

Sylomer® SR 450

Product datasheet



Influence of the shape factor

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

Figure 5: static load range

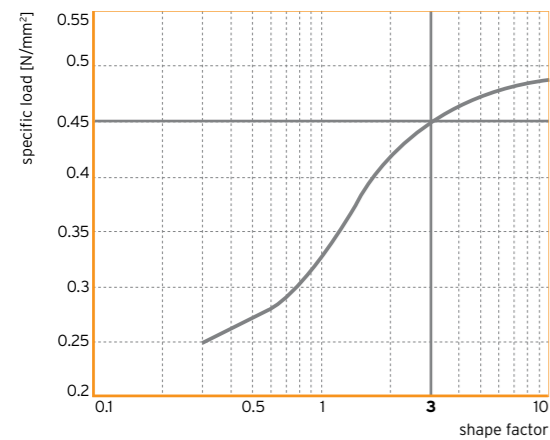


Figure 6: deflection*

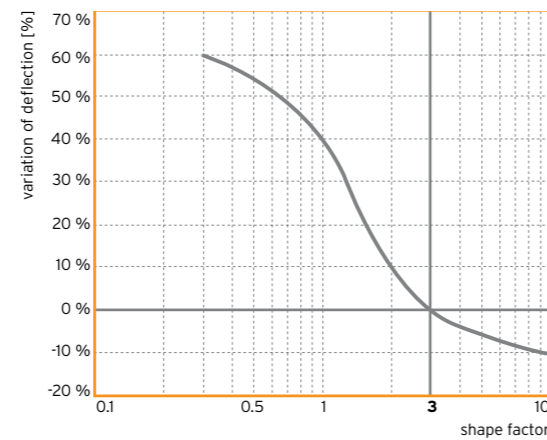


Figure 7: dynamic modulus of elasticity at 10 Hz*

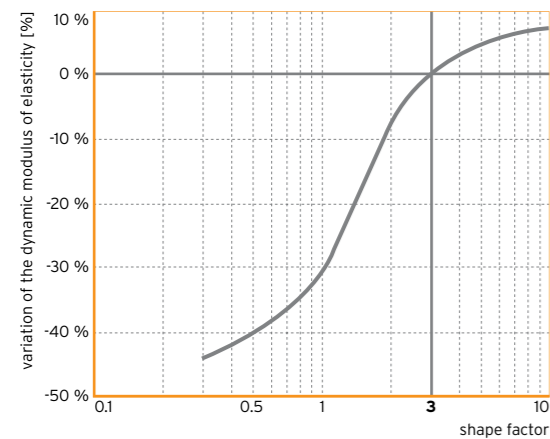
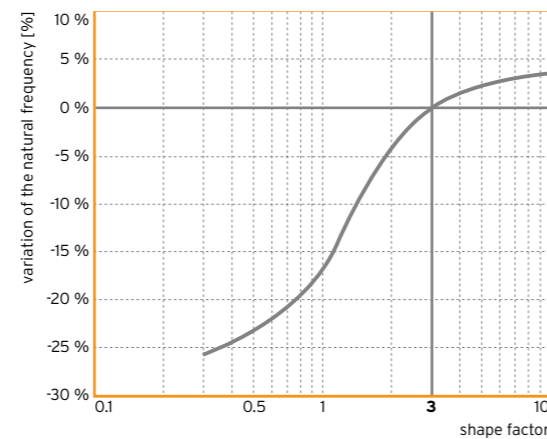


Figure 8: natural frequency*



*reference value: specific load 0.45 N/mm², shape factor 3

Material mixed cellular polyurethane
Colour grey

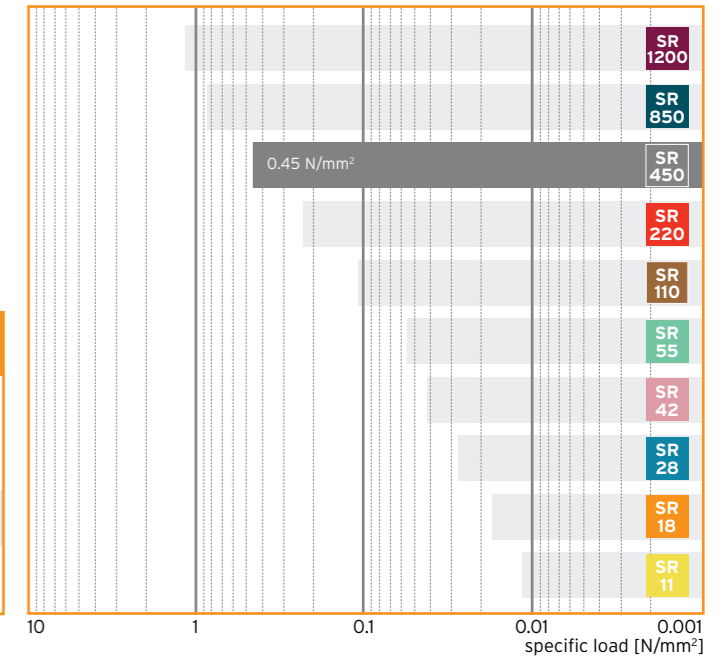
Standard dimensions on stock

Thickness: 12.5 mm with Sylomer® SR 450 - 12
25 mm with Sylomer® SR 450 - 25
Rolls: 1.5 m wide, 5.0 m long
Stripes: max. 1.5 m wide, up to 5.0 m long

other dimensions (also thickness), as well as stamped and molded parts on request

