Sylomer® SR 18
Material Data Sheet

by getzner sylomer®

Material mixed cellular polyurethane
Colour orange

Standard dimensions on stock

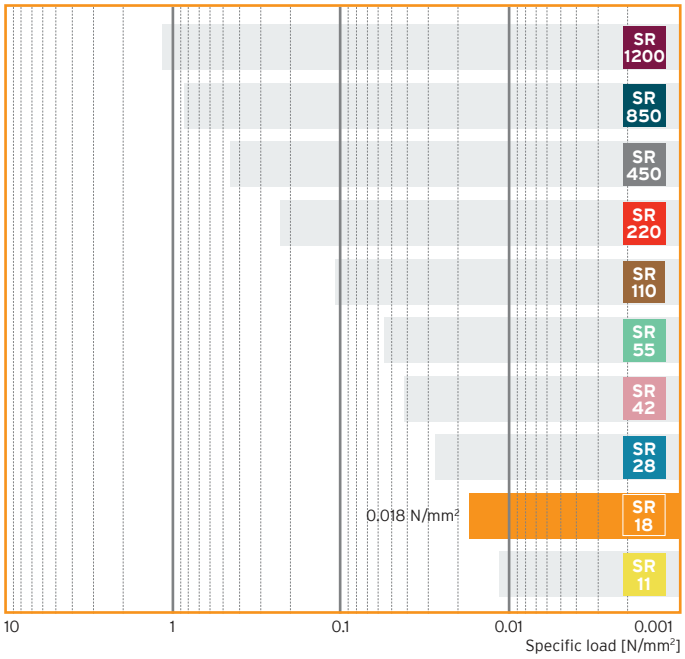
Thickness: 12.5 mm with Sylomer® SR 18 – 12
25 mm with Sylomer® SR 18 – 25
Rolls: 1.5 m wide, 5.0 m long
Stripes: max. 1.5 m wide, up to 5.0 m long

Other dimensions (also thickness) as well as stamped and molded parts on request.

Area of application	Compression load	Deflection
	depending on form factor, values apply to form factor 3	
Static range of use (static loads)	up to 0.018 N/mm²	ca. 7 %
Operating load range (static plus dynamic loads)	up to 0.023 N/mm²	ca. 20 %
Load peaks (short term, infrequent loads)	up to 0.75 N/mm²	ca. 80 %

Standard Sylomer® range

Static range of use



Material properties		Test methods	Comment
Mechanical loss factor	η = 0.23	DIN 53513*	depending on frequency, stress and amplitude
Rebound elasticity	40 %	EN ISO 8307	
Compression hardness	0.020 N/mm²	EN ISO 3386-1*	10 % deformation, 3rd load cycle
Compression set	< 5 %	EN ISO 1856	50 % deformation, 23 °C, 72 h, 30 min after unloading
Static shear modulus	0.05 N/mm²	DIN ISO 1827*	at specific load of 0.018 N/mm²
Dynamic shear modulus	0.12 N/mm²	DIN ISO 1827*	at specific load of 0.018 N/mm², 10 Hz
Coefficient of friction (steel)	μ_S = 0.5	Getzner Werkstoffe	dry
Coefficient of friction (concrete)	μ_B = 0.7	Getzner Werkstoffe	dry
Abrasion	≤ 400 mm³	DIN ISO 4649*	load 2.5 N, bottom surface
Min. tensile stress at rupture	0.35 N/mm²	EN ISO 527-3/5/100*	
Min. tensile elongation at rupture	300 %	EN ISO 527-3/5/100*	
Operating temperature	-30 to 70 °C		short term higher temperatures possible
Specific volume resistance	> 10^{12} Ω·cm	DIN IEC 60093	dry
Thermal conductivity	0.05 W/(mK)	DIN EN 12664	
Flammability	class E	EN ISO 11925-2	normal flammable, EN 13501-1

* Measurement / evaluation in accordance with the relevant standard

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.

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Load deflection curve

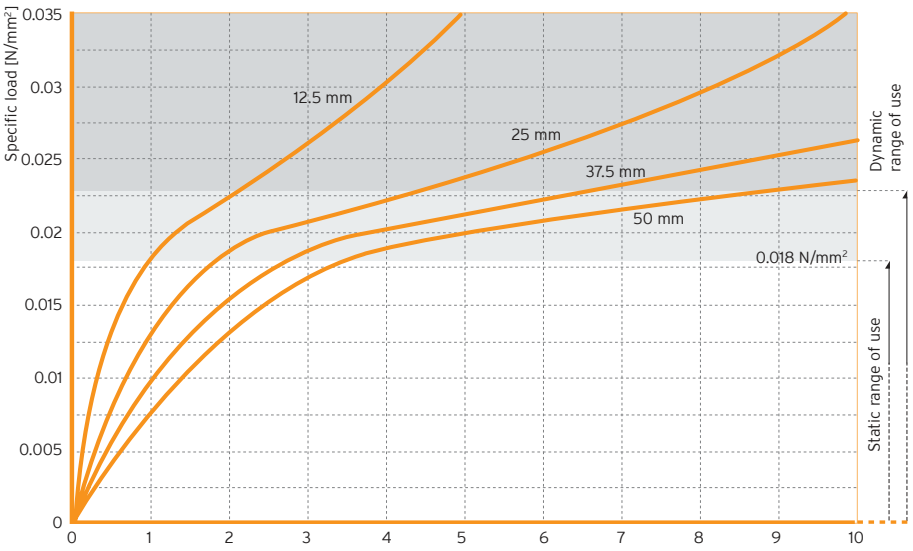


Figure 1: Quasistatic load deflection curve measured with a loading rate of 0.0018 N/mm²/s

