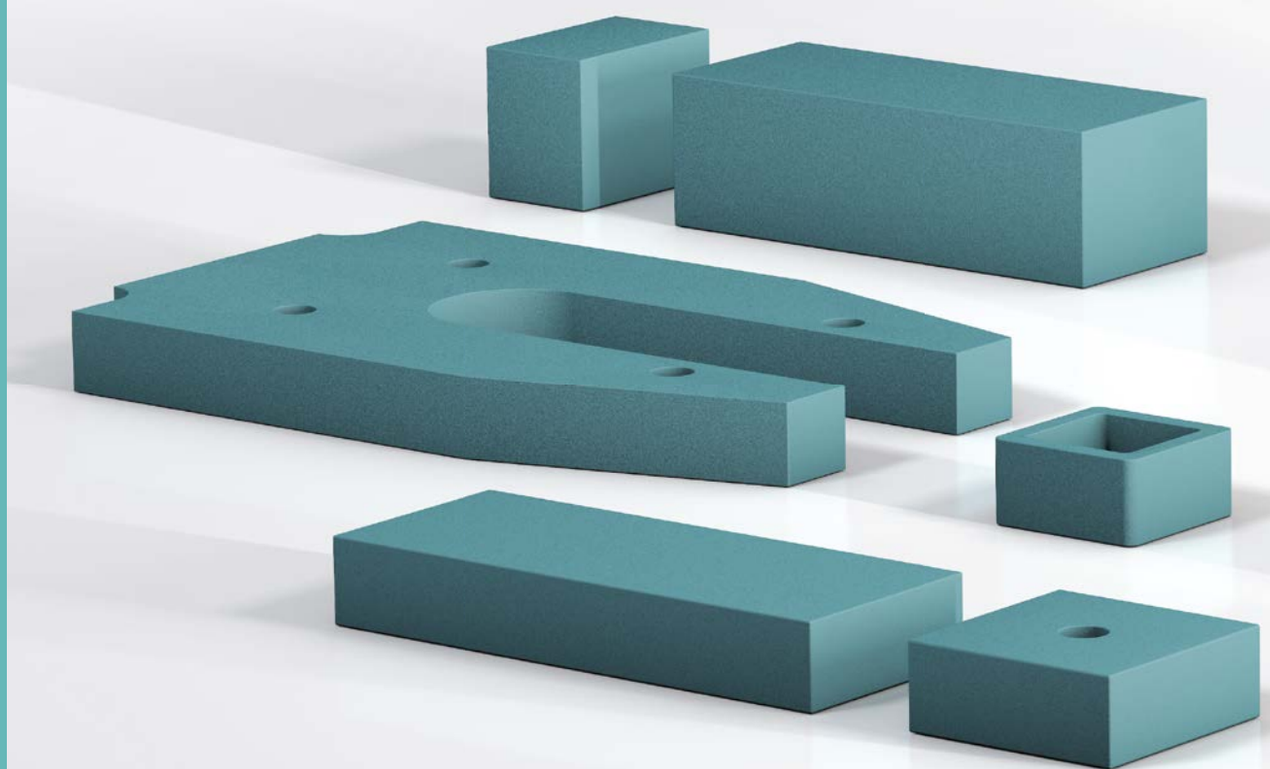
Damping Pads

Customized damping technology

With damping pads from the SLAB series, ACE provides solutions to effectively slow down loads impacting large and small surfaces. This means that these products are found in a wide range of damping technologies from ACE where oscillation begins or where damaging impacts in construction designs need to be slowed over a large surface.

The ACE SLAB pads, available to choose in any size, absorb static loads from 0.26 to 2.65 in-lb² and can be either cut to size according to each requirement or designed as a molded part. Simply use an adhesive to install. The standard plate heights are between 0.5 and 1 inch. Many different coatings clear the way for numerous applications and not least because they can be used in a temperature range from 23 °F to 122 °F.



Individual Pad Cutting

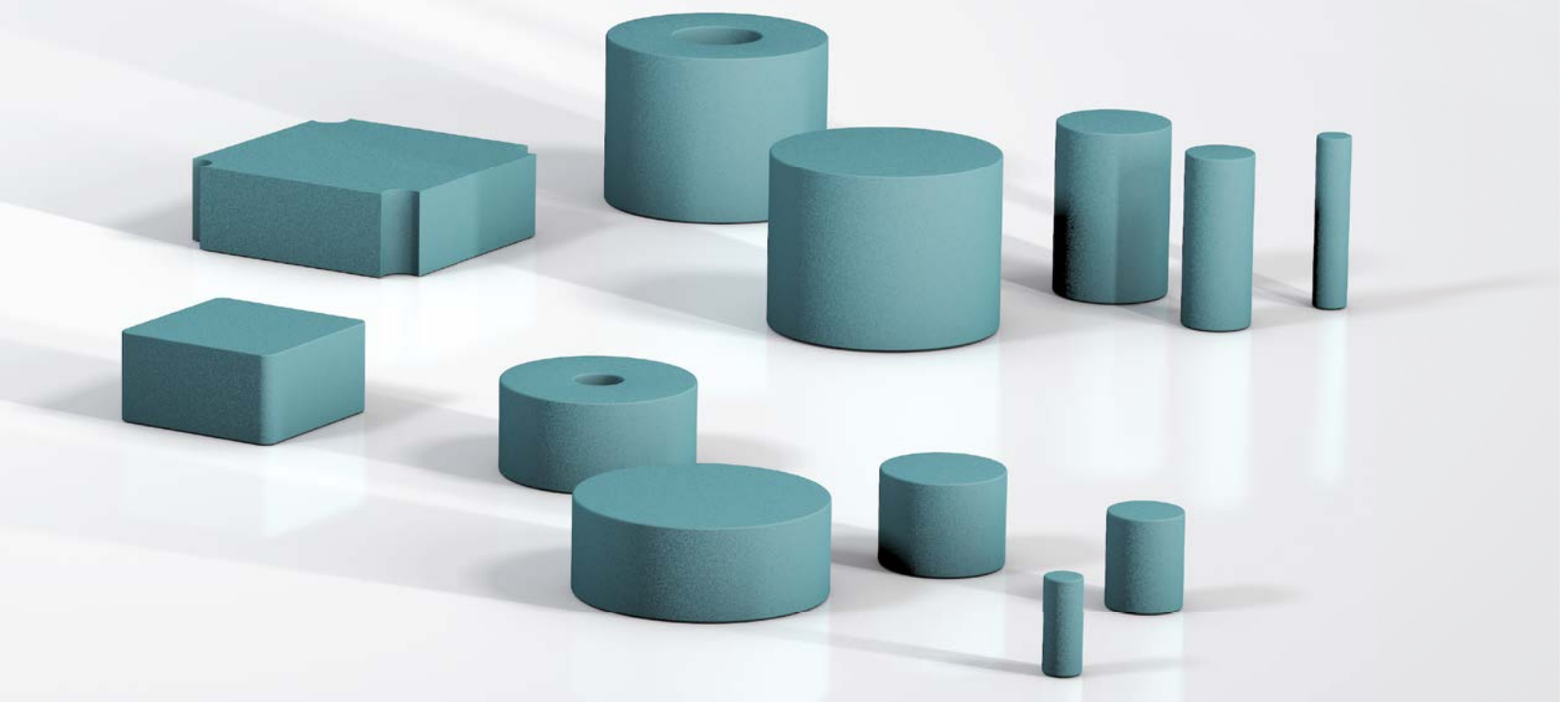
SLAB pads pre-assembled for each project

