

REGUPOL Vibration Isolation

The REGUPOL vibration range offers a portfolio of eight product types which can be used in the wide load range between 0.002 N/mm² and 1.5 N/mm². This creates many possibilities to implement an isolation concept for projects in the field of building services and HVAC equipment, machines, pools and gyms, as well as vibration protection for buildings, especially those in close proximity to rail infrastructure.

REGUPOL vibration 450

REGUPOL vibration 450 is a vibration isolation and structure-borne sound de-coupling material for the load range up to 0.12 N/mm² and is used for insulating vertical structural elements.

Product Characteristics

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Continuous static load
0.12 N/mm²

Peak loads (rare, short-term loads)
0.18 N/mm²

Standard forms of delivery, ex warehouse

Sheets
Thickness: 50 mm, special thickness available
Length: 1,000 mm
Width: 500 mm

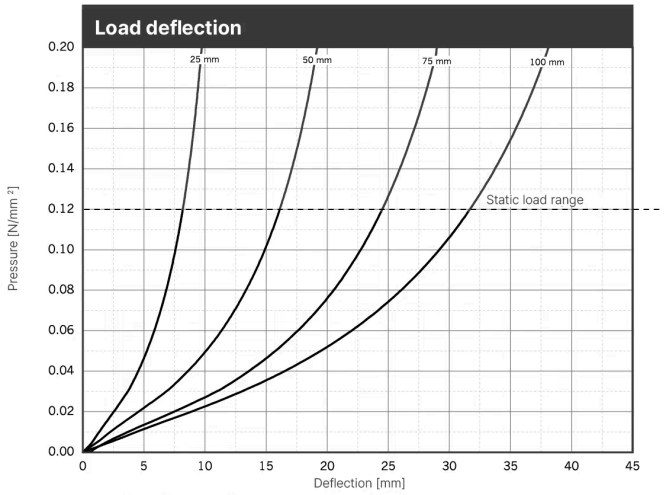
Strips/Pads
On request: Die-cutting, water-jet cutting, self-adhesive versions possible

Product Applications

REGUPOL vibration 450 is used as a single layer to achieve natural frequencies down to 8 Hz, depending on load and material thickness. The material can be supplied with integrated installation aid.

- Building base isolation
- Rail track isolation
- HVAC equipment
- Machines
- Pools
- Gyms

Technical Specifications



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 x 300 mm.

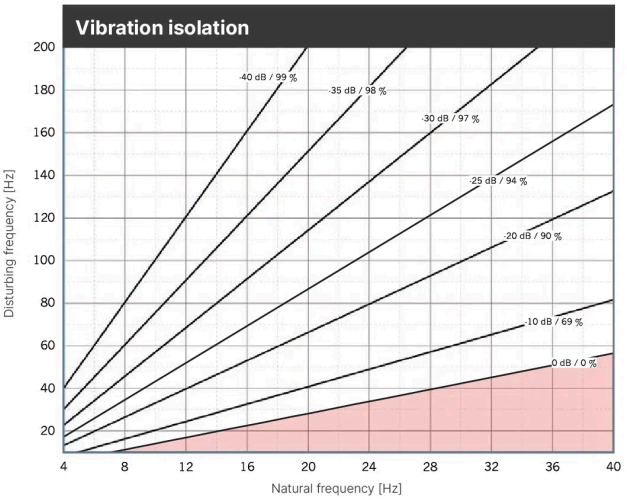
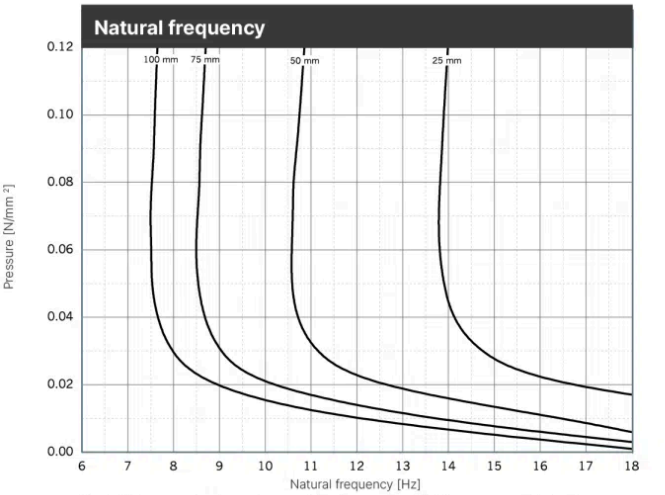
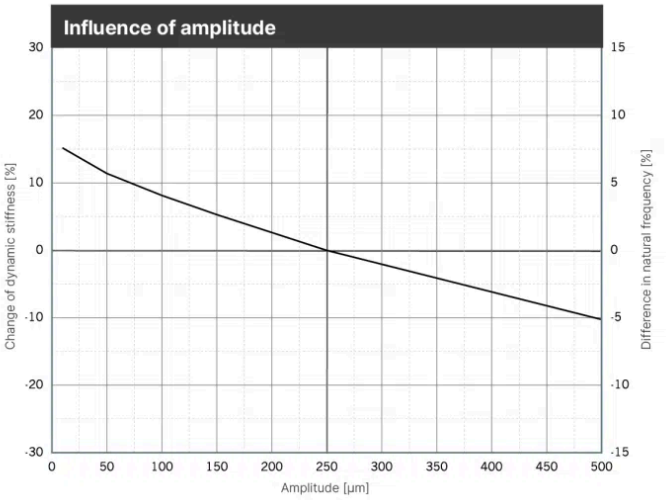