Standard Sylomer® range

Static range of use



Area of application	Compression load	Deflection
	depending on shape factor, values apply to shape factor 3	
static range of use (static loads)	up to 0.45 N/mm²	approx 10 %
operating load range (static plus dynamic loads)	up to 0.7 N/mm²	approx 20 %
load peaks (short term, infrequent loads)	up to 5 N/mm²	approx 70 %

Material properties	Test methods	Comment	
mechanical loss factor	$\eta = 0.11$	DIN 53513*	depending on frequency, load and amplitude
rebound elasticity	60 %	DIN 53573	tolerance +/- 10 %
compression set	< 5 %	EN ISO 1856	50 %, 23 °C, 70 h, 30 min after unloading
static shear modulus	0.58 N/mm²	DIN ISO 1827*	at specific load of 0.45 N/mm²
dynamic shear modulus	1.0 N/mm²	DIN ISO 1827*	at specific load of 0.45 N/mm², 10 Hz
coefficient of friction (steel)	$\mu_s = 0.5$	Getzner Werkstoffe	dry
coefficient of friction (concrete)	$\mu_s = 0.7$	Getzner Werkstoffe	dry
abrasion	400 mm³	DIN 53516	load 10 N, bottom surface
operating temperature	-30 bis 70 °C		short term higher temperatures possible
specific volume resistance	> 10 ¹¹ Ω·cm	DIN IEC 93	dry
thermal conductivity	0.1 W/(mK)	DIN 52612/1	
flammability	B2, B, C und D	DIN 4102, EN ISO 11925-2	normal flammable passed

* 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
Further characteristic values on request.

climate neutral printing

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Load deflection curve

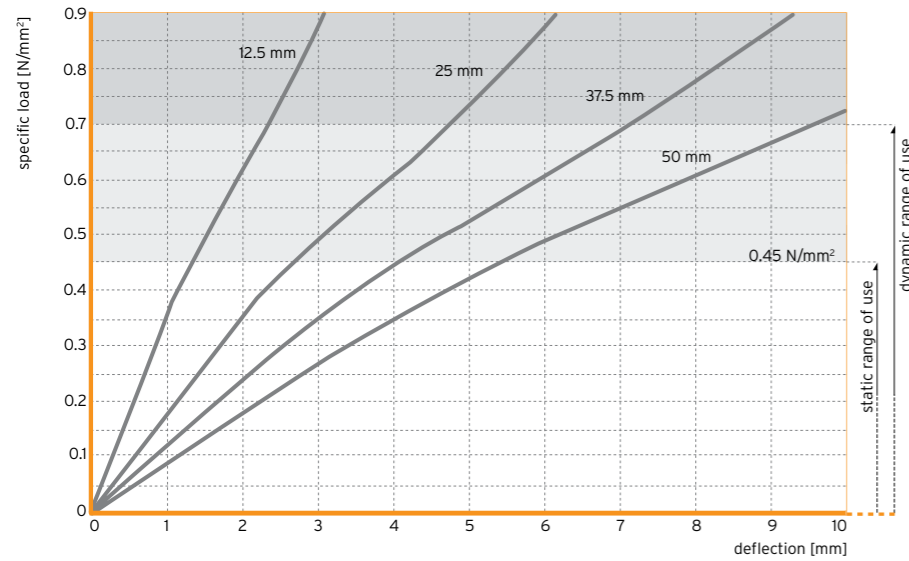


Figure 1: Quasistatic load deflection curve measured with a loading rate of 0.045 N/mm²/s

Testing between flat steel-plates; recording of the 3rd loading; testing at room temperature