Testing between flat and plane-parallel steel plates, recording of 3rd load, with filtered starting range (in accordance with ISO 844), testing at room temperature

Form factor 3

Modulus of elasticity

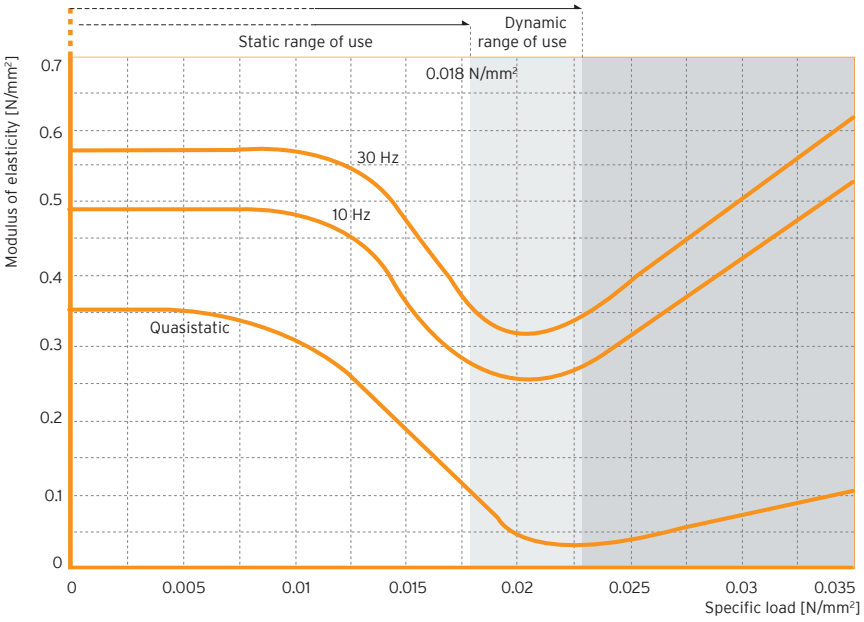


Figure 2: Load dependency of the static and dynamic modulus of elasticity

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

Form factor 3

Natural frequency

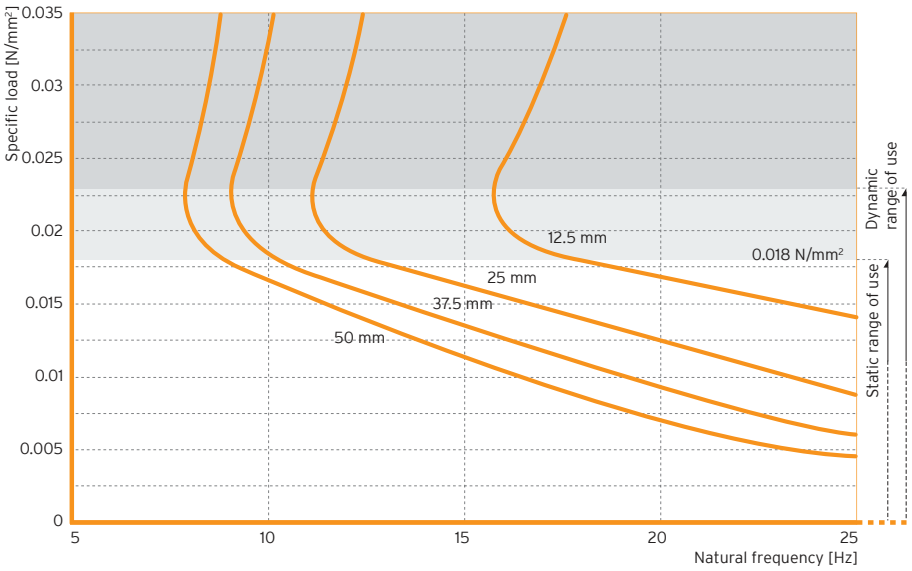


Figure 3: Natural frequency of a single-degree-of-freedom system (SDOF system) consisting of a fixed mass and an elastic bearing consisting of Sylomer® SR 18 based on a stiff subgrade