Ask for special solutions!!!

Whether pads, cuts or drawing parts, stocked SLAB pads in combination with our freely programmable cutting machine ensure maximum flexibility with excellent delivery speed.

Fast, flexible and adapted to your conditions.

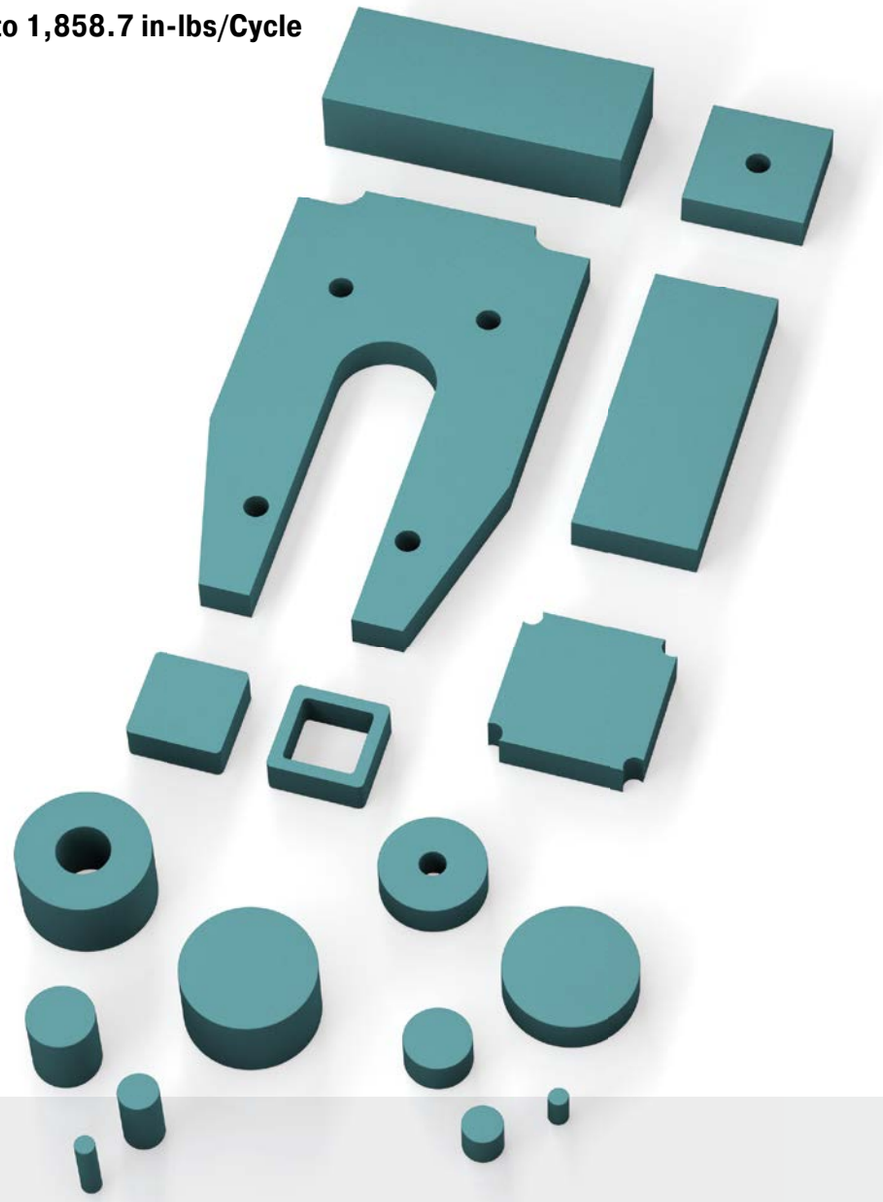
- Can be integrated quickly and cost-effectively
- Immense inner damping
- Pad thicknesses up to 3.15 inch on request
- Can be assembled with CNC cutting machines
- Patented formula



SLAB 030 to SLAB 300

Energy absorption in pad format

Connectable and Combinable
Energy capacity 27.4 in-lbs/Cycle to 1,858.7 in-lbs/Cycle
Stroke 0.26 inch to 0.49 inch



Tailor made damping material in pad format: SLAB damping pads are made of a viscoelastic PUR-material. They absorb impact loads extremely effectively and are also suitable for insulating or damping vibration.

The pads of the product family SL-030 to SL-300 are quickly adapted to the relevant type of application. This is in part achieved through the configuration of the calculating tool or directly by the ACE specialist engineers. Furthermore, this is possible because the standard material can be cut exactly and quickly to any customer requirement with our new cutting system. It is also possible to obtain a sample to find an optimum solution.

The SLAB damping pads are proven impact or collision protection. They are used on luggage and transport belts, conveyor systems, pneumatic, electromechanical and hydraulic drives as well as on linear carriages.

Technical Data

Energy capacity: 27.4 in-lbs/Cycle to 1,858.7 in-lbs/Cycle

Standard density:
SL-030 = approx. 12.48 lbs/ft^3
SL-100 = approx. 27.47 lbs/ft^3
SL-300 = approx. 42.45 lbs/ft^3

Standard colour: Green

Dimensions:
Widths: up to 59 inch
Lengths: up to 197 inch
Thicknesses: 0.5 inch and 1 inch

Environment: Resistant against ozone and UV radiation. Chemical resistancy on request.

