Sylodyn® HRB HS 6000 Data Sheet

HRB HS 6000

sylodyn® by getzner

Material closed-cell PU elastomer (polyurethane)

Colour dark blue

Standard delivery dimension

Thickness: 12.5 mm / 25 mm

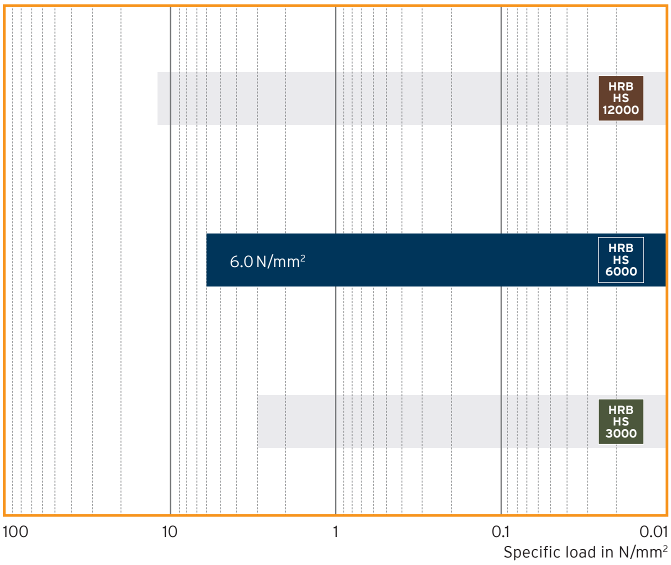
Mat: 1.2 m wide, 1.5 m long

Other dimensions as well as punched parts on request.

Range of use	Compressive load	Deformation
	shape factor-dependent, the specified values apply to shape factor of 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 (occasional, brief loads)	up to 18.0 N/mm²	approx. 25 %

Sylodyn® HRB HS range

Static range of use



Material properties		Test methods	Comment
Mechanical loss factor	0.07	DIN 53513 [1]	temperature-, frequency-, specific load- and amplitude-dependent
Compression set [2]	< 5 %	EN ISO 1856	25 % deformation, 23 °C, 72 h, 30 min after removal of load
Static shear modulus [3]	3.5 N/mm²	DIN ISO 1827 [1]	at a pretension of 6.0 N/mm²
Dynamic shear modulus [3]	4.2 N/mm²	DIN ISO 1827 [1]	at a pretension of 6.0 N/mm², 10 Hz
Coefficient of friction (steel)	≥ 0.6	Getzner Werkstoffe	dry, static friction
Coefficient of friction (concrete)	≥ 0.7	Getzner Werkstoffe	dry, static friction
Thermal conductivity	0.17 W/(mK)	DIN EN 12664	
Temperature range	-30 °C to 70 °C		short term higher temperatures possible
Flammability	class E	EN ISO 11925-2	normal combustible, EN 13501-1

[1] Measurement/evaluation in accordance with the relevant standard

[2] The measurement is performed on a density-dependent basis with differing test parameters

[3] Values apply to shape factor q = 3

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. Material properties as well as their tolerances can vary depending on type of application or use and are available from Getzner on request.

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

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Load deflection curve

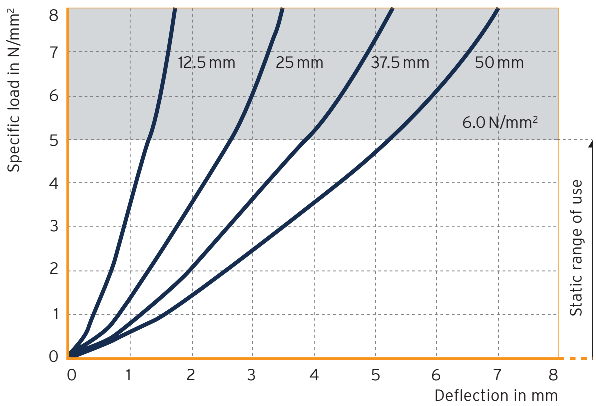

Fig. 1: Quasi-static load deflection curve for different bearing thicknesses

Quasi-static load deflection curve measured with a loading rate of 0.6 N/mm²/s.

Testing between sandblasted, flat steel-plates; recording of the 1st load, with filtered starting range in accordance with ISO 844, testing at room temperature.

