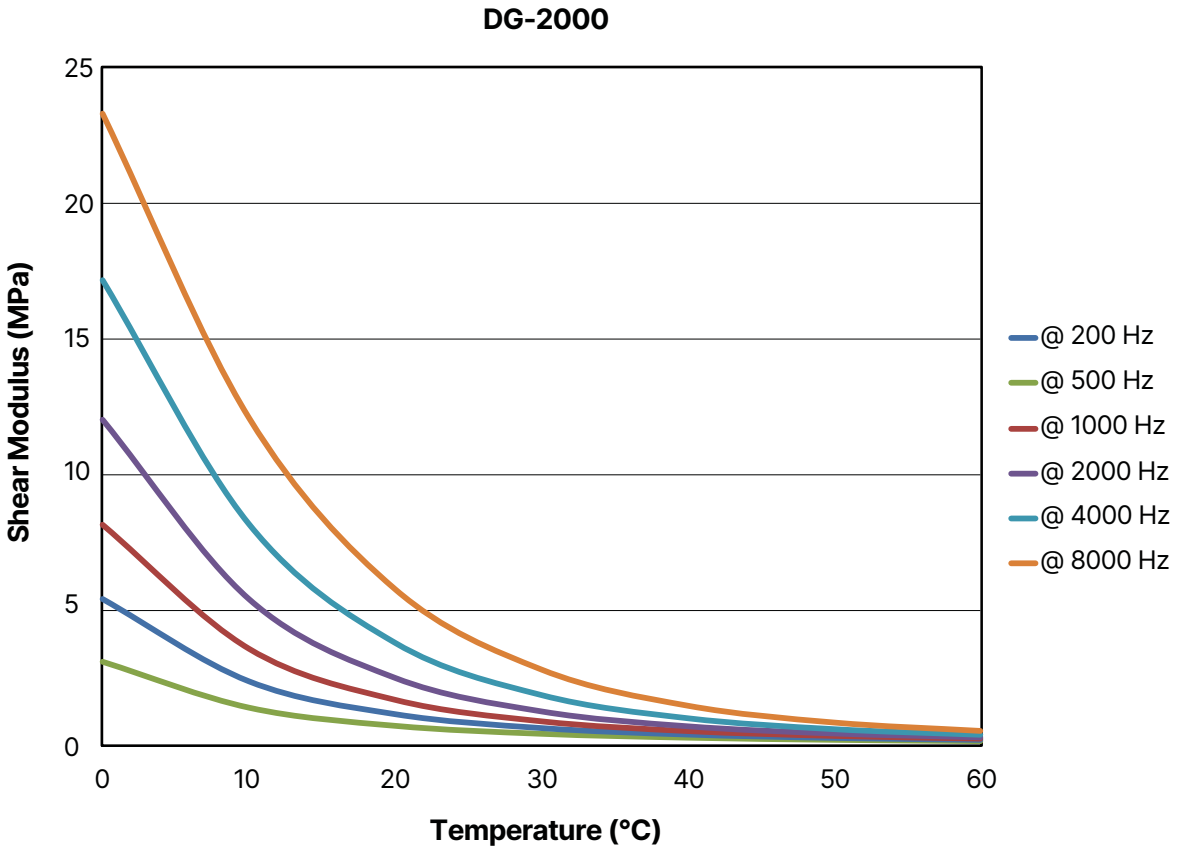
For a single sheet construction the airborne noise transmission loss is mainly determined by the surface weight of the sheet.

