High-Resilient Bearing HRB HS 6000

TVS ACOUSTICS
NOISE & VIBRATION CONTROL

sylodyn® by getzner

Material Closed cellular polyetherurethane
Colour Dark-blue

Standard dimensions on stock

Thickness: 12.5 mm with HRB HS 6000 - 12
25 mm with HRB HS 6000 - 25
Dimensions: max 1.5 m wide, up to 1.2 m long

Other dimensions as well as punched parts available on request.

Area of application	Compression load	Deflection
	depending on form factor, values apply to form factor q = 3	
Static range of use (static loads)	up to 6.0 N/mm²	approx. 12 %
Dynamic range of use (static and dynamic loads)	up to 9.0 N/mm²	approx. 15 %
Load peaks (short term, infrequent loads)	up to 18.0 N/mm²	approx. 25 %

Material properties		Test methods	Comment
Mechanical loss factor	0.07	DIN 53513 [1]	depending on frequency, specific load and amplitude
Compression set [2]	< 5 %	DIN EN ISO 1856	25 % deformation, 23 °C, 72 h, 30 min after unloading
Static shear modulus	3.5 N/mm²	DIN ISO 1827 [1]	at preload of 6 N/mm²
Dynamic shear modulus	4.2 N/mm²	DIN ISO 1827 [1]	at preload of 6 N/mm², 10 Hz
Coefficient of friction (steel)	0.6	Getzner Werkstoffe	dry, reference value
Coefficient of friction (concrete)	0.7	Getzner Werkstoffe	dry, reference value
Thermal conductivity	0.17 W/(mK)	DIN EN 12667	
Operating temperature	-30 to 50 °C		short term higher temperatures possible
Flammability	B2	DIN 4102 EN ISO 11925-2	normal flammable passed

1 Measurement/evaluation in accordance with the relevant standard
2 The measurement is performed on a density-dependent basis with differing test parameters

All information and data is based on our current knowledge. The data can be applied for calculations and as guidelines, are subject to typical manufacturing tolerances and are not guaranteed. We reserve the right to amend the data.

Further information can be found in VDI Guideline 2062 (Association of German Engineers).
Further characteristic values on request.

Load deflection curve

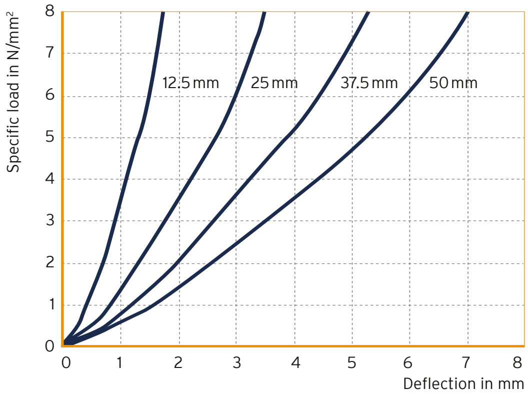

Fig. 1: Quasistatic load deflection curve for different bearing thicknesses

Quasistatic load deflection curve measured with a loading rate of 0.4 N/mm²/s.

Testing between abrasive paper (grain size K120) affixed to flat steel-plates; recording of the 3rd loading; testing at room temperature.

Form factor q = 3

Modulus of elasticity

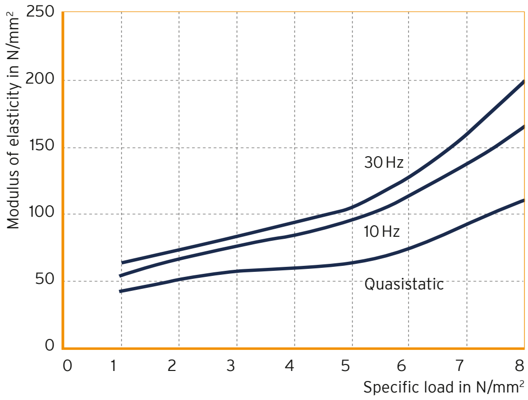

Fig. 2: Load-dependency of the static and dynamic modulus of elasticity

Load dependency of the static and dynamic modulus of elasticity.

