Sylodamp®

Utgave mai 2019

Høyabsorberende elastomer

Sylodamp® er en høyabsorberende polyuretanelastomer som er spesielt utviklet for å tåle belastninger forårsaket av støt og slag.

Sylodamp® kan brukes som en elastisk komponent i vib rasjonsisolasjonsapplikasjoner som krever høy demping av elastomeret.

Materialet fungerer veldig bra ved impulsive slag og belastninger, så vel som i sterke resonanser, som vanligvis oppstår når maskiner startes eller slås av.

Egenskapene er godt dokumentert og hvordan materislet oppfører seg er forutsigbart, noe som gir en trygghet og sikkerhet ved løsningen.

Vanlige applikasjoner er beskyttelse av maskiner, byggkonstruksjoner, teknisk utstyr eller mennesker.

Fordeler

- Utmerket som støtdemping
- Reduserer strukturlyd
- Reduserer resonanser
- Demping av komponenter eller strukturer
- Rask vibrasjonsreduksjon

Leveransprogram, standardmål

Tykkelse:	12,5 og 25 mm
Ruller:	1,5 m bredde x 5 m lange
Matter:	1,5 m bredde x 1 m lange

Sylodamp® SP 500 og Sylodamp® SP 1000 er bare tilgjengelig som matter.

CHRISTIAN BERNER
Expect more

Sylodamp® SP 10
Material data sheet

sylodamp® by getzner

Material Mixed cellular PU elastomer (Polyurethane)
Colour Lemon yellow

Standard delivery dimensions

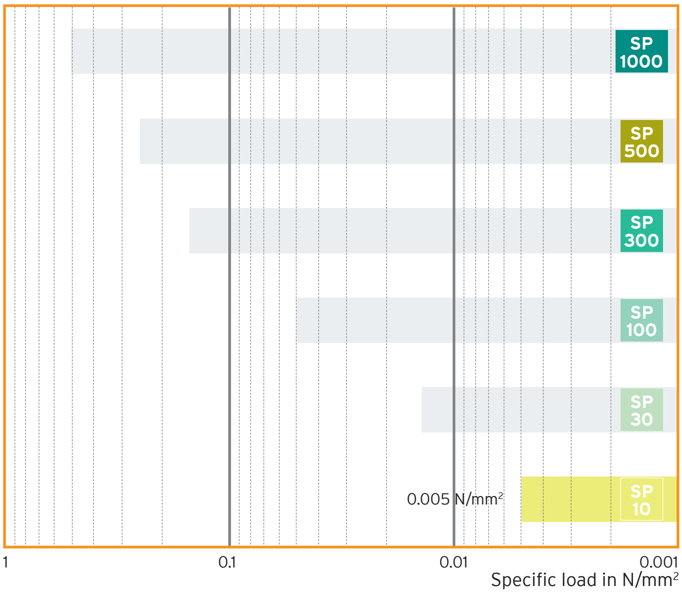
Thicknesses: 12.5 mm / 25 mm
Rolls: 1.5 m wide, 5.0 m long
Strips: up to 1.5 m wide, up to 5.0 m long

Other dimensions, punched and moulded parts available on request.

Area of application	Pressure load	Deformation
	Form factor-dependent, the specified values apply for a form factor of q = 3	
Static area of application (static loads)	up to 0.005 N/mm^2	approx. 3 %
Impact area of application (dynamic loads)		up to 60 %
Load peaks (occasional, brief loads)	up to 0.25 N/mm^2	approx. 80 %