Operating temperature range: 23 °F to 122 °F

Material: Profile body: Mixed cellular PUR-Elastomer (polyurethane)

Application field: Linear slides, Handling modules, Luggage and transport belts, Impact panels , Pipeline insulation, Foundation mounting, Conveyor technology, Electronic systems and controls, Medical technology, Buildings

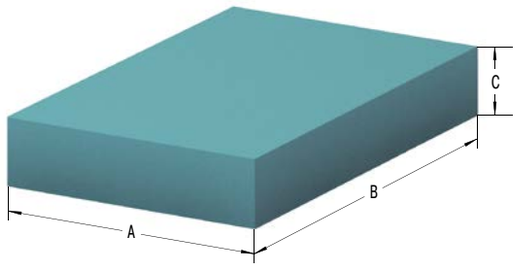
Note: Possibilities for cutting: Water jet cutting, stamping, splitting, sawing and drilling

Safety information: Fire rating: B2, normally flammable, according to DIN 4102

On request: Special versions with further dimensions such as thicknesses, colours, shapes and drawing parts e.g. curves. Different wear layers.

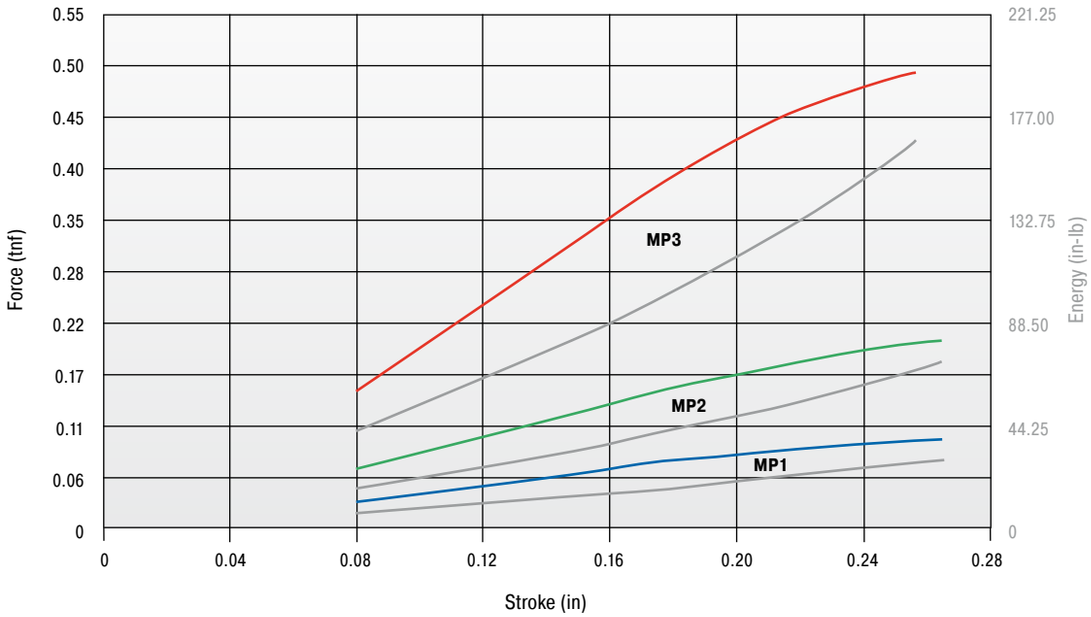
Issue 04.2018 – Specifications subject to change

SL-030-12



Characteristics

Type SL-030-12
Force-Stroke Characteristic (dynamic)
Stroke Utilization 0.26 in



Load data
Dynamic load, impact velocity: approx. 3.28 ft/s

Area	15,500 in²
Area	7,750 in²
Area	3,875 in²

tnf = ton force

The chosen damping plate should be tested by the customer on the specific application.

Ordering Example **SL-030-12-Dxxxx**

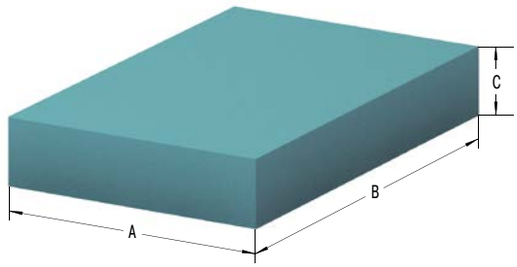
ACE-SLAB
Material Type
Material Thickness 0.49" (12.5 mm)
Customers Specific Dimension/Shape
(D-Number is assigned by ACE)

Performance and Dimensions

TYPES	[1] E_3 max. in-lbs/cycle	[1] Stroke inch	A inch	B inch	C inch	Area inch²	Standard density lbs/ft³	Return Time s	Weight lbs
SL-030-12-D-MP1	27.44	0.26	1.97	1.97	0.49	3.875	12.48	4	0.014
SL-030-12-D-MP2	70.81	0.26	2.78	2.78	0.49	7.750	12.48	4	0.028
SL-030-12-D-MP3	168.16	0.26	3.94	3.94	0.49	15.500	12.48	4	0.055