Quasistatic modulus of elasticity as a tangent modulus taken from the load deflection curve; dynamic modulus of elasticity due to sinusoidal excitation with an amplitude of 0.1 mm.

Test according to DIN 53513.

Natural frequency

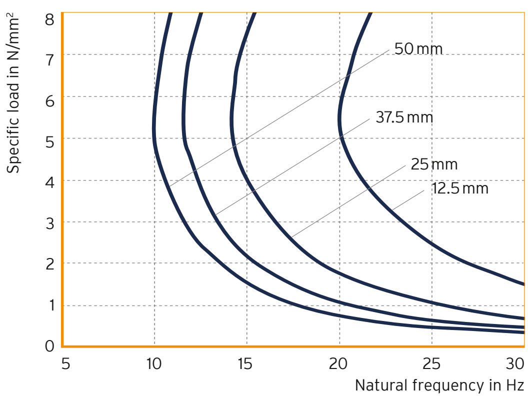

Fig. 3: Natural frequencies for different bearing thicknesses

Natural frequency of a single-degree-of-freedom system (SDOF system) consisting of a fixed mass and an elastic bearing HRB HS 6000 based on a stiff subgrade.

Parameter: thickness of elastomeric bearing

Form factor q = 3

Static creep behaviour

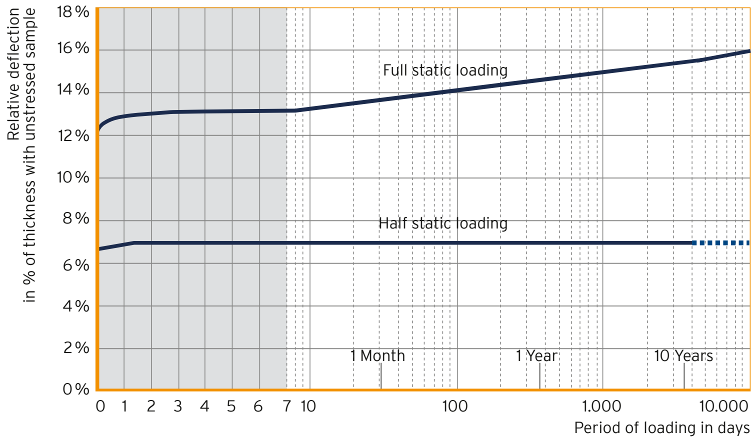

Fig. 4: Deformation under static load depending on time

Deformation under consistent loading.

Parameter: permanent static load

Form factor q = 3

Dependency on amplitude

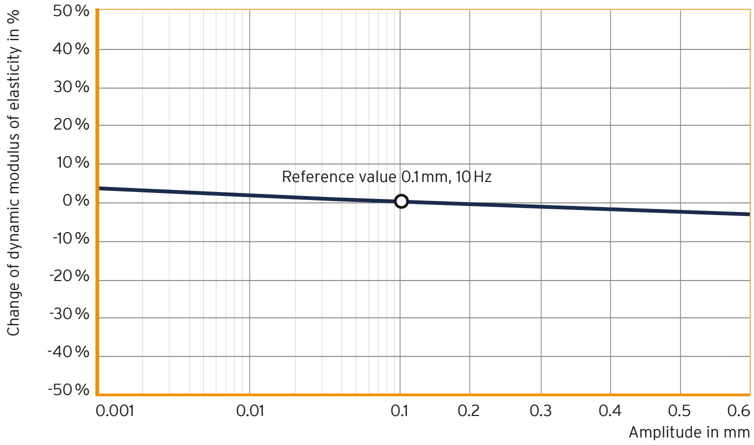

Fig. 5: Dynamic modulus of elasticity depending on the vibration amplitude

Typical dependency of the dynamic modulus of elasticity on the amplitude of vibration.

HRB HS 6000 materials exhibit a negligible dependency of amplitude.