Illustration of the isolation efficiency of a single-degree-of-freedom system (SDOF system) on a rigid base with **REGUPOLvibration 450.** Parameter: power transmission (insertion loss) in dB, isolation factor in %.

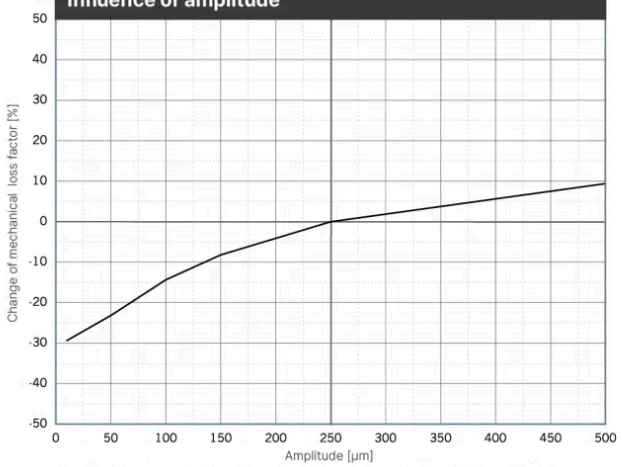


Natural frequency of a single-degree-of-freedom system (SDOF system) considering the dynamic stiffness of **REGUPOLvibration 450** on a rigid base. Dimensions of test specimens 300 x 300 mm.



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.10 N/mm², dimensions of the specimens 300 x 300 x 50 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.

Influence of amplitude



Change of the mechanical loss factor due to changes in amplitudes. Sinusoidal excitation at a

Modulus of elasticity

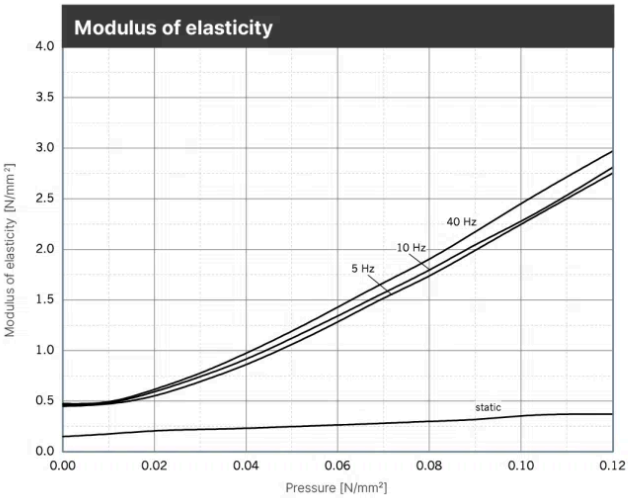


Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 300 x 300 x 50 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic stiffness

