High-Resilient Bearing HRB-HS 6000

by getzner sylodyn®

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 (also thickness), as well as stamped on request.

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

Material properties		Test methods	Comment
Mechanical loss factor	0.07	DIN 53513*	depending on frequency, specific load and amplitude
Static shear modulus	3.5 N/mm²	DIN ISO 1827*	at preload of 6 N/mm²
Dynamic shear modulus	4.2 N/mm²	DIN ISO 1827*	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
Compression set	< 5 %	DIN EN ISO 1856	25 %, 23 °C, 70 h, 30 min. after unloading
Operating temperature	-30 bis 50 °C		short term higher temperatures possible
Flammability	B2	DIN 4102 EN ISO 11925-2	normal flammable passed
Thermal conductivity	0.17 W/(mK)	DIN EN 12667	

* Tests according to respective standards

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

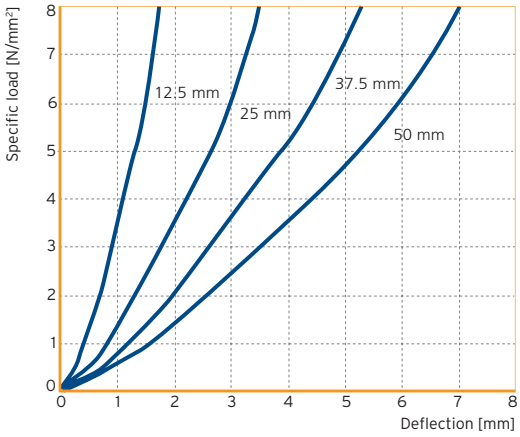


Figure 1: Quasistatic load deflection curve measured with a loading rate of 0.4 N/mm²/s

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

Form factor 3

Modulus of elasticity

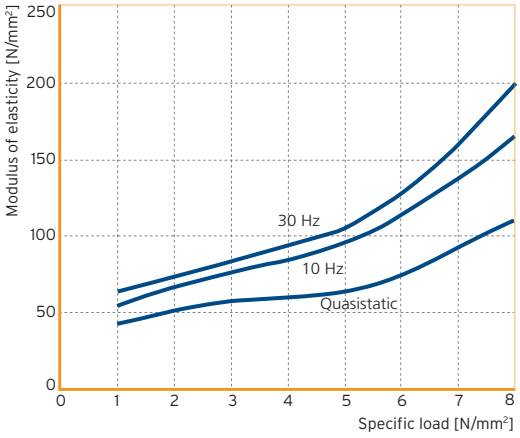


Figure 2: Load dependency of the static and dynamic modulus of elasticity

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

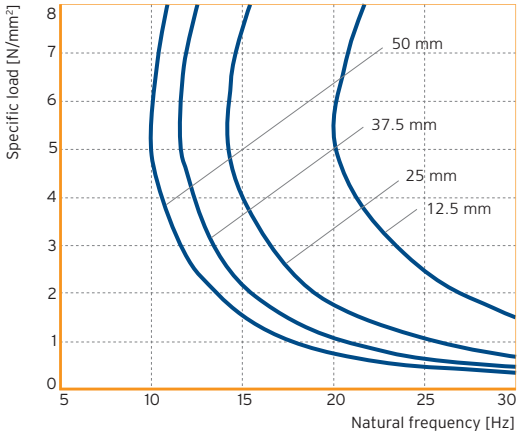


Figure 3: Natural frequency of a single-degree-of-freedom system (SDOF system) consisting of a fixed mass and an elastic bearing HRB-HS 6000 based on a stiff subgrade;

Parameter: Thickness of elastomeric bearing

Form factor 3

Static creep behaviour

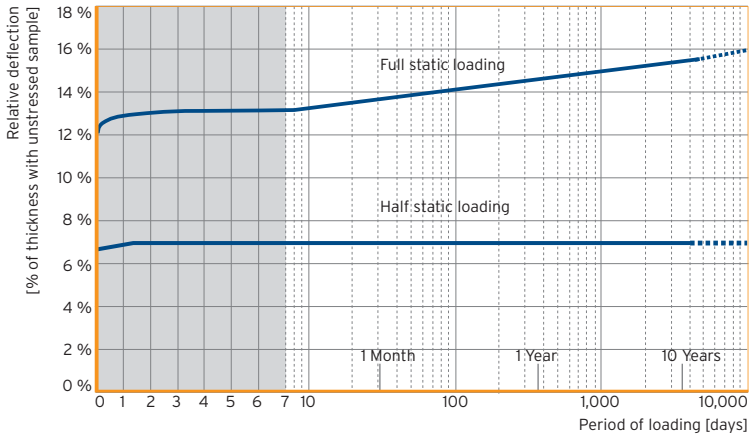


Figure 4: Deformation under consistent loading

Form factor 3

If HRB-HS 6000 is loaded within the specified operating range, the performance (natural frequency) under constant ambient conditions remain the same during the period of loading.