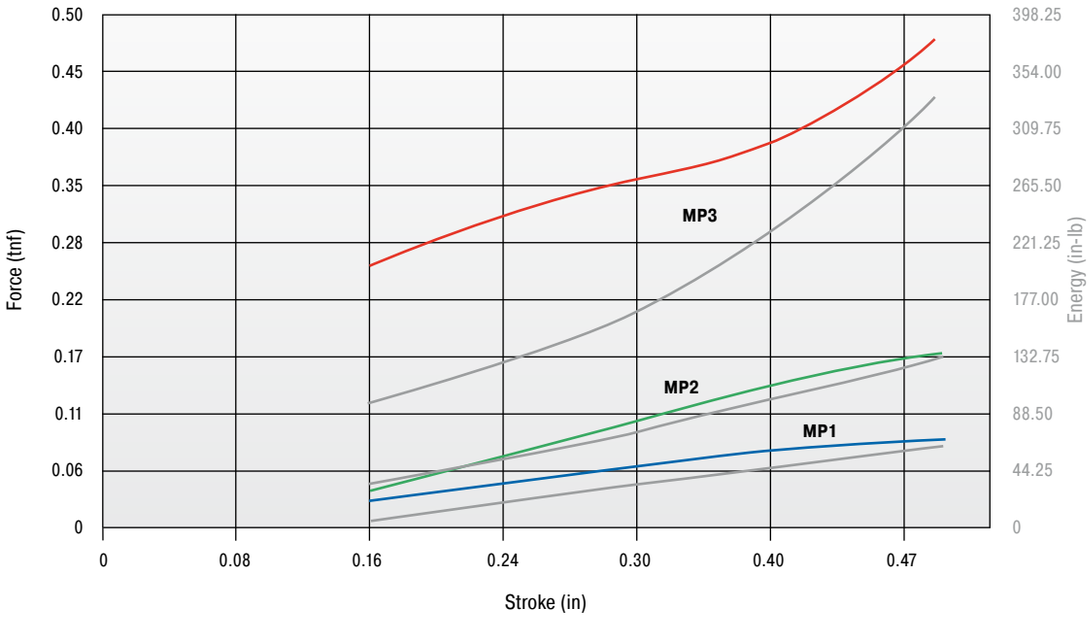
[1] Maximum energy absorption in terms of area graded pad sizes as a reference for the correct selection of material and pad size. The energy absorption depends on the individual impact surface and stroke utilization.

SL-030-25



Characteristics

Type SL-030-25
Force-Stroke Characteristic (dynamic)
Stroke Utilization 0.49 in



Load data
Dynamic load, impact velocity: approx. 3.28 ft/s

Area	15,500 in²
Area	7,750 in²
Area	3,875 in²

tnf = ton force

The chosen damping plate should be tested by the customer on the specific application.

Ordering Example **SL-030-25-Dxxxx**

ACE-SLAB
Material Type
Material Thickness 0.98" (25 mm)
Customers Specific Dimension/Shape
(D-Number is assigned by ACE)

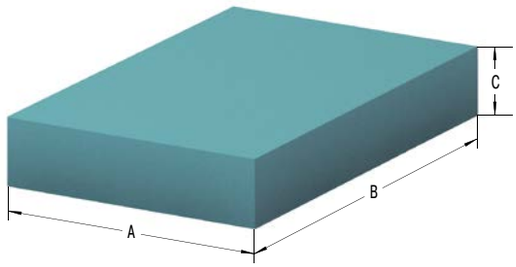
Performance and Dimensions

TYPES	[1] E_3 max. in-lbs/cycle	[1] Stroke inch	A inch	B inch	C inch	Area inch²	Standard density lbs/ft³	Return Time s	Weight lbs
SL-030-25-D-MP1	59.30	0.49	1.97	1.97	0.98	3.875	12.48	5	0.028
SL-030-25-D-MP2	132.76	0.49	2.78	2.78	0.98	7.750	12.48	5	0.055
SL-030-25-D-MP3	371.73	0.49	3.94	3.94	0.98	15.500	12.48	5	0.110

[1] Maximum energy absorption in terms of area graded pad sizes as a reference for the correct selection of material and pad size. The energy absorption depends on the individual impact surface and stroke utilization.

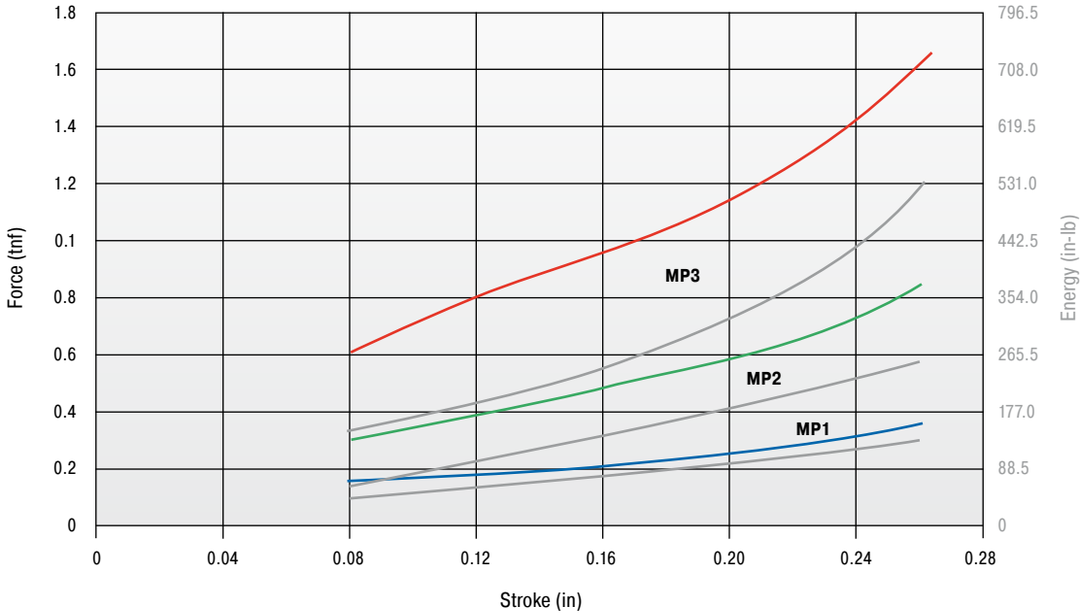
Issue 04.2018 – Specifications subject to change

SL-100-12



Characteristics

Type SL-100-12
Force-Stroke Characteristic (dynamic)
Stroke Utilization 0.26 in



Load data
Dynamic load, impact velocity: approx. 3.28 ft/s

Area	15,500 in²
Area	7,750 in²
Area	3,875 in²

tnf = ton force

The chosen damping plate should be tested by the customer on the specific application.

