Material Data Sheet

**Material**
mixed cellular polyurethane

**Colour**
blue

**Standard dimensions on stock**
- **Thickness:** 12.5 mm with Sylomer® SR 28 - 12
  25 mm with Sylomer® SR 28 - 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.

### Material properties

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<td>Static range of use (static loads)</td>
<td>up to 0.028 N/mm²</td>
<td>approx. 7 %</td>
<td>DIN 53513*</td>
<td>depending on frequency, load and amplitude</td>
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<tr>
<td>Operating load range (static plus dynamic loads)</td>
<td>up to 0.037 N/mm²</td>
<td>approx. 20 %</td>
<td>DIN 53573</td>
<td>tolerance ±10 %</td>
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<td>approx. 80 %</td>
<td>DIN ISO 1827*</td>
<td>at specific load of 0.028 N/mm²</td>
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- Mechanical loss factor: $\eta = 0.21$
- Rebound elasticity: 45 %
- Compression set: < 5 %
- Static shear modulus: 0.07 N/mm²
- Dynamic shear modulus: 0.15 N/mm²
- Coefficient of friction (steel): $\mu_s = 0.5$
- Coefficient of friction (concrete): $\mu_B = 0.7$
- Abrasion: 1300 mm²
- Operating temperature: -30 to 70 °C
- Specific volume resistance: > 10¹¹Ω·cm
- Thermal conductivity: 0.06 W/(mK)
- Flammability: B2, class E

**Test methods**
- DIN 53513*
- DIN 53573
- EN ISO 1856
- DIN ISO 1827*
- DIN 52612/1
- DIN 4102
- DIN 53516
- DIN 4102
- EN ISO 11925-2

**Comment**
- depending on frequency, load and amplitude
- tolerance ±10 %
- at specific load of 0.028 N/mm²
- short term higher temperatures possible
- dry
- load 5 N, bottom surface
- normal flammable

*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 (Association of German Engineers). Further characteristic values on request.

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* DIN 53513* = DIN 53516
* DIN ISO 1827* = DIN ISO 1827*
Modulus of elasticity

Figure 1: Quasistatic load deflection curve measured with a loading rate of 0.0028 N/mm²/s

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

Form factor 3

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} \text{ 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
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 28 based on a stiff subgrade

**Parameter:** Thickness of elastomeric bearing

Form factor 3

Figure 4: Reduction of the transmitted mechanical vibrations by implementation of an elastic bearing consisting of Sylomer® SR 28

**Parameter:** Factor of transmission in dB, isolation rate in %
Influence of the form factor
In the figures below one can find correction varying form factors.

- **Figure 5: Static load range**
  - Specific load [N/mm²] vs. Form factor
  - Specific load values: 0.028, 0.026, 0.022, 0.024
  - Variation of deflection [%]: 30%, 25%, 20%, 15%, 10%, 5%, 0%, -5%

- **Figure 6: Deflection**
  - Variation of deflection [%] vs. Form factor
  - Variation of deflection: 4%, 2%, 0%, -2%, -4%, -6%, -8%, -10%, -12%, -14%

- **Figure 7: Dynamic modulus of elasticity at 10 Hz**
  - Variation of the dynamic modulus of elasticity [%] vs. Form factor
  - Variation of the dynamic modulus of elasticity: 4%, 2%, 0%, -2%, -4%, -6%, -8%, -10%, -12%, -14%

- **Figure 8: Natural frequency**
  - Variation of the natural frequency [%] vs. Form factor
  - Variation of the natural frequency: 2%, 1%, 0%, -1%, -2%, -3%, -4%, -5%, -6%, -7%

* Reference value: specific load 0.028 N/mm², form factor 3