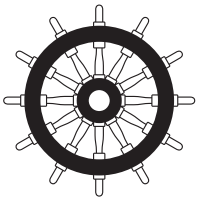
Sylomer® Marine FR 442

FR 442

Data Sheet

by getzner sylomer®

Material mixed-celled flame retardant PU elastomer (polyurethane)
Colour mottled purple



Standard delivery dimension

Thickness: 12.5 mm
Mat: 0.5 m wide, 1.5 m long
Strip: max. 1.5 m long

Other dimensions on request in dependence of quantity and delivery time.

Material properties		Test methods	Comment
Resistance to strain [2] at 10 %	0.048 N/mm²	EN ISO 844 [1]	three load cycles
Resistance to strain for permanent loading	0.042 N/mm²		
Operating load range (static plus dynamic loads)	up to 0.056 N/mm²		approx. 14 % deformation
Load peaks (short term, infrequent loads)	up to 1.6 N/mm²		approx. 70 % deformation
Compression set [2]	< 5 %	EN ISO 1856 [1]	50 % deformation, 23 °C, 72 h, 30 min after unloading
Mechanical loss factor	0.29	DIN 53513 [1]	temperature-, frequency-, specific load- and amplitude-dependent
Min. tear strength	0.9 N/mm	DIN ISO 34-1 [1]	
Min. tensile stress at rupture	0.3 N/mm²	EN ISO 527-3/5/500 [1]	
Min. tensile elongation at rupture	110 %	EN ISO 527-3/5/500 [1]	
Thermal conductivity	0.08 W/(mk)	DIN EN 12667	
Temperature Range	-30 °C to 70 °C		short term temperature peaks possible
Hydrolysis stability	very good	DIN 53428 [1]	42 days, in H_2O, dried 3 days at 23 °C
Flammability	approved	IMO MSC 307 (88)	Ftp. Code 2 and Ftp. Code 5, primary decks covering

[1] Measurement/evaluation in accordance with the relevant standard
[2] Values apply to shape factor q = 3

Load deflection curve

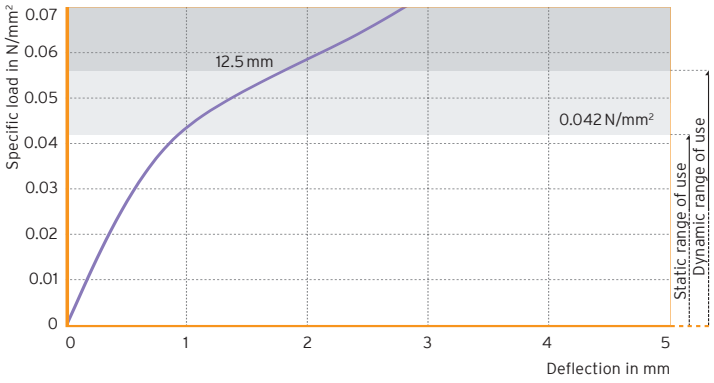


Fig. 1: Quasi-static load deflection curve for different bearing thicknesses

Quasi-static load deflection curve measured with a loading rate of 0.0042 N/mm²/s.

Testing between flat steel-plates; recording of the 3rd load, with filtered starting range in accordance with ISO 844, testing at room temperature.

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.

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Modulus of elasticity

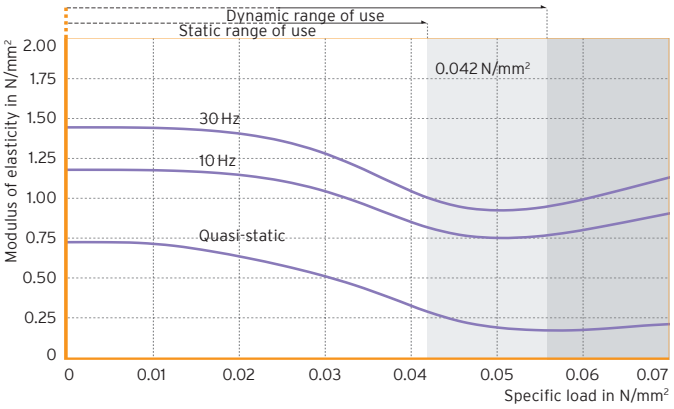

Fig. 2: Load dependency of the static and dynamic modulus of elasticity

Quasi-static 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).

Measurement in accordance with DIN 53513

Shape factor q = 3

Natural frequencies

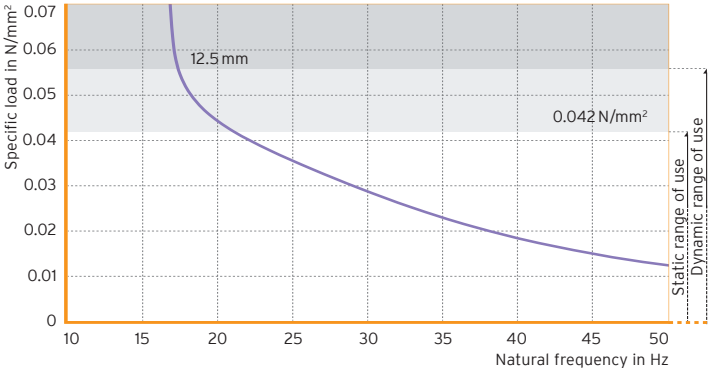

Fig. 3: Natural frequencies for different bearing thicknesses

Natural frequencies of a single-degree-of-freedom system (SDOF system) consisting of a fixed mass and an elastic bearing consisting of Sylomer® Marine FR 442 based on a stiff subgrade.

Parameter: thickness of the elastic bearing

Shape factor q = 3

Static creep behaviour

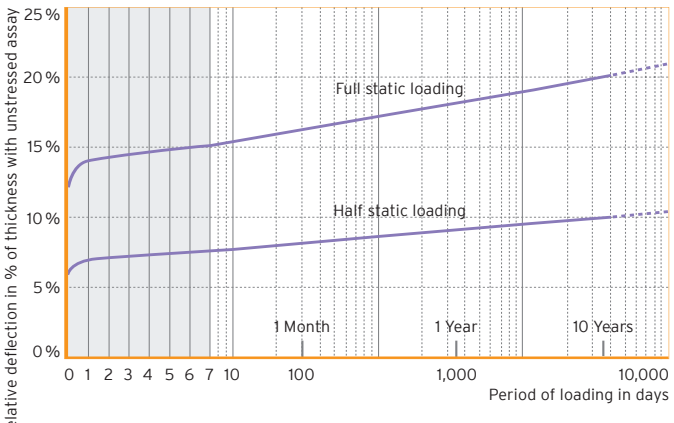

Fig. 4: Increase in deformation under consistent loading

Deformation under consistent loading.

Parameter: permanent static load

Shape factor q = 3

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