Sylodamp® range

Static area of application



Properties		Test procedure	Comment
Mechanical loss factor	0.61	DIN 53513 [1]	Temperature-, frequency-, specific load- and amplitude-dependent
Impact resilience	13 %	EN ISO 8307 [1]	
Specific energy absorption	up to 1.8 mJ/mm^2	Getzner Werkstoffe	At a thickness of 25 mm
Compression hardness [3]	0.01 N/mm^2	EN ISO 844 [1]	At 10 % linear compression, 1st load cycle
Compression set [2]	< 5 %	EN ISO 1856	25 % deformation, 23 °C, 72 h, 30 min after removal of load
Static shear modulus [3]	0.057 N/mm^2	DIN ISO 1827 [1]	At a pretension of 0.01 N/mm^2
Dynamic shear modulus [3]	0.24 N/mm^2	DIN ISO 1827 [1]	At a pretension of 0.01 N/mm^2, 10 Hz
Min. rupture stress under tension	0.2 N/mm^2	DIN EN ISO 527-3/5/100 [1]	
Min. elongation at rupture under tension	200 %	DIN EN ISO 527-3/5/100 [1]	
Abrasion [2]	≤ 4800 mm^3	DIN ISO 4649 [1]	Load 10 N
Coefficient of friction (steel)	≥ 0.5	Getzner Werkstoffe	Dry, static friction
Coefficient of friction (concrete)	≥ 0.7	Getzner Werkstoffe	Dry, static friction
Specific volume resistivity	> 10^{12} Ω·cm	DIN IEC 60093	Dry
Thermal conductivity	0.039 W/mK	DIN EN 12667	
Temperature range [4]	-30 °C to 70 °C		Optimum damping range from 5 °C to 40 °C
Flammability	Class E	EN ISO 11925-2	Normal combustibility, EN 13501-1

[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 applicable to form factor q = 3
[4] Take account of heating caused by energy conversion

All information and data is based on our current knowledge. It can be used in calculations and for reference purposes, but is subject to typical manufacturing tolerances and does not represent warranted properties. Subject to change without notice.

Deflection curve

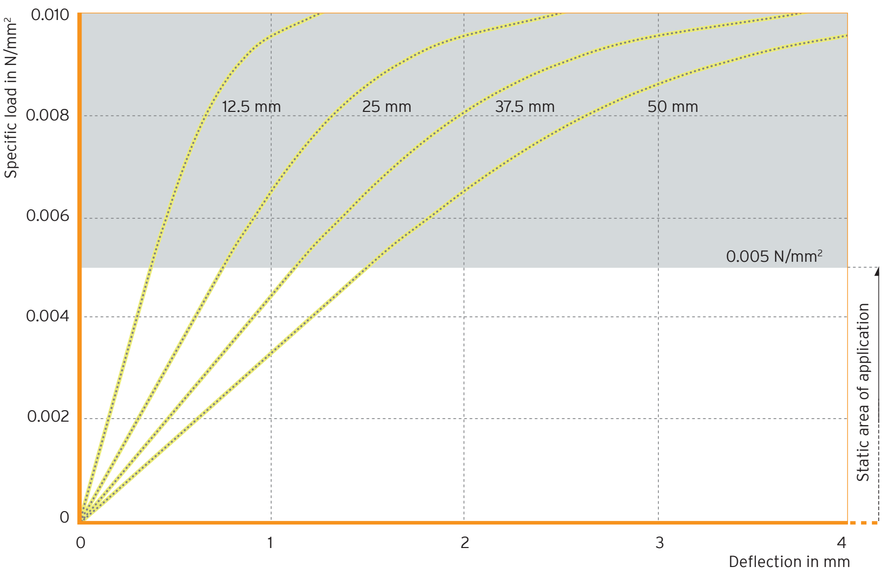


Fig. 1: Quasi-static load deflection curve for different bearing thicknesses

Quasi-static load deflection curve with a loading rate of 1% of the thickness of the unloaded sample per second.

Recording of the 1st load, with filtered starting range (in accordance with ISO 844), testing at room temperature.

