**Sylomer® SR 42 Data Sheet**

**Material**
mixed-cell PU elastomer (polyurethane)

**Colour**
pink

**Standard delivery dimension**
- Thickness: 12.5 mm / 25 mm
- Roll: 1.5 m wide, 5.0 m long
- Strip: up to 1.5 m wide, up to 5.0 m long

Other dimensions, punched and molded parts on request.

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**Range of use**

<table>
<thead>
<tr>
<th>Compressive load</th>
<th>Deformation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static range of use (static loads)</td>
<td>up to 0.042 N/mm$^2$</td>
</tr>
<tr>
<td>Dynamic range of use (static plus dynamic loads)</td>
<td>up to 0.057 N/mm$^2$</td>
</tr>
<tr>
<td>Load peaks (occasional, brief loads)</td>
<td>up to 2.0 N/mm$^2$</td>
</tr>
</tbody>
</table>

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**Material properties**

1. **Mechanical loss factor**
   - 0.18
   - Test methods: DIN 53513
   - Comment: temperature-, frequency-, specific load- and amplitude-dependent

2. **Rebound resilience**
   - 55%
   - Test methods: EN ISO 8307

3. **Compression hardness**
   - 0.05 N/mm$^2$
   - Test methods: EN ISO 844

4. **Compression set**
   - ≤ 5%
   - Test methods: EN ISO 1856

5. **Static modulus of elasticity**
   - 0.22 N/mm$^2$
   - Test methods: DIN 53513

6. **Dynamic modulus of elasticity**
   - 0.60 N/mm$^2$
   - Test methods: DIN 53513

7. **Static shear modulus**
   - 0.09 N/mm$^2$
   - Test methods: DIN ISO 1827

8. **Dynamic shear modulus**
   - 0.17 N/mm$^2$
   - Test methods: DIN ISO 1827

9. **Min. tensile stress at rupture**
   - 0.50 N/mm$^2$
   - Test methods: EN ISO 527-3/5/100

10. **Min. tensile elongation at rupture**
    - 250%
    - Test methods: EN ISO 527-3/5/100

11. **Abrasion**
    - ≤ 1200 mm$^2$
    - Test methods: DIN ISO 4649

12. **Coefficient of friction (steel)**
    - 0.5
    - Test methods: Getzner Werkstoffe

13. **Coefficient of friction (concrete)**
    - 0.7
    - Test methods: Getzner Werkstoffe

14. **Specific volume resistance**
    - > 10$^{10}$ Ω·cm
    - Test methods: DIN EN 62631-3-1

15. **Thermal conductivity**
    - 0.055 W/(mK)
    - Test methods: DIN EN 12664

16. **Temperature range**
    - -30°C to 70°C
    - Test methods: EN ISO 9925-2

17. **Flammability**
    - class E
    - Test methods: normal combustible, EN 13501-1

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1. Measurement / evaluation in accordance with the relevant standard
2. The measurement is performed on a density-dependent basis with differing test parameters
3. Values apply to 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.

Further information can be found in VDI Guideline 2062 (Association of German Engineers) as well as in glossary. Further characteristic values on request.
Quasi-static load deflection curve measured with a loading rate of 0.0042 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.

Shape factor $q = 3$

Quasi-static modulus of elasticity as tangential modulus from the load deflection curve. Dynamic modulus of elasticity from sinusoidal excitation with a velocity level of 100 dBv re. $5 \cdot 10^{-8}$ m/s corresponding to a vibration amplitude 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 of a vibratory system with a single degree of freedom, consisting of a mass and an elastic bearing made of Sylomer® SR 42 on a rigid surface.

Parameter: thickness of the Sylomer® bearing

Shape factor q = 3

Reduction of the transmitted mechanical vibrations by implementation of an elastic bearing consisting of Sylomer® SR 42 based on a stiff subgrade.

Parameter: factor of transmission in dB, isolation rate in %
Influence of the shape factor

The graphs show the material properties at different shape factors.

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**Fig. 5:** Static range of use in relation to the shape factor

**Fig. 6:** Deflection in relation to the shape factor

**Fig. 7:** Dynamic modulus of elasticity at 10 Hz in relation to the shape factor

**Fig. 8:** Natural frequency in relation to the shape factor

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Reference values: specific load 0.042 N/mm², shape factor q = 3

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