SLAB damping plates of the SL-150 to SL-720 are universally applicable elastic PUR materials that are manufactured according to a patented formula and which are used throughout industry. The standard densities of 150 kg/m³ to 720 kg/m³ serve as vibration insulation in a wide variety of applications. For specific applications, special designs with specific densities can be manufactured. The static and dynamic product characteristics are precisely defined. The effectiveness of elastic suspension can be calculated in advance. The necessary parameters are shown on a respective checklist.

The static load capacity of standard materials are in the range of:

- SL-150: 0 to 0.01 N/mm²
- SL-220: 0 to 0.025 N/mm²
- SL-290: 0 to 0.05 N/mm²
- SL-450: 0 to 0.15 N/mm²
- SL-600: 0 to 0.30 N/mm²
- SL-720: 0 to 0.50 N/mm²

and for special designs up to 0.8 N/mm². Unusual and light loads can withstand forces of 5.0 N/mm². This value can reach up to 6 N/mm² for special designs.

Compression set: < 5 %, at 50 % of compression, 23 °C, 70 h, 30 min after unloading, according to EN ISO 1856

Environment: Resistant against ozone and UV radiation; food-graded according to ENV 1 186-3 (also see chemical resistancy page 98)

Material: Mixed cellular polyether urethane

Standard density: 150 kg/m³, 220 kg/m³, 290 kg/m³, 450 kg/m³, 600 kg/m³ and 720 kg/m³, according to DIN 53420, special designs on request

Fire rating: B2, normally flammable according to DIN 4102

Operating temperature range: -30 °C to +70 °C, short-term higher temperature potential up to 110 °C

Delivery form: Thickness: 12.5 mm and 25 mm. Rolls: 1.5 m wide, 5.0 m long. Strips: Up to the maximum width and length. Other dimensions (also thickness), colours, shapes and cut-out parts on request.

Possibilities for cutting: Water jet cutting, stamping, splitting, sawing, drilling, etc.

Mounting style: Bonding (see adhesive recommendation page 97), clamps, screws, etc.

On request: Available with compact polyurethane wearing surface, shore hardness: 82 shore Sh A.
Machines generate vibrations which are transmitted to the surroundings. They can influence the manufacturing process of other machines and thereby the quality of the products.

Vibrations disrupt the location and the environment and cause damage to buildings. SLAB polyurethane elastomer is a material that effectively reduces vibration and structure-borne noise. Depending on the requirements, SLABs are available in different densities, thicknesses and dimensions.

SLAB damping plates are used to insulate vibrations for:
- Machine tools
- Textile machinery
- Air conditioning and ventilating machines
- Crane rails
- Hydraulic crushers
- Presses / stamping machines etc.

Potential for direct bearing support on SLAB damping plates:

- Full surface mount
- Strip bearings
- Discrete bearings

---

Even load distribution of vibration damping elements are illustrated using the example of a combustion engine

Pay attention to center of gravity!
Maximize the bearing’s torsional stiffness!
Merging of assembly groups (combined elastic bearing)

Mounting of individual equipment components illustrated using the example of a pump

Pay attention to separate flexible mounts of connected equipment components!
Pay attention to flexible base plates or machine frames!
Use large flex resistant base plates or machine frames!

Full surface mounted eccentric press

- sufficient base size
- modeling
- assure vibration insulation
- static view: center of gravity, deflection
- maximize torsional stiffness
- dynamic view: forces, torques, amplitude

1 Vibration damping
2 Concrete base

Source: SUVA, Elastic Bearing of Machines
SLAB SL-450
Damping Plates for Vibration Damping
Dynamic Load 0 to 0.25 N/mm²

Ordering Example
ACE-SLAB
Material Type: SL-450
Material Thickness: 12 mm, 25 mm
Dimension/Shape: rolls: 1.5 m wide, 5.0 m long, strips: up to the maximum width and length

Technical Data
Material: mixed cellular polyether urethane
Standard Colour: black
Characteristics: elastic PUR material with spring/damping characteristics
Delivery Form: thickness 12 mm and 25 mm
rolls: 1.5 m wide, 5.0 m long, strips: up to the maximum width and length

Other dimensions (also thickness), colours, shapes and cut-out parts on request.