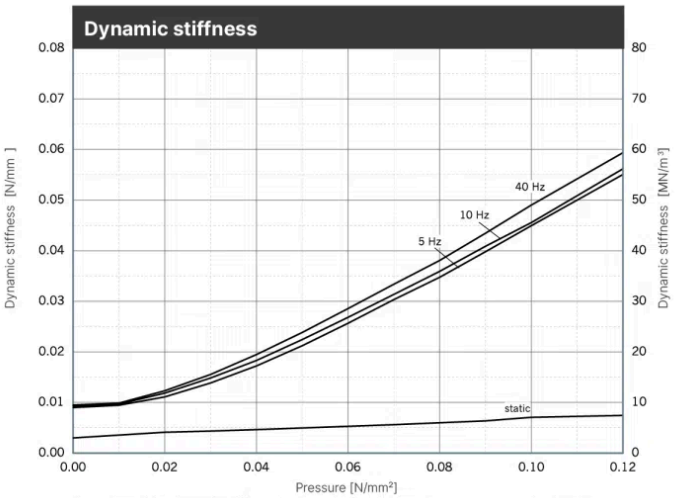
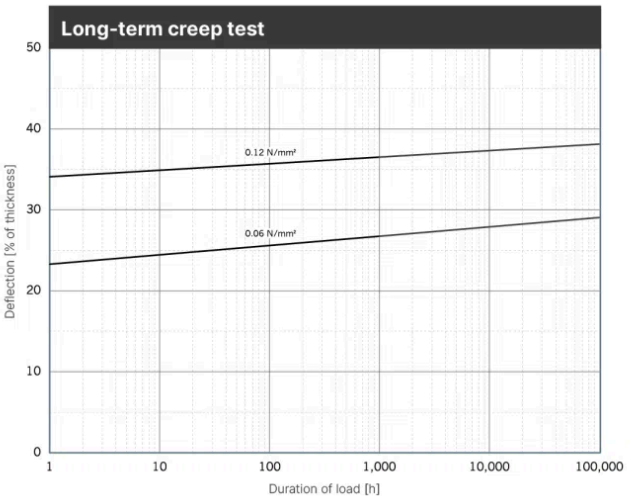


Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 300 x 300 x 50 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Long-term creep test



Dimensions of specimens 300 x 300 x 50 mm

REGUPOL Vibration 450 specifications

regupol-vibration-450-specifications.xlsx

REGUPOL Vibration 450

Physical property	Norm	Result	Comment
Static modulus of elasticity	Based on EN 826	0.2 - 0.4 N/mm2	Tangential modulus, see figure “modulus of elasticity”
Dynamic modulus of elasticity	Based on DIN 53513	0.45 - 2.70 N/mm2	Depending on frequency, load and thickness, see figure “dynamic stiffness“
Mechanical loss factor	DIN 53513	0.17	Load-, amplitude- and frequency-dependent
Compression set	Based on DIN EN ISO 1856	4.1 %	Measured 30 minutes after decompression with 50 % deformation / 23 °C after 72 hrs
Tensile strength	Based on DIN EN ISO 1798	0.15 N/mm2	
Elongation at break	Based on DIN EN ISO 1798	40%	
Tear resistance	Based on DIN ISO 34-1	1.9 N/mm	
Fire behaviour	DIN 4102	B2	
	DIN EN 13501-1	E	
Sliding friction	REGUPOL-laboratory	0.5	Steel (dry)
	REGUPOL-laboratory	0.6	Concrete (dry)
Compression hardness	Based on DIN EN ISO 3386-2	83 kPa	Compressive stress at 25 % deformation test specimen h = 50 mm
Rebound elasticity	Based on DIN EN ISO 8307	42.7%	dependent on thickness, test specimen h = 50 mm
Force reduction	DIN EN 14904	74%	dependent on thickness, test specimen h = 50 mm
Ozone resistance	DIN EN ISO 17025	Cracking stage 0	

Downloads

EPD – REGUPOL

REGUPOL Cradle to Cradle Certificate

VIBRATEC

Contact information

Sweden	Norway	Denmark	Estonia	Finland	India
+46 176207880 info@vibratec.se	+47 33070750 info@vibratec.no	+45 49132244 info@vibratec.dk	+372 56627990 info@vibratec.ee	+35 8402589117 palvelu@3di.fi	+91 7755996308 rc@vibratec.in

vibratec.org/linkedin vibratec.org/youtube vibratec.org/vimeo