Form factor q = 3

Modulus of elasticity

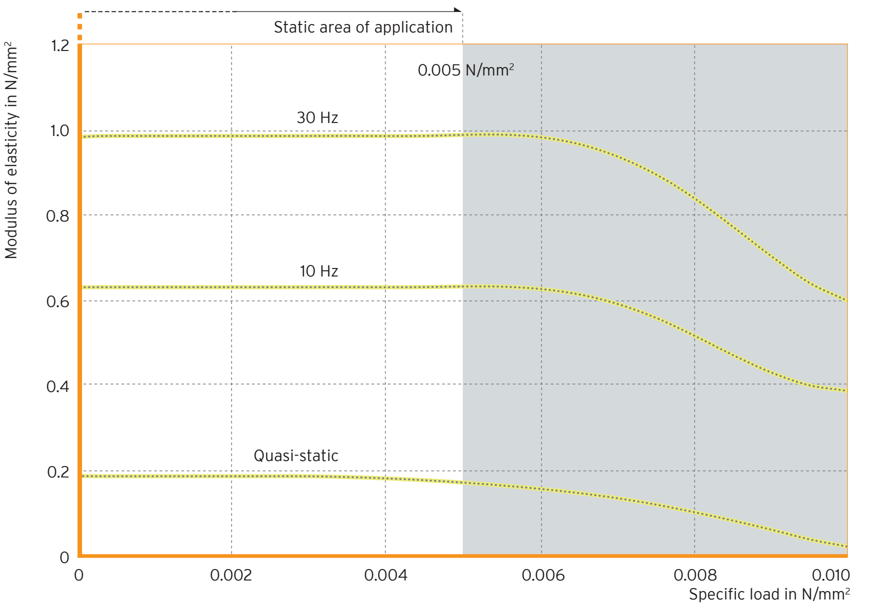


Fig. 2: Load-dependency of the static and dynamic modulus of elasticity

Quasi-static modulus of elasticity as tangential modulus from the load deflection curve. Dynamic modulus of elasticity from sinusoidal excitation at a vibration velocity 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

Form factor q = 3

Natural frequencies

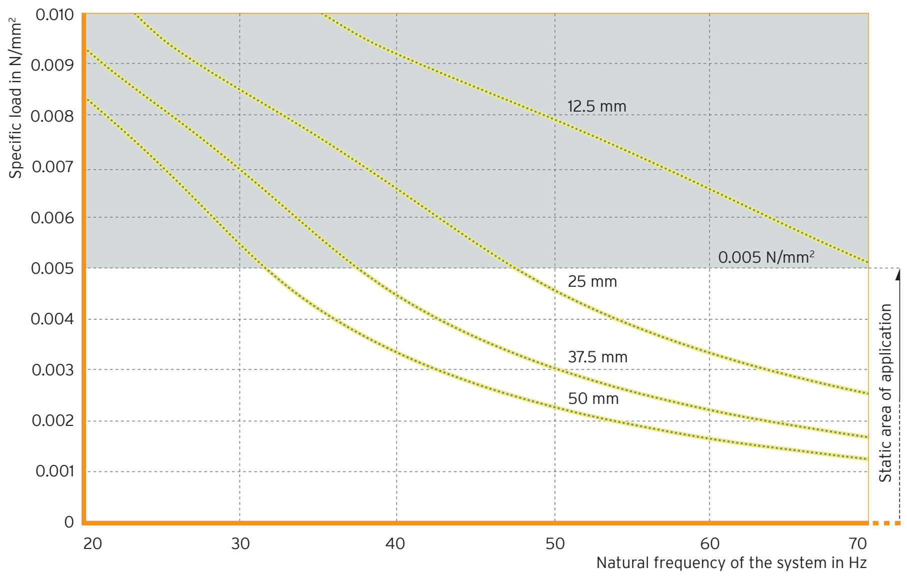


Fig. 3: Natural frequencies for different bearing thicknesses

Natural frequencies of a vibratory system with a single degree of freedom, consisting of a mass and an elastic bearing made of Sylodamp® SP 10 on a rigid surface.

