

# Vibrafoam® SD10

For Vibration Isolation and Structure-Borne Noise Reduction

## Recommendations for elastic suspension

■ **Material**  
Mixed cellular polyether-urethane

■ **Colour**  
red

### Range of application

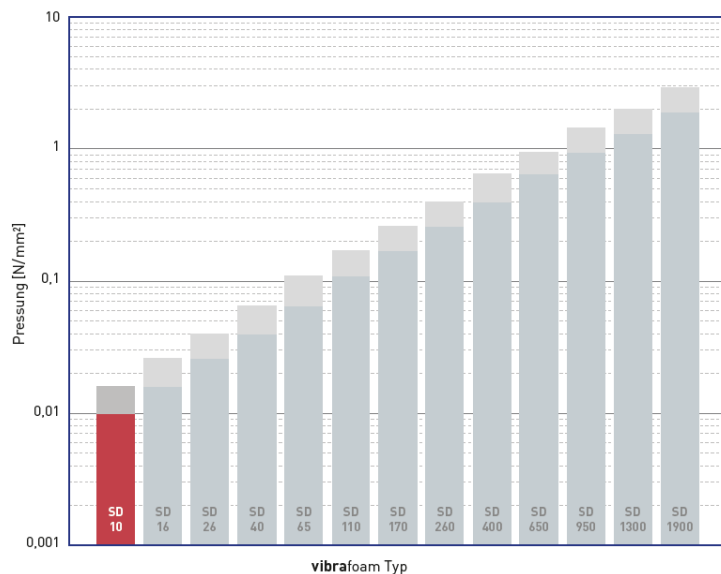
■ **Static continuous load**  
Up to 0.010 N/mm<sup>2</sup>

■ **Operating range (static + dynamic)**  
Up to 0.016 N/mm<sup>2</sup>

■ **Peak loads**  
0.5 N/mm<sup>2</sup>

Values depending on form factor and apply to form factor  $q = 3$

■ **Delivery specifications**  
 Thickness: 12.5 mm and 25 mm  
 Mats: 0.5 m wide, 2.0 m long  
 Stripes max. 2,0 m long  
 Other dimensions on request



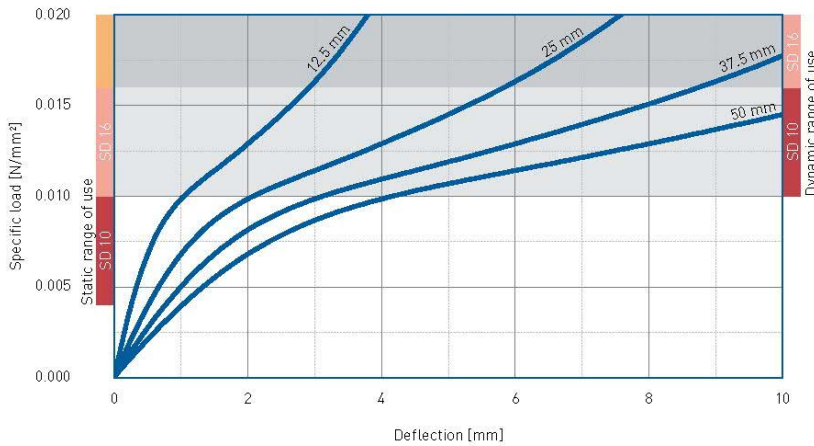
## Physical properties

Properties	Value	Test method	Comment
Mechanical loss factor <sup>(1)</sup>	0.25	DIN 53513 <sup>(2)</sup>	guide value
Static E-modulus <sup>(1)</sup>	0.048 N/mm <sup>2</sup>	DIN 53513 <sup>(2)</sup>	
Dynamic E-modulus <sup>(1)</sup>	0.144 N/mm <sup>2</sup>	DIN 53513 <sup>(2)</sup>	
Static shear modulus <sup>(1)</sup>	0.04 N/mm <sup>2</sup>	DIN 53513 <sup>(2)</sup>	preload 0.010 N/mm <sup>2</sup>
Dynamic shear modulus <sup>(1)</sup>	0.09 N/mm <sup>2</sup>	DIN 53513 <sup>(2)</sup>	preload 0.010 N/mm <sup>2</sup> , 10 Hz
Resistance to strain	0.011 N/mm <sup>2</sup>		at 10% deformation
Residual compression set	<5 %	DIN EN ISO 1856	50%, 23°C, 70 h, 30 min after unloading
Tensile strength	>0.35 N/mm <sup>2</sup>	DIN 53455-6-4	minimum
Elongation at break	>400 %	DIN 53455-6-4	minimum
Tear resistance	>0.6 N/mm <sup>2</sup>	DIN ISO 34-1/A	
Rebound elasticity	50 %	DIN EN ISO 8307	± 10%
Specific volume resistance	>10 <sup>12</sup> Ω cm	DIN IEC 93	dry
Thermal conductivity	0.05 W/[m K]	DIN 52612-1	
Operating temperature	-30 to +70 °C		
Teamperature peak	+ 120 °C		
Inflammability	Class E / EN 13501-1	EN ISO 11925-1	normal flammable