Physical Characteristics

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Unit</th>
<th>Test Method</th>
<th>Notice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>450</td>
<td>kg/m³</td>
<td>EN ISO 845</td>
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</tr>
<tr>
<td>Tensile strength</td>
<td>1.5</td>
<td>N/mm²</td>
<td>following EN ISO 527–3/5/100</td>
<td>minimum value</td>
</tr>
<tr>
<td>Elongation at break</td>
<td>300</td>
<td>%</td>
<td>following EN ISO 527–3/5/100</td>
<td>minimum value</td>
</tr>
<tr>
<td>Compression set</td>
<td>3.8</td>
<td>%</td>
<td>EN ISO 1856</td>
<td>50 %, 23 °C, 70 h, 30 min after release</td>
</tr>
<tr>
<td>Mechanical loss factor</td>
<td>0.17</td>
<td></td>
<td>following DIN 53513</td>
<td>load and frequency dependent</td>
</tr>
<tr>
<td>Static modulus of rigidity</td>
<td>0.48</td>
<td>N/mm²</td>
<td>following DIN 53513</td>
<td>load dependent</td>
</tr>
<tr>
<td>Dynamic modulus of rigidity</td>
<td>0.76</td>
<td>N/mm²</td>
<td>following DIN 53513</td>
<td>load and frequency dependent</td>
</tr>
</tbody>
</table>

Characteristics

1) Samples: 300 x 300 mm, initially compressed between level plates, released and then tested. Deformation: 1% of thickness/s, room temperature
2) Static E-Module: tangent module from spring characteristics
   Dynamic E-Module: Samples 300 x 300 x 25 mm Sinusoidal excitation with amplitude 0.25 mm
3) Lowest frequency of a single mass pendulum with an elastic bearing of SL-450
**SLAB SL-600**

Damping Plates for Vibration Damping  
Dynamic Load 0 to 0.45 N/mm²

---

**Ordering Example**

ACE-SLAB  
SL-600-12-Fxxxx  
Material Type  
Material Thickness  
Dimension/Shape

---

### Technical Data

**Material:** mixed cellular polyether urethane  
**Standard Colour:** black  
**Characteristics:** elastic PUR material with spring/damping characteristics  
**Delivery Form:** thickness 12 mm and 25 mm rolls: 1.5 m wide, 5.0 m long, strips: up to the maximum width and length

Other dimensions (also thickness), colours, shapes and cut-out parts on request.

---

### Physical Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>600</td>
<td>kg/m³</td>
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<tr>
<td>Tensile strength</td>
<td>2.5</td>
<td>N/mm²</td>
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<tr>
<td>Elongation at break</td>
<td>300</td>
<td>%</td>
</tr>
<tr>
<td>Compression set</td>
<td>5.0</td>
<td>%</td>
</tr>
<tr>
<td>Mechanical loss factor</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>Static modulus of rigidity</td>
<td>0.8</td>
<td>N/mm²</td>
</tr>
<tr>
<td>Dynamic modulus of rigidity</td>
<td>1.2</td>
<td>N/mm²</td>
</tr>
</tbody>
</table>

Test Method:  
- EN ISO 845  
- following EN ISO 527-3/5/100  
- EN ISO 1856  
- following DIN 53513

**Notice:**  
- minimum value  
- load and frequency dependent

---

### Characteristics

#### Spring Characteristics SL-600 ¹)

- **Surface Pressure (N/mm²)**  
- **Compression (mm)**

#### Elasticity Module SL-600 ²)

- **E-Module (N/mm²)**  
- **Surface Pressure (N/mm²)**

#### Natural Frequency SL-600 ³)

- **Surface Pressure (N/mm²)**  
- **Natural Frequency of the System (Hz)**

---

1) Samples: 300 x 300 mm, initially compressed between level plates, released and then tested. Deformation: 1% of thickness/s, room temperature  
2) Static E-Module: tangent module from spring characteristics  
Dynamic E-Module: Samples 300 x 300 x 25 mm Sinusoidal excitation with amplitude 0.25 mm

3) Lowest frequency of a single mass pendulum with an elastic bearing of SL-600
SLAB SL-720
Damping Plates for Vibration Damping
Dynamic Load 0 to 0.75 N/mm²

Ordering Example
ACE-SLAB
Material Type
Material Thickness
Dimension/Shape

SL-720-12-Fxxxx

Technical Data
Material: mixed cellular polyether urethane
Standard Colour: black
Characteristics: elastic PUR material with spring/damping characteristics
Delivery Form: thickness 12 mm and 25 mm
rolls: 1.5 m wide, 5.0 m long, strips: up to the maximum width and length

Other dimensions (also thickness), colours, shapes and cut-out parts on request.