Ordering Example **SL-100-12-Dxxxx**

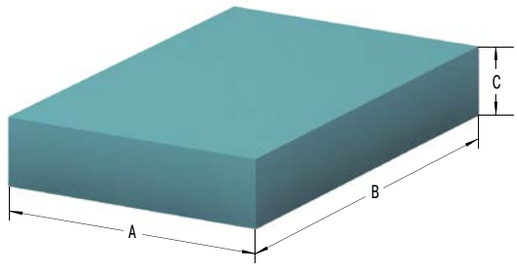
ACE-SLAB
Material Type
Material Thickness 0.49" (12.5 mm)
Customers Specific Dimension/Shape
(D-Number is assigned by ACE)

Performance and Dimensions

TYPES	[1] E_3 max. in-lbs/cycle	[1] Stroke inch	A inch	B inch	C inch	Area inch²	Standard density lbs/ft³	Return Time s	Weight lbs
SL-100-12-D-MP1	132.76	0.26	1.97	1.97	0.49	3.875	27.47	4	0.030
SL-100-12-D-MP2	265.52	0.26	2.78	2.78	0.49	7.750	27.47	4	0.061
SL-100-12-D-MP3	531.04	0.26	3.94	3.94	0.49	15.500	27.47	4	0.121

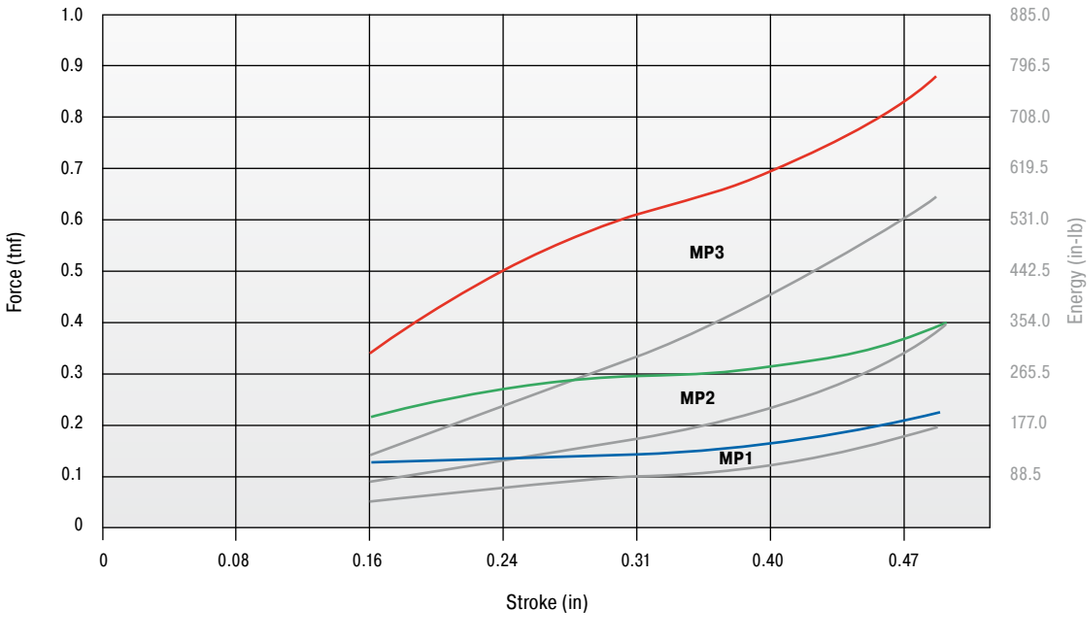
[1] Maximum energy absorption in terms of area graded pad sizes as a reference for the correct selection of material and pad size. The energy absorption depends on the individual impact surface and stroke utilization.

SL-100-25



Characteristics

Type SL-100-25
Force-Stroke Characteristic (dynamic)
Stroke Utilization 0.49 in



Load data
Dynamic load, impact velocity: approx. 3.28 ft/s

Area	15,500 in²
Area	7,750 in²
Area	3,875 in²

tnf = ton force

The chosen damping plate should be tested by the customer on the specific application.

Ordering Example **SL-100-25-Dxxxx**

ACE-SLAB
Material Type
Material Thickness 0.98" (25 mm)
Customers Specific Dimension/Shape
(D-Number is assigned by ACE)

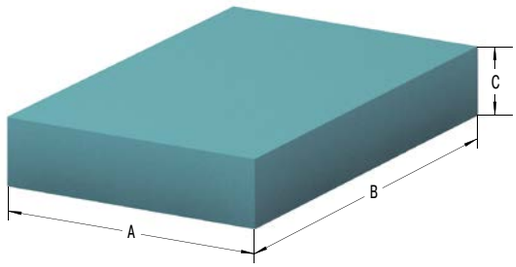
Performance and Dimensions

TYPES	[1] E_3 max. in-lbs/cycle	[1] Stroke inch	A inch	B inch	C inch	Area inch²	Standard density lbs/ft³	Return Time s	Weight lbs
SL-100-25-D-MP1	177.01	0.49	1.97	1.97	0.98	3.875	27.47	5	0.061
SL-100-25-D-MP2	354.03	0.49	2.78	2.78	0.98	7.750	27.47	5	0.121
SL-100-25-D-MP3	557.60	0.49	3.94	3.94	0.98	15.500	27.47	5	0.243

[1] Maximum energy absorption in terms of area graded pad sizes as a reference for the correct selection of material and pad size. The energy absorption depends on the individual impact surface and stroke utilization.

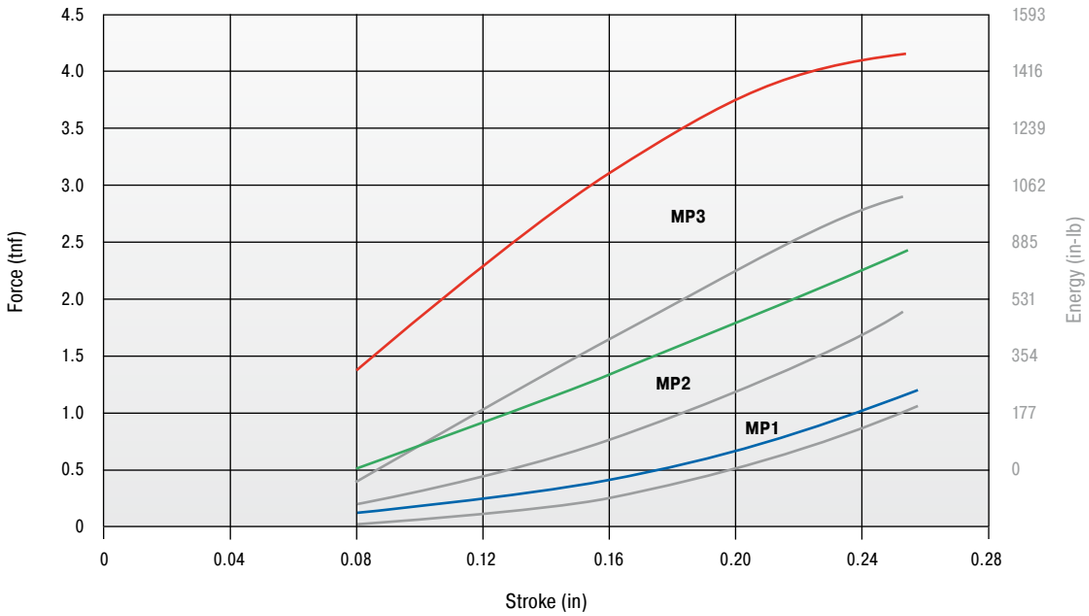
Issue 04.2018 – Specifications subject to change