Influence of the form factor

In the figures below one can find correction varying form factors.

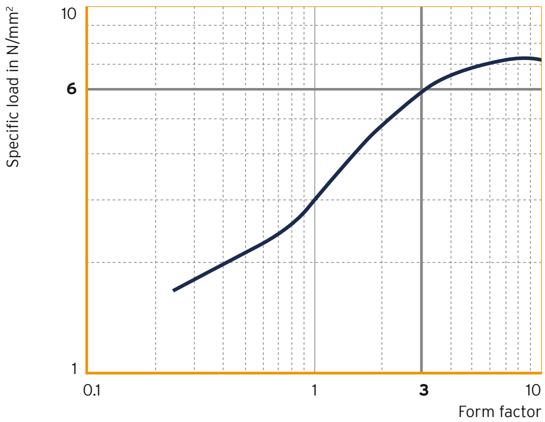

Fig. 6: Static area of application in relation to the form factor

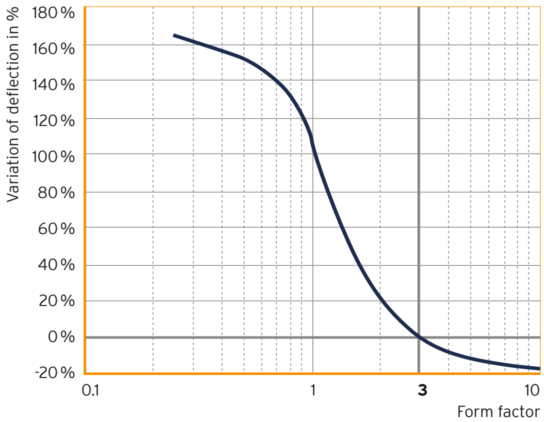

Fig. 7: Deflection[3] in relation to the form factor

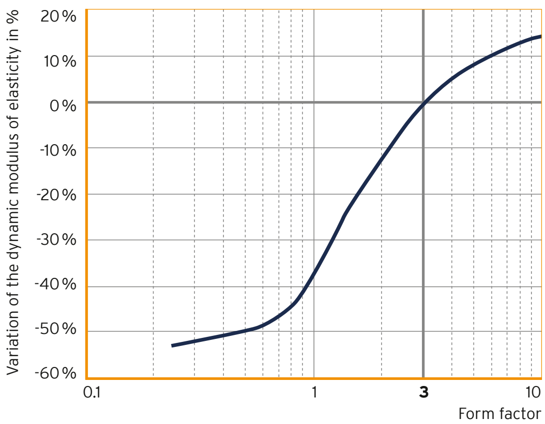

Fig. 8: Dynamic modulus of elasticity[3] at 10 Hz in relation to the form factor

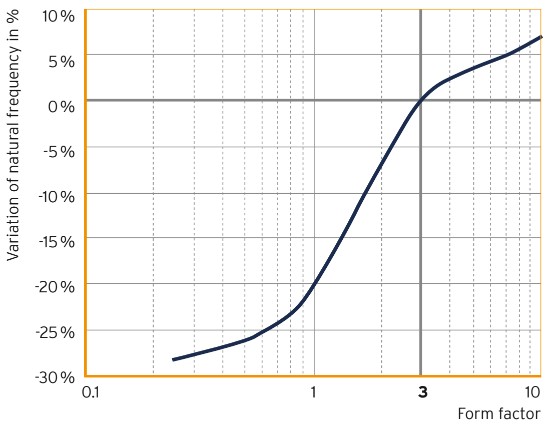

Fig. 9: Natural frequency[3] in relation to the form factor

[3] Reference value: specific load 6.0 N/mm², form factor q = 3

TVS Acoustics, Low Bay, Commerce Street,Carrs Industrial Estate,
Haslingden, Rossendale, Lancashire, BB4 5JT, United Kingdom
E: Sales@TVS-acoustics.com
T: +44 (0) 1706 260 220 | F: +44 (0) 1706 260 240
www.TVS-acoustics.com