Shape factor: q = 3

Modulus of elasticity

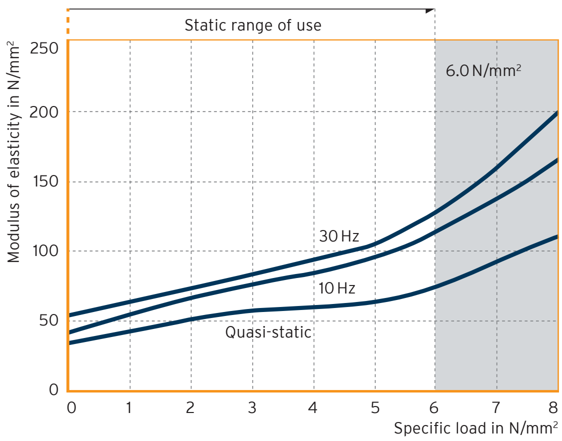

Fig. 2: Load dependency of the static and dynamic modulus of elasticity

Quasi-static modulus of elasticity as tangential modulus from the load deflection curve. Dynamic modulus of elasticity from sinusoidal excitation with a velocity level of 100 dBv re. $5 \cdot 10^{-8}$ m/s corresponding to a vibration amplitude of 0.22 mm at 10 Hz and 0.08 mm at 30 Hz.

Measurement in accordance with DIN 53513

Shape factor: q = 3

Natural frequencies

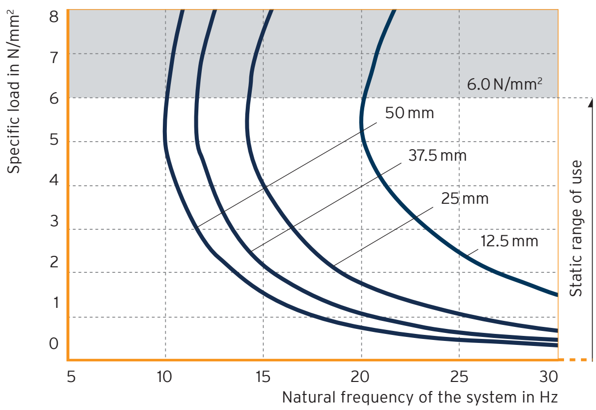

Fig. 3: Natural frequencies for different bearing thicknesses

Natural frequencies of a vibratory system with a single degree of freedom, consisting of a mass and an elastic bearing made of Sylodyn® HRB HS 6000 on a rigid surface.

Parameter: thickness of the Sylodyn® bearing

Shape factor: q = 3

Static creep behaviour

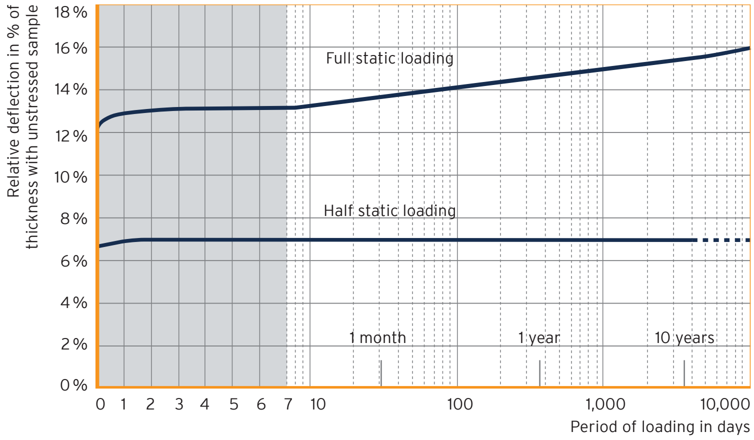

Fig. 4: Deformation under static load depending on time

Deformation under consistent loading.