SL-300-12



Characteristics

Type SL-300-12
Force-Stroke Characteristic (dynamic)
Stroke Utilization 0.26 in



Load data
Dynamic load, impact velocity: approx. 3.28 ft/s

Area	15,500 in²
Area	7,750 in²
Area	3,875 in²

tnf = ton force

The chosen damping plate should be tested by the customer on the specific application.

Ordering Example **SL-300-12-Dxxxx**

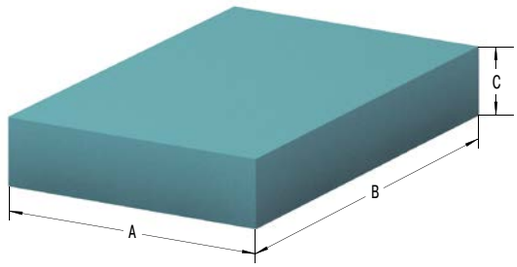
ACE-SLAB
Material Type
Material Thickness 0.49" (12.5 mm)
Customers Specific Dimension/Shape
(D-Number is assigned by ACE)

Performance and Dimensions

TYPES	[1] E_3 max. in-lbs/cycle	[1] Stroke inch	A inch	B inch	C inch	Area inch²	Standard density lbs/ft³	Return Time s	Weight lbs
SL-300-12-D-MP1	336.33	0.26	1.97	1.97	0.49	3.875	42.45	3	0.046
SL-300-12-D-MP2	575.30	0.26	2.78	2.78	0.49	7.750	42.45	3	0.094
SL-300-12-D-MP3	1,070.94	0.26	3.94	3.94	0.49	15.500	42.45	3	0.187

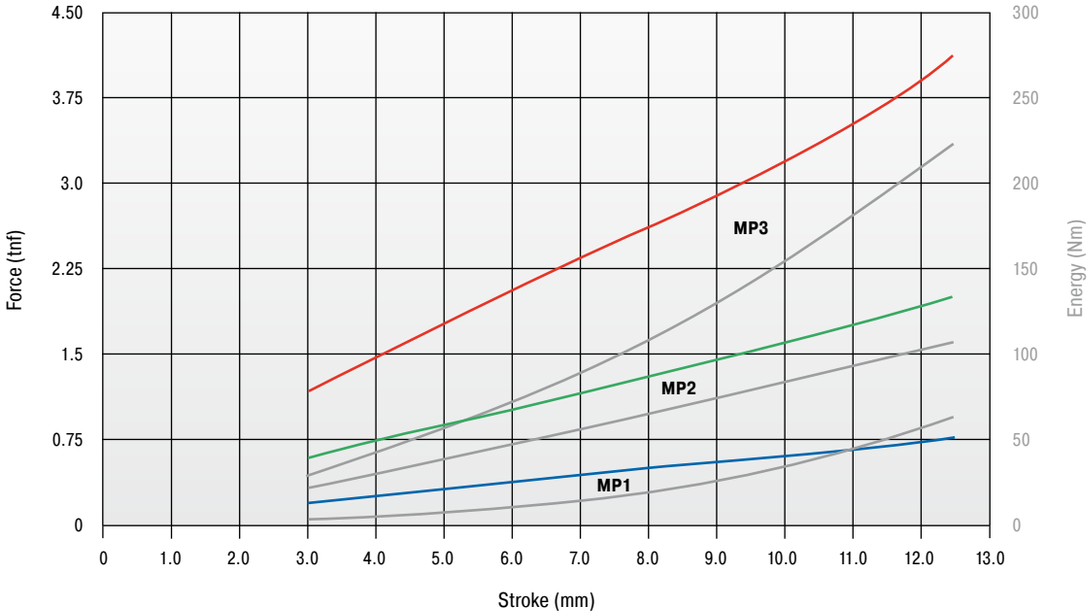
[1] Maximum energy absorption in terms of area graded pad sizes as a reference for the correct selection of material and pad size. The energy absorption depends on the individual impact surface and stroke utilization.

SL-300-25



Characteristics

Type SL-300-25
Force-Stroke Characteristic (dynamic)
Stroke Utilization 0.49 in



Load data
Dynamic load, impact velocity: approx. 3.28 ft/s

Area	15,500 in²
Area	7,750 in²
Area	3,875 in²

tnf = ton force

The chosen damping plate should be tested by the customer on the specific application.

Ordering Example **SL-300-25-Dxxxx**

ACE-SLAB
Material Type
Material Thickness 0.98" (25 mm)
Customers Specific Dimension/Shape
(D-Number is assigned by ACE)

Performance and Dimensions

TYPES	[1] E_3 max. in-lbs/cycle	[1] Stroke inch	A inch	B inch	C inch	Area inch²	Standard density lbs/ft³	Return Time s	Weight lbs
SL-300-25-D-MP1	522.19	0.49	1.97	1.97	0.98	3.875	42.45	4	0.094
SL-300-25-D-MP2	893.92	0.49	2.78	2.78	0.98	7.750	42.45	4	0.187
SL-300-25-D-MP3	1,858.66	0.49	3.94	3.94	0.98	15.500	42.45	4	0.375

[1] Maximum energy absorption in terms of area graded pad sizes as a reference for the correct selection of material and pad size. The energy absorption depends on the individual impact surface and stroke utilization.

Issue 04.2018 – Specifications subject to change

Bonding of Polyurethane (PUR) Elastomers

Cellular and compact parts of polyurethane (PUR) elastomers SLAB damping pads 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 the following page!

In general, SLAB damping pads 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 2.85 in/lb^2
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 U.S.
Sika Corporation
201 Polito Avenue

Lyndhurst, NJ 07071

T +1 (800) 933-SIKA (7452)
www.usa.sika.com

Chemical Resistance

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.