<sup>(1)</sup> measured at maximum limit of static application range

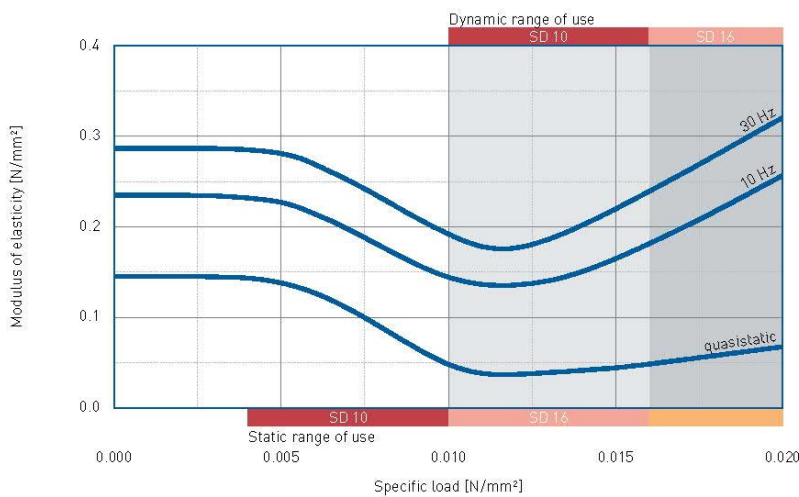
<sup>(2)</sup> test according to DIN 53513

**Load deflection curve**



Recording of the 3rd loading; testing between steel plates at room temperature measured with a deflection rate of 1% of the thickness per second. Form factor  $q = 3$

**Modulus of elasticity**

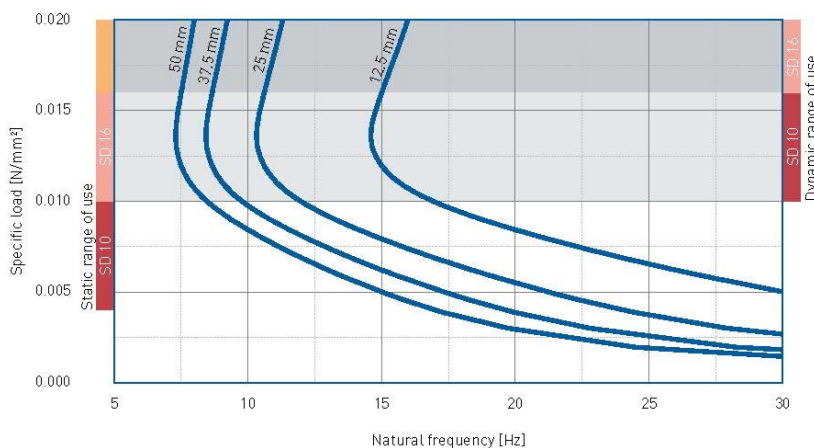


Dynamic test: sinusoidal excitation with an oscillating range of  $\pm 0.22$  mm at 10 Hz und  $\pm 0.08$  mm at 30 Hz.

Quasistatic modulus of elasticity: tangent modulus taken from the load deflection curve

Test according to DIN 53513  
 Form factor  $q = 3$

**Natural frequency**



Natural frequency of a single-degree-of-freedom system consisting of a fixed mass and an elastic bearing consisting of vibrafoam® SD10 on a stiff subgrade. Form factor  $q = 3$

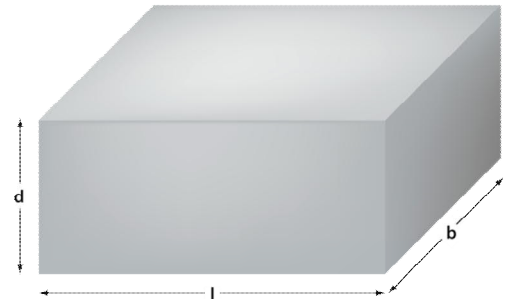
**Impact of form factor**

The stiffness of elastomers depends on their geometry.