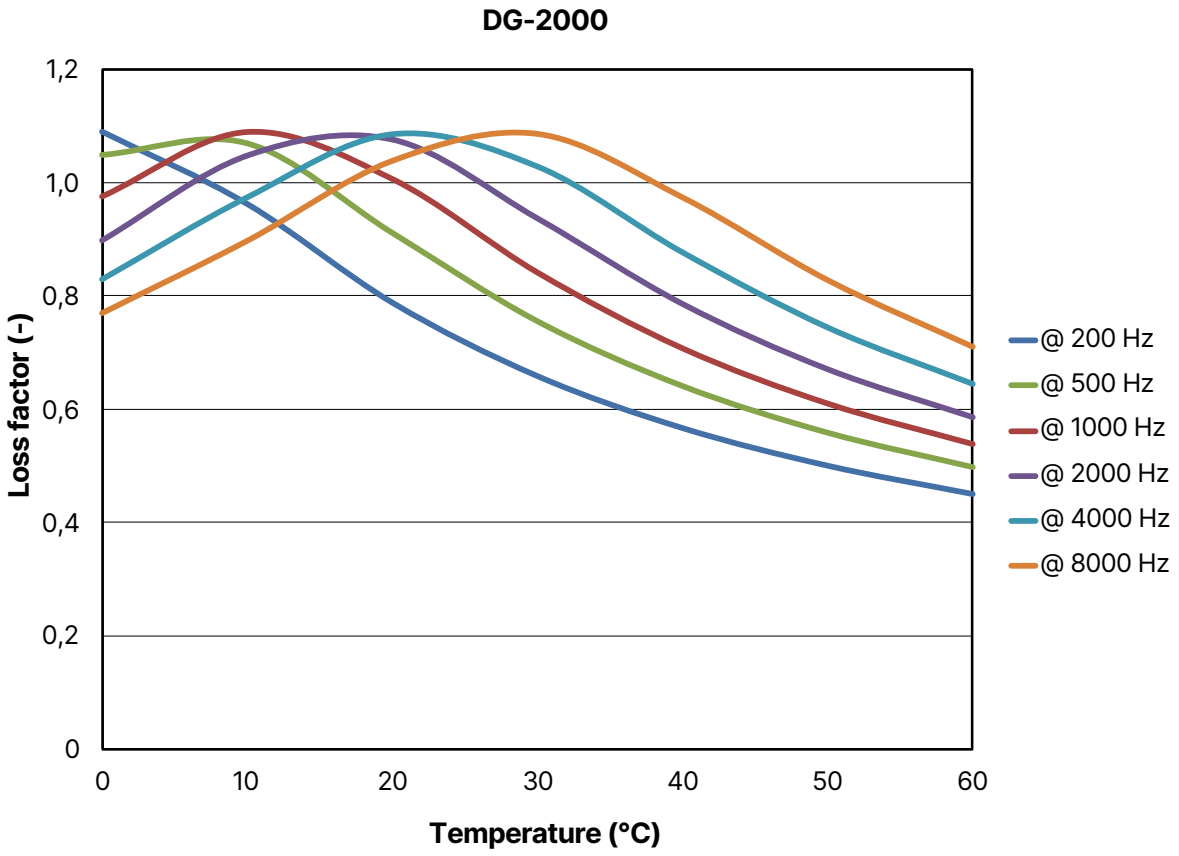
Below the coincidence frequency, the transmission loss will theoretically increase by 6 dB per octave and with 6 dB per doubling of the area weight. Above the coincidence frequency the damping loss factor of the sheet is mainly driving the transmission loss. This can clearly be seen in the graph below.

Transmission loss of damped and undamped plywood



The performance of DG-2000 is like all viscoelastic damping materials heavily dependent on frequency and temperature. DG-2000 has a high loss factor over a wide temperature and frequency range and is therefore a good choice for many applications.