Physical Characteristics

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Value</th>
<th>Unit</th>
<th>Test Method</th>
<th>Notice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>720</td>
<td>kg/m³</td>
<td>EN ISO 845</td>
<td></td>
</tr>
<tr>
<td>Tensile strength</td>
<td>3.0</td>
<td>N/mm²</td>
<td>following EN ISO 527-3/5/100</td>
<td>minimum value</td>
</tr>
<tr>
<td>Elongation at break</td>
<td>300</td>
<td>%</td>
<td>following EN ISO 527-3/5/100</td>
<td>minimum value</td>
</tr>
<tr>
<td>Compression set</td>
<td>5.0</td>
<td>%</td>
<td>EN ISO 1856</td>
<td>50 %, 23 °C, 70 h, 30 min after release</td>
</tr>
<tr>
<td>Mechanical loss factor</td>
<td>0.12</td>
<td></td>
<td>following DIN 53513</td>
<td>load and frequency dependent</td>
</tr>
<tr>
<td>Static modulus of rigidity</td>
<td>1.0</td>
<td>N/mm²</td>
<td>following DIN 53513</td>
<td>load dependent</td>
</tr>
<tr>
<td>Dynamic modulus of rigidity</td>
<td>1.5</td>
<td>N/mm²</td>
<td>following DIN 53513</td>
<td>load and frequency dependent</td>
</tr>
</tbody>
</table>

Characteristics

1) Spring Characteristics SL-720

Surface Pressure (N/mm²) vs. Compression (mm)

E-Module (N/mm²) vs. Surface Pressure (N/mm²)

2) Elasticity Module SL-720

Surface Pressure (N/mm²) vs. Natural Frequency of the System (Hz)

Notice

1) Samples: 300 x 300 mm, initially compressed between level plates, released and then tested.
Deformation: 1% of thickness/s, room temperature

2) Static E-Module: tangent module from spring characteristics
Dynamic E-Module: Samples 300 x 300 x 25 mm
Sinusoidal excitation with amplitude 0.25 mm

3) Lowest frequency of a single mass pendulum with an elastic bearing of SL-720
SLAB Damping Plates
Technical Information

Bonding of Polyurethane (PUR) Elastomers

Cellular and compact parts of polyurethane (PUR) elastomers SLAB damping plates can be bonded according to the following recommendations. If treatment instructions are followed, the strengths of the bonded joint can be equivalent to the elastomer material itself.

1. General Information

To achieve the required bonding strength it is necessary to ensure the correct adhesive is chosen for each individual application.

Contact Bonding Material: thin adhesive film, with little filling of the gaps. Correcting or moving of the areas covered with bonding material is no longer possible after the first contact is made (contact effect).

Once a bonding is separated, the bonding process must be renewed. Please note that creases, ripples or blisters cannot be straightened once the contact is made.

Hardening Bonding Material: (As thin as possible) the film of glue fills the joint. The gluing can be done after the edges are brought together.

2. Preparation

The preparation of bonding surfaces is of significant importance for the bonding strength. The surfaces must be adapted to each other and available in plain, clean form.

Careful removal of: adhesive remnants, oil, fat, separating agents, dirt, dust, scales, molding layers, protective coating, finish, paint, sweat etc.

Mechanical Support: stripping, brushing, scraping, grinding, sandblasting.

Chemical Support: degreasing (washing off with grease remover), etching, priming; pay attention to chemical resistancy on page 7!

In general, SLAB damping plates in sheet form can be bonded without pretreatment. Molded parts, with or without special skin, have to be cleaned from left-over separating agents, if necessary by grinding. When bonding with other materials like plastic, wood, metal or concrete, mechanical and/or chemical additives have to be used.

The adhesive has to be prepared according to the formula, observing the manufacturer’s recommendations. The adhesive film is also to be carefully applied pursuant to these details. (Tools: brush, spatula, adhesive spreader, airless spray gun).

Contact Bonding Material: Apply the non-gap-filling adhesive film to both bonding surfaces – the thinner, the better. To close the pores of low density materials, two layers may be necessary.

Hardening Bonding Material: Apply evenly. Possible irregularities can be compensated by the film thickness.

3. Bonding

When using contact bonding material, the flash off time has to be kept in mind. Especially, with systems containing water instead of usual solvents, the adhesive film must be as dry as possible in order to pass the ‘finger test’ – no marks appear when touching the adhesive surface. When using hardening bonding material, the parts have to be joined immediately after applying the bonding material.

4. Pressing

Contact Bonding Material: contact pressure up to 0.5 N/mm²

Hardening Bonding Material: fix firmly

It is important to carefully follow the manufacturer’s instructions with regard to processing temperature, hardening time and earliest possible loading.

5. Selection of Approved Bonding Materials

Because of the variety of materials that can be bonded together as well as numerous suitable bonding materials, we refer you to a worldwide leading producer of bonding and sealing materials.

Sika Deutschland GmbH
Kornwestheimer Str. 103-107
D-70439 Stuttgart
Tel.: +49-711-8009-0
Fax: +49-711-8009-321
E-Mail: info@de.sika.com
Internet: http://www.sika.de
Test (following DIN 53428)
Exposure time of the medium: 6 weeks at room temperature, but for concentrated acids and bases as well as solvents: 7 days at room temperature

Evaluation Criteria
Changing of tensile strength and elongation of break (dry samples), change in volume

Evaluation Standard
1 Excellent resistance, change in characteristics <10%
2 Good resistance, change in characteristics between 10% and 20%
3 Conditional resistance, change in characteristics partly above 20%
4 Not resistant, change in characteristics all above 20%

All information is based on our current knowledge and experiences. We reserve the rights for changes towards product refinement.