shape factor 3

Modulus of elasticity

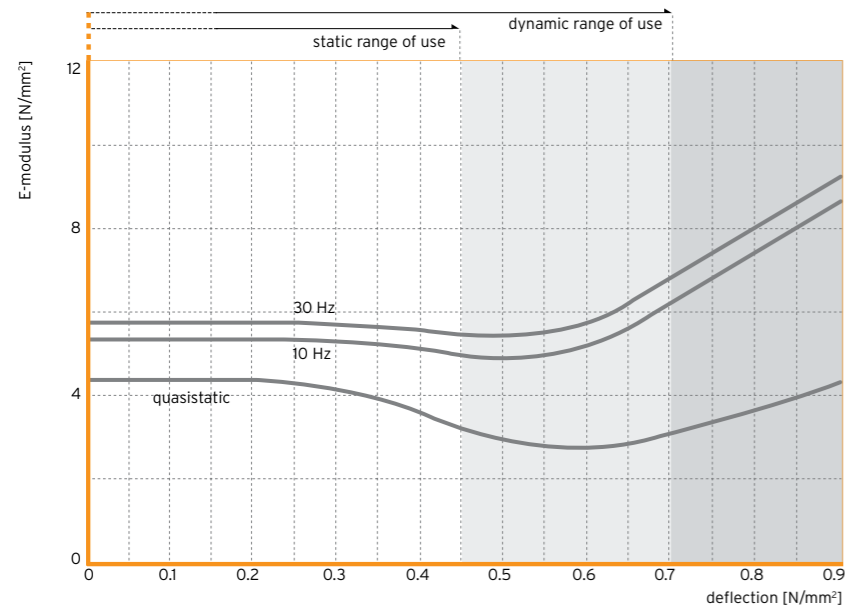


Figure 2: load dependency of the static and dynamic E-modulus

Quasistatic E-modulus as a tangent modulus taken from the load deflection curve; dynamic modulus of elasticity due to sinusoidal excitation with a velocity level of 100 dBv re. $5 \cdot 10^{-8}$ m/s (equal to an oscillating range of 0.22 mm at 10 Hz and 0.08 mm at 30 Hz, see also in the glossary)

test according to DIN 53513

shape factor 3

Natural frequency

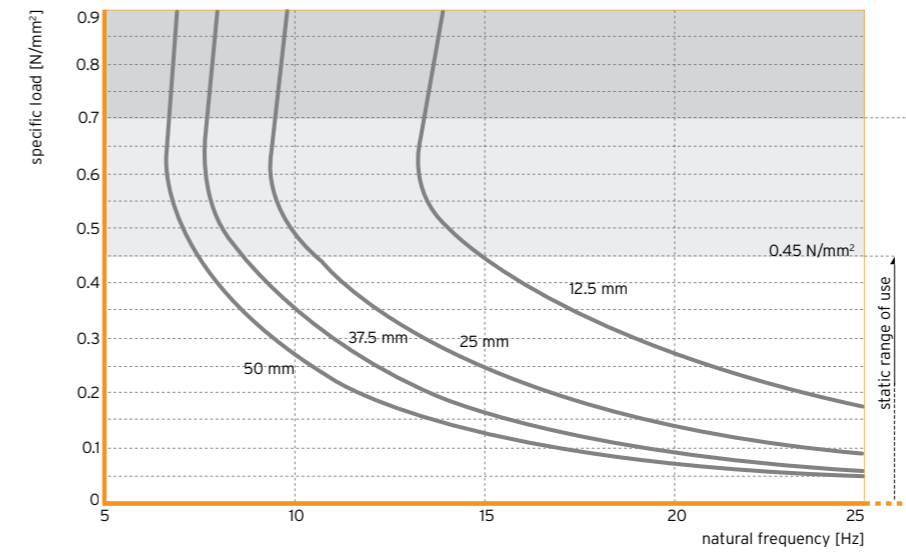


Figure 3: natural frequency of a single-degree-of-freedom system (SDOF system) consisting of a fixed mass and an elastic bearing consisting of Sylomer SR 450 based on a stiff subgrade;

parameter: thickness of elastomeric bearing

shape factor 3

Vibration isolation efficiency

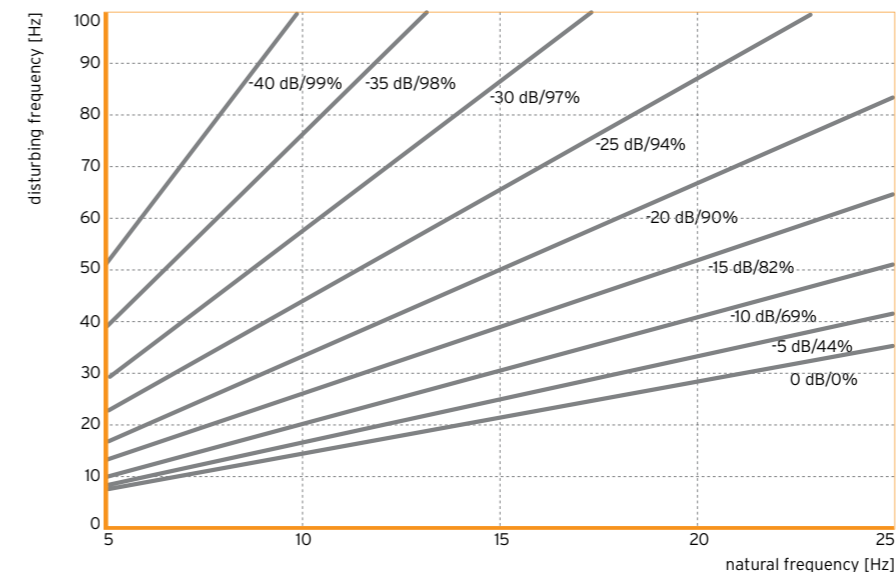


Figure 4: reduction of the transmitted mechanical vibrations by implementation of an elastic bearing consisting of Sylomer SR 450

parameter: factor of transmission in dB, isolation rate in %