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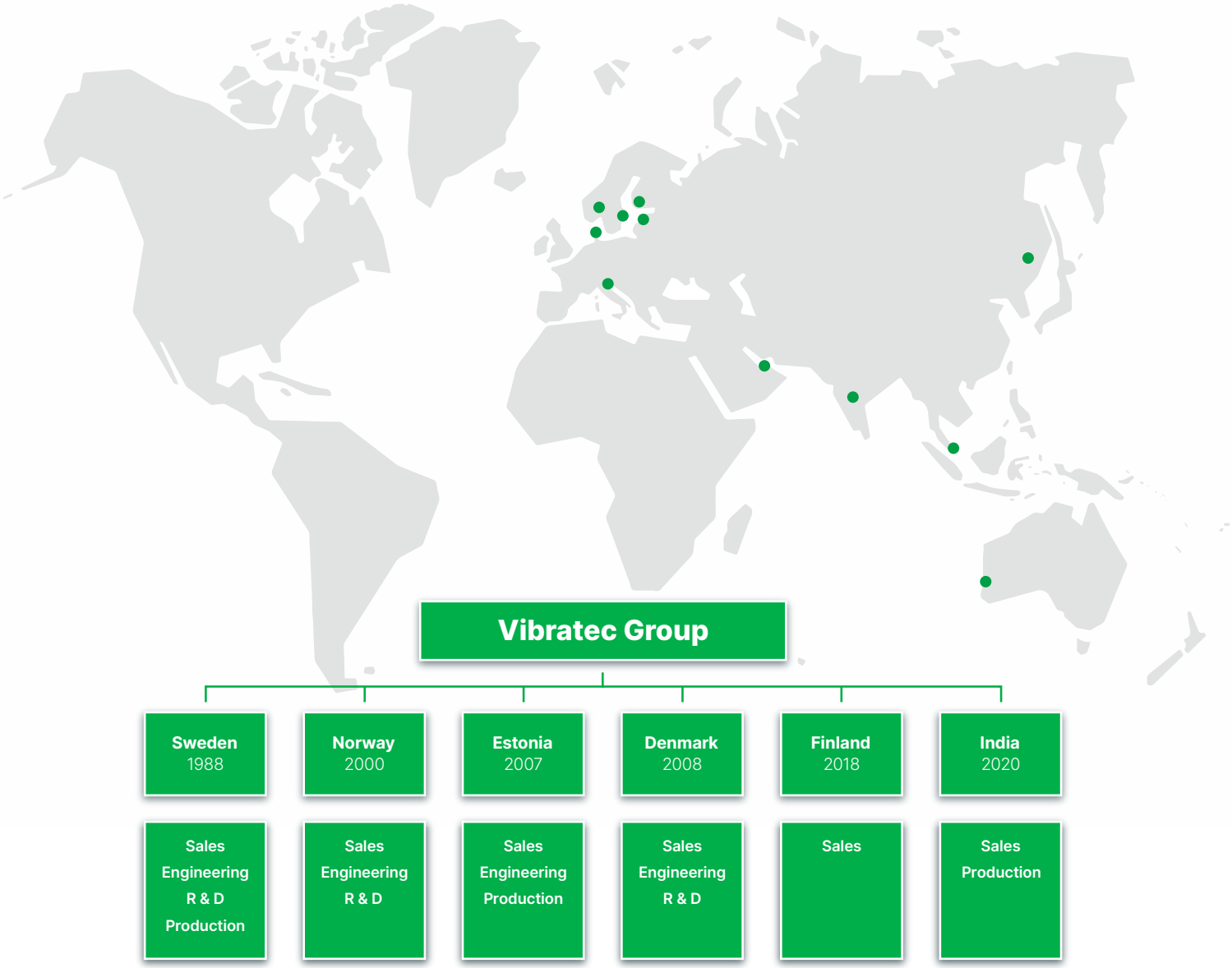

Engineering, production & installation

Vibratec has extensive experience, combined with the use of modern tools, when we design and manufacture tailor made solutions in all areas of vibration and noise reduction.

Vibratec performs test to evaluate mechanical, physical and long term behaviour on materials as well as complete solutions.

Construction, defence, industry, marine & railway

Vibratec Akustikprodukter is one of Scandinavia's leading suppliers of noise and vibration solutions. Vibratec´s ambition is to become the preferred choice for customers who need solutions to noise, vibration and shock problems.

Vibratec produce and store many products for damping and isolation of vibration, shock and noise over a wide range of applications.

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