Dependency on amplitude

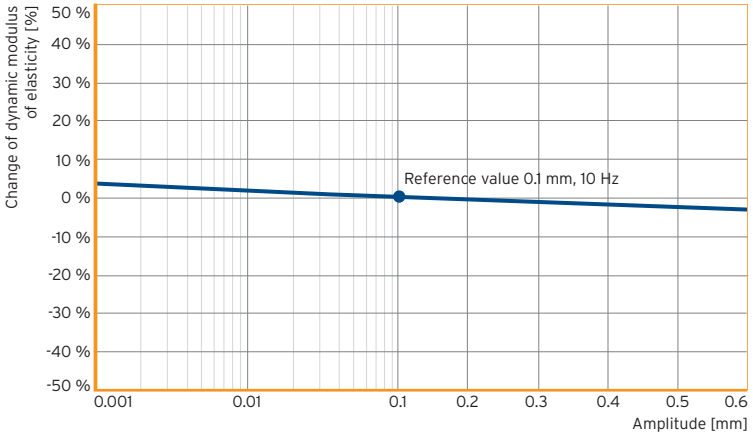


Figure 5: Typical dependency of the dynamic modulus of elasticity on the amplitude of vibration

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.

Figure 6: Static load range

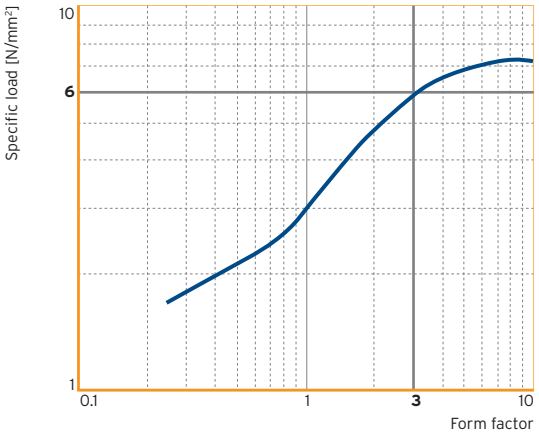


Figure 7: Deflection*

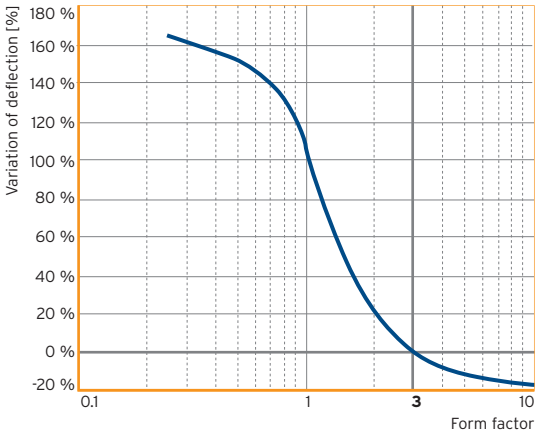


Figure 8: Dynamic modulus of elasticity at 10 Hz*

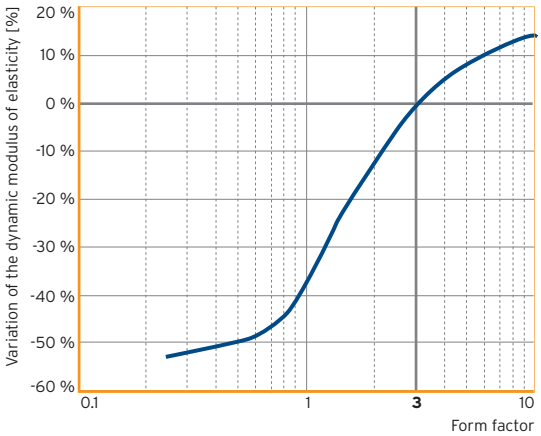
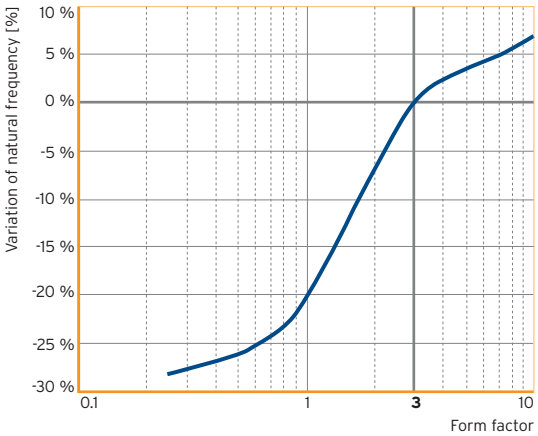


Figure 9: Natural frequency*



* Reference value; specific load 6.0 N/mm², form factor 3

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