Parameter: thickness of the Sylodamp® bearing

Form factor q = 3

Energy absorption

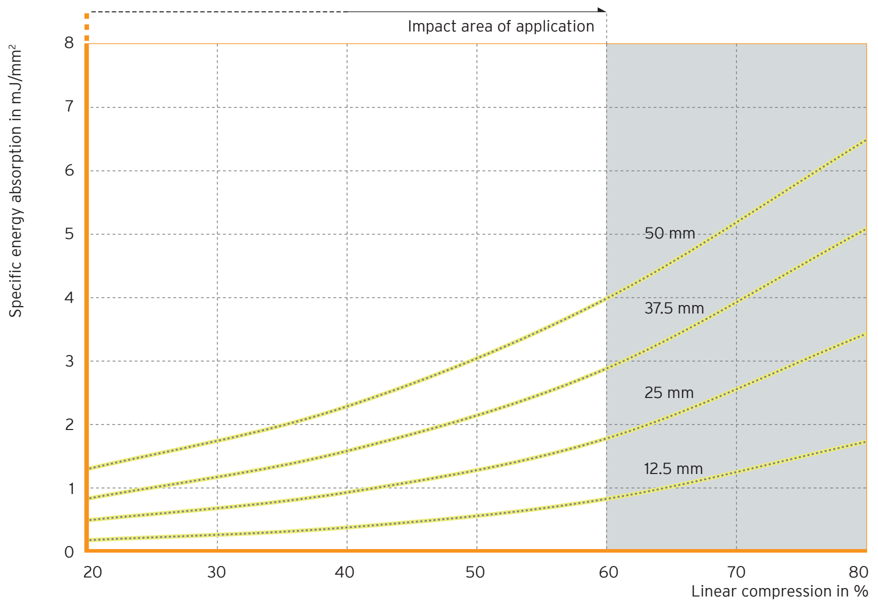


Fig. 4: Specific energy absorption for different bearing thicknesses

Specific energy absorption from an impact load at an impact speed of up to 5 m/s.

Drop impact test with a round, flat stamp, recording of the 1st load, testing at room temperature.

Parameter: thickness of the Sylodamp® bearing

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Influence of the form factor

The graphs show the material properties at different form factors.