Chemical Resistance

Water/Watery Solutions	SL-030 to SL-300
Water	1
Iron (III) chloride 10 %	1
Sodium carbonate	1
Sodium chlorate 10 %	1
Sodium chloride 10 %	1
Sodium nitrate 10 %	1
Tensides (div.)	1
Hydrogen peroxide 3 %	1
Laitance	1

Oils and Greases	
ASTM Oil No. 1	1
ASTM Oil No. 3	1
Laitance	2
Hydraulic oils	depends on consistency/additives
Motor oil	1
Formwork oil	1
High performance grease	1-2
Railroad switch lubricant	1-2

Acids and Bases	
Formic acid 5 %	3
Acetic acid 5 %	2
Phosphoric acid 5 %	1
Nitic acid 5 %	4
Hydrochloric acid 5 %	1
Sulphuric acid 5 %	1
Ammonia solution 5 %	1
Caustic potash solution 5 %	1
Caustic soda solution 5 %	1

Solvents	SL-030 to SL-300
Acetone	4
Diesel/Fuel oil	2
Carburetor fuel/Benzine	3
Glycerin	1
Glycols	1-2
Cleaning solvents/Hexane	1
Methanol	3
Aromatic hydrocarbons	4

Other Factors	
Hydrolysis *	1
Ozone	1
UV radiation and weathering	1-2
Biological resistance	1

* 28 days, 158 °F, 95 % relative humidity

Issue 04.2018 – Specifications subject to change

Sample Pads and Kits

Sample Kits

Part Number	Description	Dimensions
250-0800	SL-030-12 Sample Kit	1.97 x 1.97 in / 2.78 x 2.78 in / 3.94 x 3.94 in x 0.49 in
250-0801	SL-030-25 Sample Kit	1.97 x 1.97 in / 2.78 x 2.78 in / 3.94 x 3.94 in x 0.49 in
250-0802	SL-100-12 Sample Kit	1.97 x 1.97 in / 2.78 x 2.78 in / 3.94 x 3.94 in x 0.49 in
250-0803	SL-100-25 Sample Kit	1.97 x 1.97 in / 2.78 x 2.78 in / 3.94 x 3.94 in x 0.49 in
250-0804	SL-300-12 Sample Kit	1.97 x 1.97 in / 2.78 x 2.78 in / 3.94 x 3.94 in x 0.49 in
250-0805	SL-300-25 Sample Kit	1.97 x 1.97 in / 2.78 x 2.78 in / 3.94 x 3.94 in x 0.49 in
250-0806	SL-170-12/25 Sample Kit	8.66 in x 5.91 in x 0.49 in & 0.98 in
250-0807	SL-210-12/25 Sample Kit	8.66 in x 5.91 in x 0.49 in & 0.98 in
250-0808	SL-275-12/25 Sample Kit	8.66 in x 5.91 in x 0.49 in & 0.98 in
250-0809	SL-450-12/25 Sample Kit	8.66 in x 5.91 in x 0.49 in & 0.98 in
250-0810	SL-600-12/25 Sample Kit	8.66 in x 5.91 in x 0.49 in & 0.98 in
250-0811	SL-720-12/25 Sample Kit	8.66 in x 5.91 in x 0.49 in & 0.98 in

Additional Information
50 x 50 mm, 70.7 x 70.7 mm, 100 x 100 mm kits include 1 sample each of the MP1, MP2 and MP3.
220 mm x 150 mm x 12.5 mm & 25 mm kits include 1 sample each of the 12 and 25 MP4.

Shock Absorption Samples (Sold Separately)

Part Number	Description	Dimensions
SL-030-12-D-MP1	SL-030-12-D-MP1	1.97 in x 1.97 in
SL-030-12-D-MP2	SL-030-12-D-MP2	2.78 in x 2.78 in
SL-030-12-D-MP3	SL-030-12-D-MP3	3.94 in x 3.94 in
SL-030-12-D-MP4	SL-030-12-D-MP4	8.66 in x 5.91 in
	SL-030-12-D-MP4-V+K*	8.66 in x 5.91 in
SL-030-12-D-MP5	SL-030-12-D-MP5	59.06 in x 31.50 in
SL-030-25-D-MP1	SL-030-25-D-MP1	1.97 in x 1.97 in
SL-030-25-D-MP2	SL-030-25-D-MP2	2.78 in x 2.78 in
SL-030-25-D-MP3	SL-030-25-D-MP3	3.94 in x 3.94 in
SL-030-25-D-MP4	SL-030-25-D-MP4	8.66 in x 5.91 in
SL-030-25-D-MP5	SL-030-25-D-MP5	59.06 in x 31.50 in
SL-100-12-D-MP1	SL-100-12-D-MP1	1.97 in x 1.97 in
SL-100-12-D-MP2	SL-100-12-D-MP2	2.78 in x 2.78 in
SL-100-12-D-MP3	SL-100-12-D-MP3	3.94 in x 3.94 in
SL-100-12-D-MP4	SL-100-12-D-MP4	8.66 in x 5.91 in
	SL-100-12-D-MP4-V+K*	7.87 in x 5.91 in
SL-100-12-D-MP5	SL-100-12-D-MP5	59.06 in x 31.50 in
SL-100-25-D-MP1	SL-100-25-D-MP1	1.97 in x 1.97 in
SL-100-25-D-MP2	SL-100-25-D-MP2	2.78 in x 2.78 in
SL-100-25-D-MP3	SL-100-25-D-MP3	3.94 in x 3.94 in
SL-100-25-D-MP4	SL-100-25-D-MP4	8.66 in x 5.91 in
SL-100-25-D-MP5	SL-100-25-D-MP5	59.06 in x 31.50 in
SL-300-12-D-MP1	SL-300-12-D-MP1	1.97 in x 1.97 in
SL-300-12-D-MP2	SL-300-12-D-MP2	2.78 in x 2.78 in
SL-300-12-D-MP3	SL-300-12-D-MP3	3.94 in x 3.94 in
SL-300-12-D-MP4	SL-300-12-D-MP4	8.66 in x 5.91 in
	SL-300-12-D-MP4-V+K*	7.87 in x 5.91 in
SL-300-12-D-MP5	SL-300-12-D-MP5	59.06 in x 31.50 in
SL-300-25-D-MP1	SL-300-25-D-MP1	1.97 in x 1.97 in
SL-300-25-D-MP2	SL-300-25-D-MP2	2.78 in x 2.78 in
SL-300-25-D-MP3	SL-300-25-D-MP3	3.94 in x 3.94 in
SL-300-25-D-MP4	SL-300-25-D-MP4	8.66 in x 5.91 in
SL-300-25-D-MP5	SL-300-25-D-MP5	59.06 in x 31.50 in

