**Sylodyn® NE**

**Material Data Sheet**

**Material**  closed cellular polyurethane  
**Colour**  blue

**Standard dimensions on stock**

- **Thickness:** 12.5 mm with Sylodyn® NE 12  
  25 mm with Sylodyn® NE 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

| Static load limit | Operating load range  
|-------------------|---------------------|  
| (static plus dynamic loads) | Load peaks  
| (short term, infrequent loads) |  

### Compression load (depending on form factor)

- up to 0.75 N/mm²**  
- up to 1.20 N/mm²**  
- up to 6.0 N/mm²**

### Deflection

- approx. 10 %**  
- approx. 20 %**  
- approx. 50 %**

### Static load limit

- up to 0.75 N/mm²**  
- up to 1.20 N/mm²**  
- up to 6.0 N/mm²**

### Operating load range

- up to 1.20 N/mm²**  
- up to 6.0 N/mm²**

### Deflection

- approx. 10 %**  
- approx. 20 %**  
- approx. 50 %**

### Further characteristic values on request

- Tests according to respective standards  
- At form factor q=3

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**Material properties**

| Test methods | Comment  
|---------------|---------|  
| DIN EN ISO 527-3/5/100* | minimum value  
| DIN EN ISO 527-3/5/100* | minimum value  
| DIN 53515* | minimum value  
| DIN 53516 | load 10 N, bottom surface  
| Getzner Werkstoffe | dry  
| Getzner Werkstoffe | dry  
| EN ISO 1856 | 50 %, 23 °C, 70 h, 30 minutes after unloading  
| DIN ISO 1827* | at static load limit  
| DIN ISO 1827* | at static load limit  
| DIN 3513* | depending on frequency, load and amplitude (reference value)  
| DIN 3512 | tolerance ± 10 %  
| DIN 4102 | normal flammable  
| DIN 11925-2 | EN 13501-1  
| DIN IEC 93 | dry  
| DIN 52612/1 |  

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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 - Page 2.
Quasi-static load deflection curve measured at a velocity of deformation of 1% of the thickness per second; testing between flat steel plates; recording of the 3rd loading; testing at room temperature.
Modulus of elasticity

Form factor: $q=6$

Form factor: $q=3$

Form factor: $q=1.5$

Natural frequency

Form factor: $q=6$

Form factor: $q=3$

Form factor: $q=1.5$

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. $5 \times 10^{-4}$ m/s; test according to DIN 53513

Natural frequency of a single-degree-of-freedom system (SDOF system) consisting of a fixed mass and an elastic bearing consisting of Sylodyn® NE based on a stiff subgrade; parameter: thickness of elastomeric bearing
Reduction of the transmitted mechanical vibrations by implementation of an elastic bearing consisting of Sylodyn® NE

**Parameter:** factor of transmission in dB, isolation rate in %

Increase in deformation under consistent loading

**Parameter:** permanent loading

Form factor: q=3

Change of dynamic modulus of elasticity under consistent loading (at 10 Hz)

**Parameter:** load duration

Form factor: q=3
Temperature dependency

Frequency dependency

Dependency on amplitude

Dependency on loading velocity

Temperature dependency:
DMA-test: Dynamic Mechanical Analysis; tests within linear area of the load deflection curve, at low specific loads.

Frequency dependency:
DMA-tests: mastercurve with a reference-temperature of 21 °C; tests within the linear area of the load deflection curve, at low specific loads.

Dependency on amplitude:
preload at static load limit; form factor: \(q=3\), thickness of material 25 mm.

Dependency on loading velocity:
Form factor: \(q=3\), thickness of material 25 mm.

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Form factor

The form factor is a geometric measure for the shape of an elastomeric bearing defined as the ratio of the loaded area and the area of sum of the perimeter surfaces.

Definition: Form factor $q = \frac{\text{Loaded area}}{\text{Perimeter surface area}}$

For a rectangular shape: $q = \frac{l \cdot w}{2 \cdot t \cdot (l+w)}$

The form factor has an influence on the deflection and the static load limit respectively.

Elastic Sylodyn®-bearings are considered as

- Full surface bearing: Form factor > 6
- Strip bearing: Form factor between 2 and 6
- Point bearing: Form factor < 2

Influence of the form factor on the deflection at the static load limit for a homogeneous material
Reference value: Form factor $q=3$

Increase of deflection
Decrease of deflection

Influence of the form factor on the static load limit for a homogeneous material
Reference value: Form factor $q=3$

Increase of static load limit
Decrease of static load limit