* The resistance towards acids and bases depends on the concentration.

Water/watery solutions
- SL-450
- SL-600
- SL-720
- Water 1
- Iron(III) chloride 10% 1
- Sodium carbonate 10% 1
- Sodium chloride 10% 1
- Sodium hydroxide 10% 1
- Sodium nitrate 10% 1
- Herbicides (div.) 1
- Tensides (div.) 1
- Hydrogen peroxide 3% 1
- Laitance 1

Oils and Greases
- SL-450
- SL-600
- SL-720
- ASTM Oil No. 1 1
- ASTM Oil No. 3 1
- Laitance 2
- Hydraulic oils depends on consistency/additives
- Motor oil 4
- Turpentine oil 3
- Formwork oil 1
- Silicone oil 1
- Cooking oil 1
- High performance grease 1–2
- Railroad switch lubricant 1–2

Acids and Bases
- SL-450
- SL-600
- SL-720
- Formic acid 4
- Acetic acid 3
- Phosphoric acid 2
- Nitric acid 4
- Hydrochloric acid 3
- Sulphuric acid 3
- Ammonia solution 3
- Caustic potash solution 2
- Caustic soda solution 2

Solvents
- SL-450
- SL-600
- SL-720
- Acetone 4
- Ethyl acetate 4
- Diesel/Fuel oil 2
- Carburetor fuel/benzine 3
- Glycerin 1
- Glycerols 1–2
- Cleaning solvents/hexane 1
- Methanol 3
- Thinner 4
- Aromatic hydrocarbons 4

Other Factors
- SL-450
- SL-600
- SL-720
- Hydrolysis 1
- Ozone 1
- UV radiation and weathering 1–2
- Biological resistance 1
In order to process your inquiry quickly, we need the following information:

1. Description of Application
   
a) Description of your application in key words – the kind of machine/device that needs insulation

b) Machine design (possibly data sheet with information about loads, installation (drawing))

c) Static and dynamic machine loads (do these operate off-center?)

d) Mounting with foundation: What dimensions are available? Is sideways support necessary? length _____ mm, width _____ mm, height _____ mm yes □ no □

e) Mounting without foundation: Which machine mount is present (machine stands, U-profile mount, etc.) contact area ______________ mm number of contact areas ______________

f) Environmental requirements air humidity __________ %, temperature __________ °C liquids/foreign matter __________

g) Required product life __________

h) Safety element: yes □ no □

2. Physical Dimensions
   
a) Measurements and weight of the machine mass __________ kg

b) Center of gravity concentric □ excentric □ (sketch)

c) Operation of the machine, e.g., frequencies or revolutions per minute (exciter frequency) __________ Hz __________ 1/s

d) Available area for set up length _____ mm, width _____ mm diameter _____ mm, number of load points __________

e) Maximum mounting height of bearing height _____ mm, tolerance _____ +/- mm

f) Permissible deflection _____ mm permissible amplitudes _____ mm

g) Is operational reliability/product life of the machine by the elastic bearing? yes □ no □

Special requirements: __________ Quantity/year: __________

Machine type: __________

Sender:

Company ____________________________ Department ____________________________

Address ____________________________ Name/Pos. ____________________________

Telephone __________________________ Fax __________________________

Internet __________________________ E-Mail __________________________

Please copy, fill out and fax with sketch to: Fax +49-(0)2173-9226-89
# Standard Plates ex Stock

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<tr>
<th>Part Number</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
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<td>SL-450-12-F-MP4</td>
<td>220 x 150 x 12.5 mm</td>
</tr>
<tr>
<td>SL-450-25-F-MP4</td>
<td>220 x 150 x 25 mm</td>
</tr>
<tr>
<td>SL-600-12-F-MP4</td>
<td>220 x 150 x 12.5 mm</td>
</tr>
<tr>
<td>SL-600-25-F-MP4</td>
<td>220 x 150 x 25 mm</td>
</tr>
<tr>
<td>SL-720-12-F-MP4</td>
<td>220 x 150 x 12.5 mm</td>
</tr>
<tr>
<td>SL-720-25-F-MP4</td>
<td>220 x 150 x 25 mm</td>
</tr>
<tr>
<td>SL-450-12-F-MP4</td>
<td>1500 x 800 x 12.5 mm</td>
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<tr>
<td>SL-450-25-F-MP4</td>
<td>1500 x 800 x 25 mm</td>
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<tr>
<td>SL-720-25-F-MP4</td>
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