Parameter: Thickness of elastomeric bearing

Form factor 3

Vibration isolation efficiency

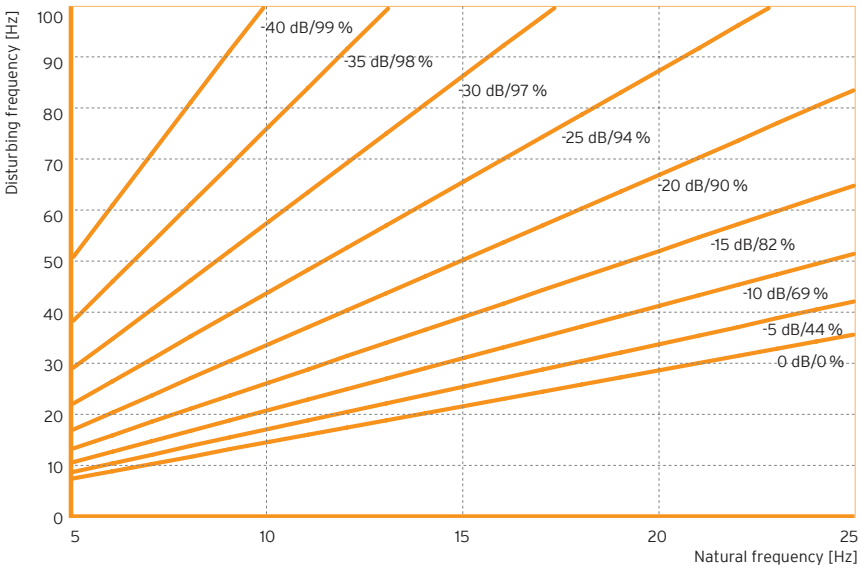


Figure 4: Reduction of the transmitted mechanical vibrations by implementation of an elastic bearing consisting of Sylomer® SR 18

Parameter: Factor of transmission in dB, isolation rate in %

Influence of the form factor

The graphs show changes in the material properties at different form factors.

Figure 5: Static load range

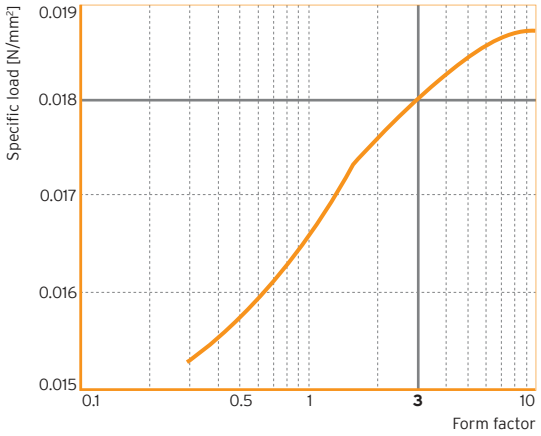


Figure 6: Deflection*

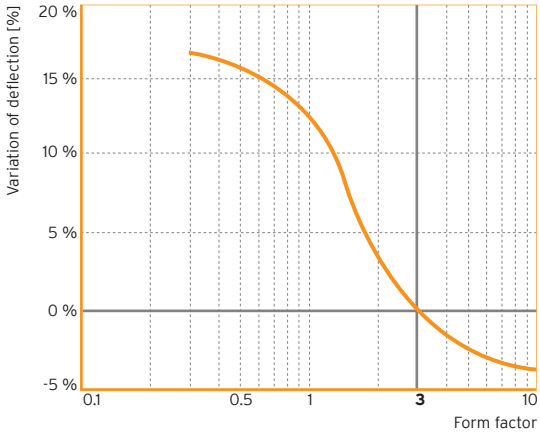


Figure 7: Dynamic modulus of elasticity at 10 Hz*

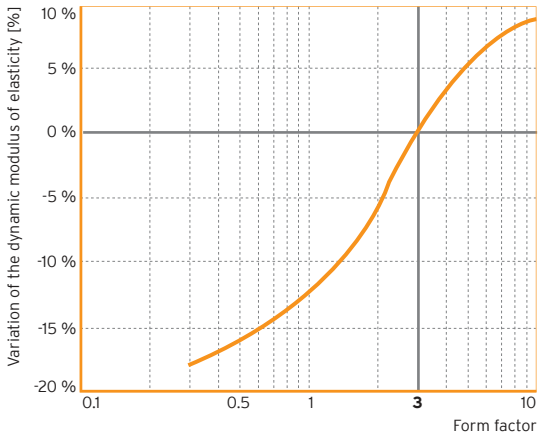
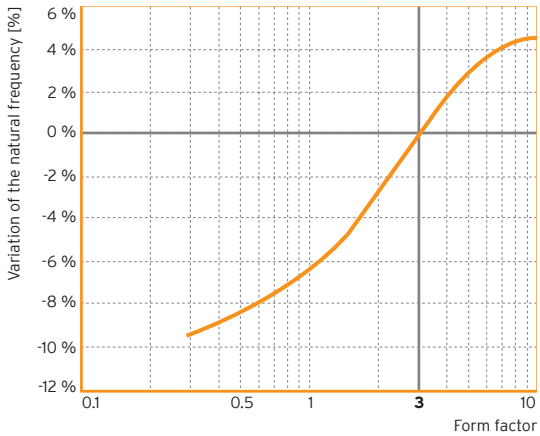


Figure 8: Natural frequency*



* Reference value: specific load 0.018 N/mm², form factor 3

Material properties can be determined using the online calculation program FreqCalc.
The program can be accessed via www.getzner.com (registration necessary).