The form factor  $q$  is defined as the ratio of load-bearing area to bearing shell area.

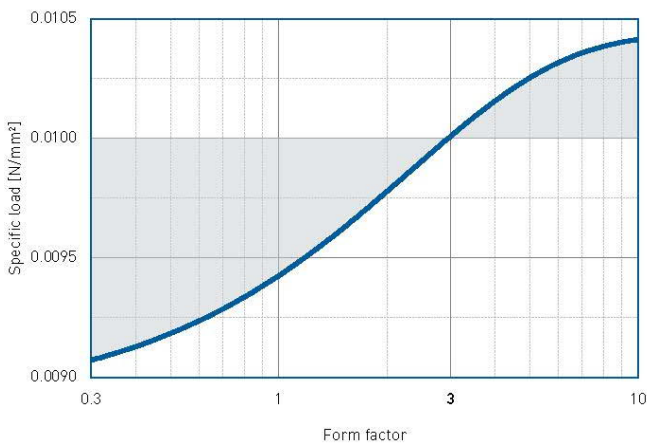
The following applies to the building block:

$$q = \frac{l \cdot b}{2 \cdot d \cdot (l + b)}$$

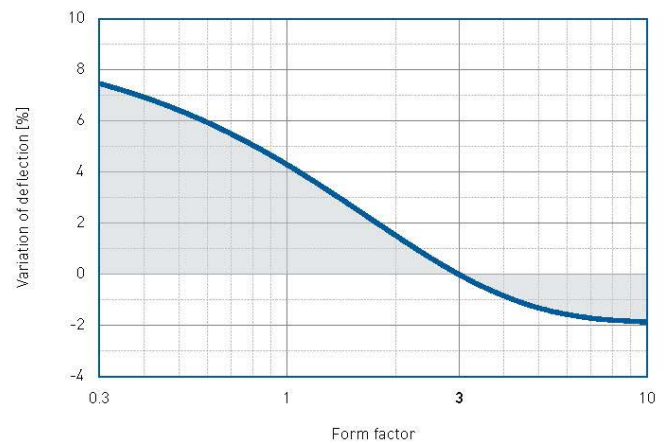


Correction values varying form factors  
specific load 0.01 N/mm<sup>2</sup>, form factor  $q=3$

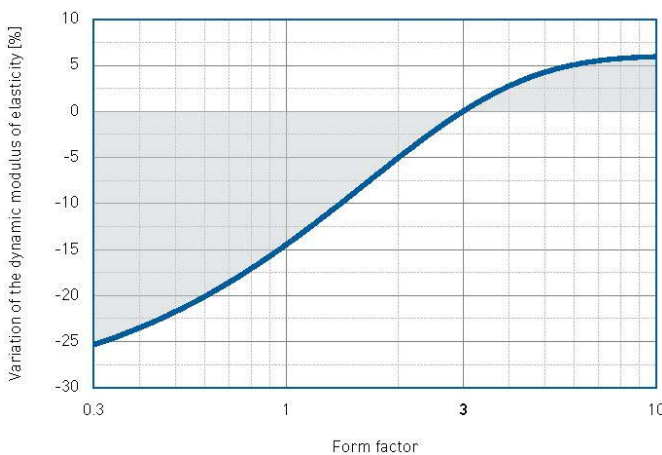
Static load range



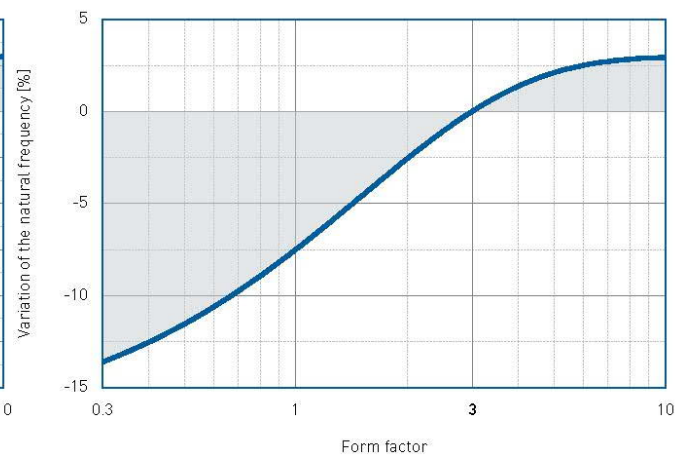
Deflection



Dynamic modulus of elasticity at 10 Hz



Natural frequency



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