* Has a layer for wear protection & adhesive on one side

Vibration Isolation Samples (Sold Separately)

Part Number	Description	Dimensions
SL-170-12-F-MP4	SL-170-12-F-MP4	8.66 in x 5.91 in
SL-170-25-F-MP4	SL-170-25-F-MP4	8.66 in x 5.91 in
SL-210-12-F-MP4	SL-210-12-F-MP4	8.66 in x 5.91 in
SL-210-25-F-MP4	SL-210-25-F-MP4	8.66 in x 5.91 in
SL-275-12-F-MP4	SL-275-12-F-MP4	8.66 in x 5.91 in
SL-275-25-F-MP4	SL-275-25-F-MP4	8.66 in x 5.91 in
SL-450-12-F-MP4	SL-450-12-F-MP4	8.66 in x 5.91 in
SL-450-25-F-MP4	SL-450-25-F-MP4	8.66 in x 5.91 in
SL-600-12-F-MP4	SL-600-12-F-MP4	8.66 in x 5.91 in
SL-600-25-F-MP4	SL-600-25-F-MP4	8.66 in x 5.91 in
SL-720-12-F-MP4	SL-720-12-F-MP4	8.66 in x 5.91 in
SL-720-25-F-MP4	SL-720-25-F-MP4	8.66 in x 5.91 in

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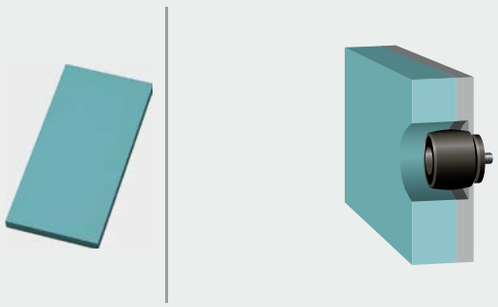
Application Examples

SL-030, TA

Damping combination SLAB and TUBUS

SLAB-TUBUS-Combination ensures fast luggage transport. Airports strive to shorten air passengers' waiting times as much as possible. This goal is met with a solution specially developed for luggage transport systems and has solved previous damping issues. Transport carriers with a weight of up to 265 lbs can now be moved at the desired conveyor belt speeds. A SLAB-combination of the material SL-030-12(25) together with two TA40-16 type TUBUS profile dampers are used here.

Fast luggage transport for airport customers

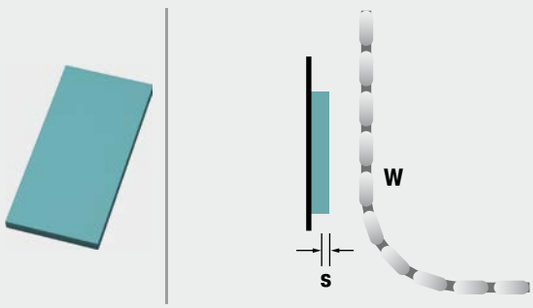


SL-030

Noise reduction

ACE-SLAB damping pads protect man and machine. At the beginning of the construction phase of a modern processing center at the end position, a 55 lb cable channel collided with force against the housing and produced a deafening noise and mechanical strain on the energy chain. A reliable solution for compliance with the operational parameters was realized with the SL-030-25 ACE-SLAB damping pads even before the milling machine was finished.

Low-noise energy chain

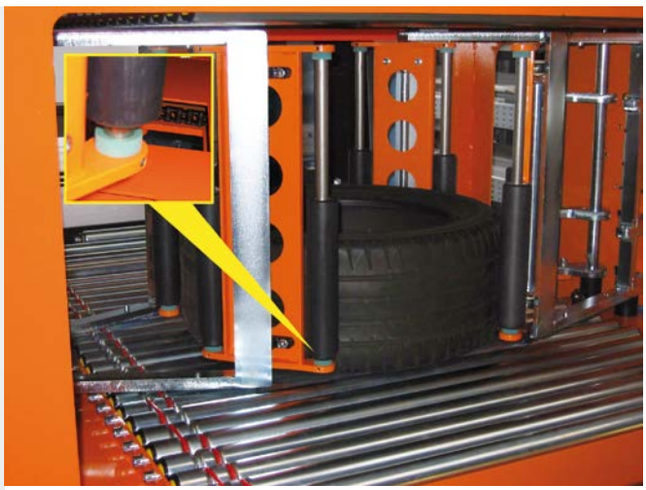


Issue 04.2018 – Specifications subject to change

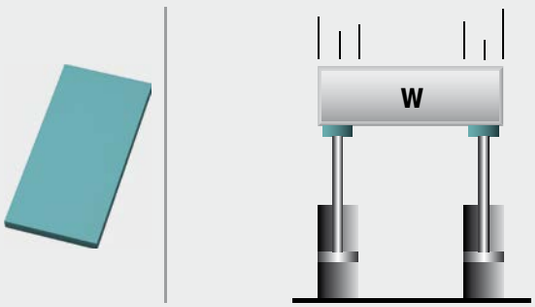
SL-030

Impact reduction in ring form

ACE-SLAB damping pads make tire transport safer. Developed for absorbing the impact of forces, the ACE-SLAB damping pads SL-030-121 applied in this tire testing system are ideal for protecting the sliding parts of the machine during quality tests. The individual customization of the ring form of the center arm and simple integration into the equipment also support the decision for applying these innovative absorber elements.



Perfectly fitted machine protection
SDS Systemtechnik GmbH, 75365 Calw, Germany



SL-030

Impact protection for large areas

ACE-SLAB damping pads offer impact protection for wooden battens. To protect wooden battens with differing weights and impact speeds of approx. 6.5 in/s, the SLAB-material SL-030-12 was screwed across the whole surface between two steel sheets in this application. This creates an even damping effect over the whole impact area, which protects the impact surfaces of the battens from an excessive impact load. The minimisation of recoil as well as reduction of noise are further positive side effects of this construction.

Impact protection for wooden battens