Parameter: permanent static load

Shape factor: q = 3

Dependency on amplitude

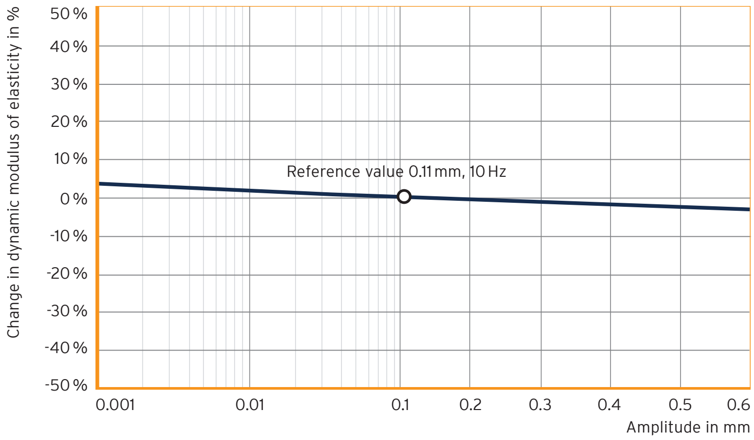

Fig. 5: Dynamic modulus of elasticity depending on the vibration amplitude

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

Sylodyn® HRB HS 6000 materials exhibit a negligible dependency of amplitude.

Influence of the shape factor

The graphs show the material properties at different shape factors.

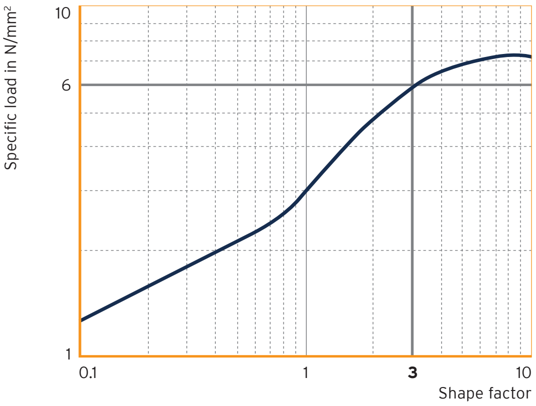

Fig. 6: Static range of use in relation to the shape factor

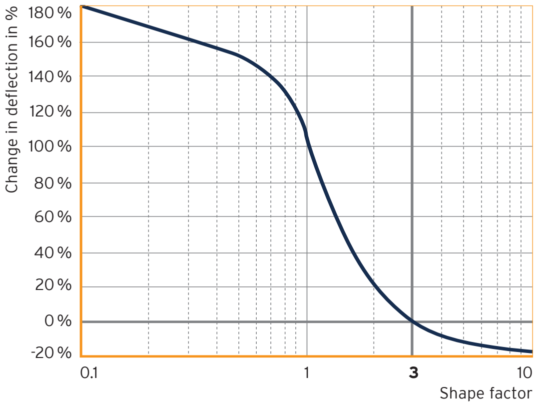

Fig. 7: Deflection [3] in relation to the shape factor

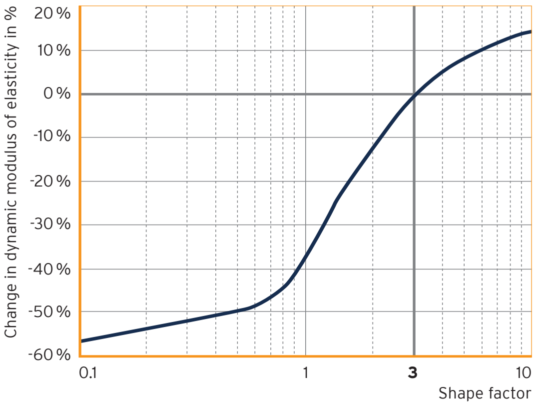

Fig. 8: Dynamic modulus of elasticity [3] at 10 Hz in relation to the shape factor

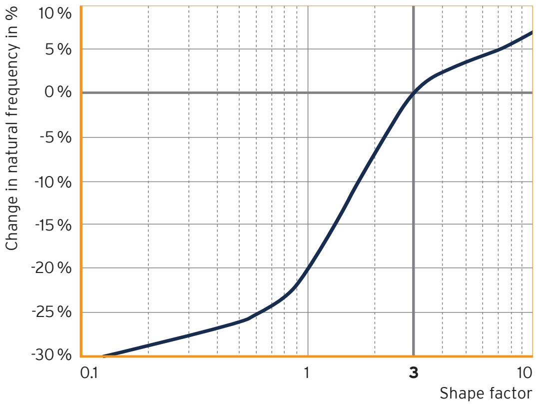

Fig. 9: Natural frequency [3] in relation to the shape factor

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