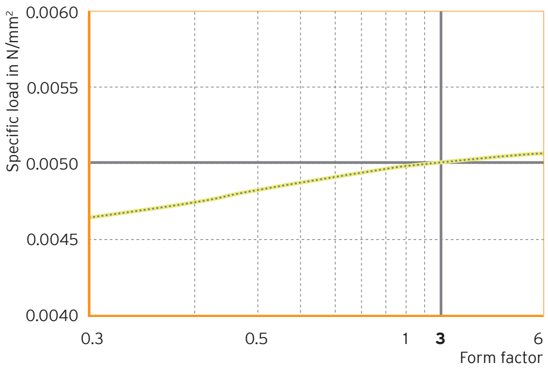


Fig. 5: Static area of application in relation to the form factor

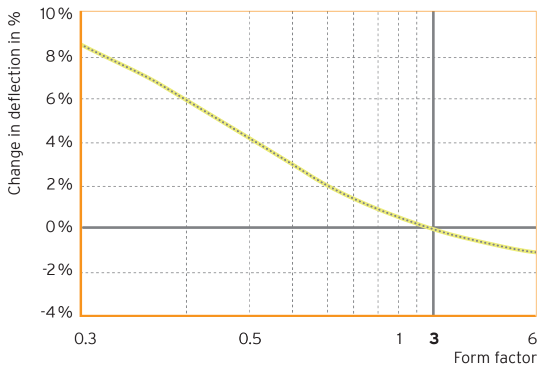


Fig. 6: Deflection[5] in relation to the form factor

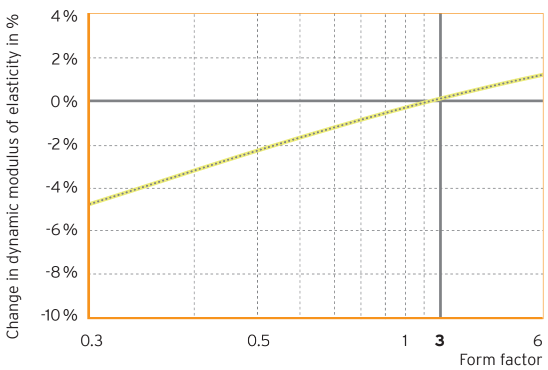


Fig. 7: Dynamic modulus of elasticity[5] at 10 Hz in relation to the form factor

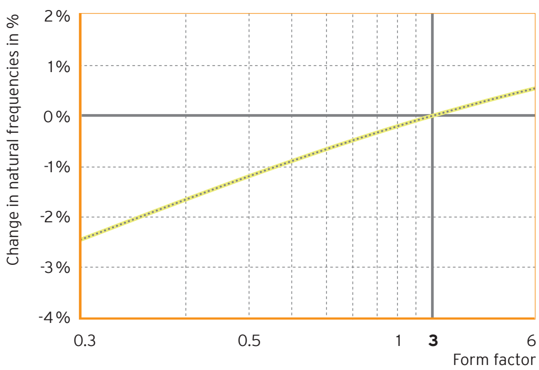


Fig. 8: Natural frequency[5] in relation to the form factor

[5] Reference values: specific load 0.005 N/mm², form 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).

Sylodamp® SP 30
Material data sheet

by getzner
sylodamp®

Material Mixed cellular PU elastomer (Polyurethane)
Colour Pastel green

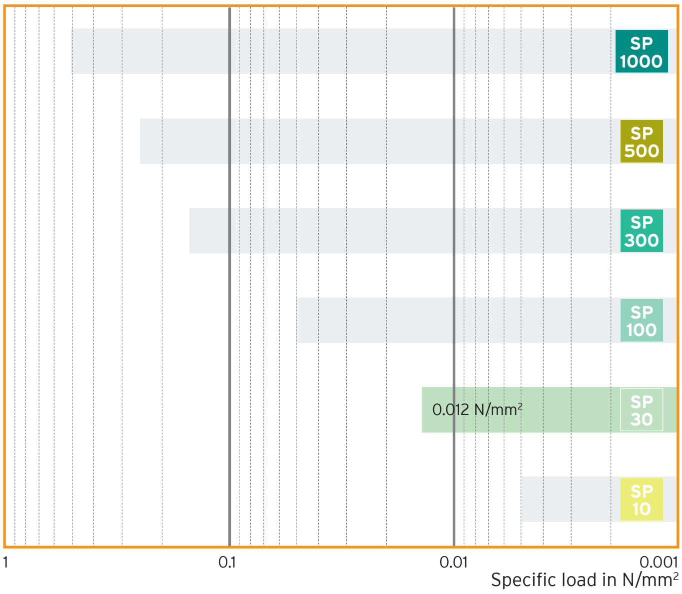
Standard delivery dimensions

Thicknesses: 12.5 mm / 25 mm
Rolls: 1.5 m wide, 5.0 m long
Strips: up to 1.5 m wide, up to 5.0 m long

Other dimensions, punched and moulded parts available on request.

Area of application	Pressure load	Deformation
	Form factor-dependent, the specified values apply for a form factor of q = 3	
Static area of application (static loads)	up to 0.012 N/mm^2	approx. 2.2 %
Impact area of application (dynamic loads)		up to 60 %
Load peaks (occasional, brief loads)	up to 0.5 N/mm^2	approx. 80 %

Sylodamp® range
Static area of application



Properties		Test procedure	Comment
Mechanical loss factor	0.48	DIN 53513[1]	Temperature-, frequency-, specific load- and amplitude-dependent
Impact resilience	15 %	EN ISO 8307[1]	
Specific energy absorption	up to 4.9 mJ/mm^2	Getzner Werkstoffe	At a thickness of 25 mm
Compression hardness[3]	0.03 N/mm^2	EN ISO 844[1]	At 10 % linear compression, 1st load cycle
Compression set[2]	< 5 %	EN ISO 1856	25 % deformation, 23 °C, 72 h, 30 min after removal of load
Static shear modulus[3]	0.13 N/mm^2	DIN ISO 1827[1]	At a pretension of 0.03 N/mm^2
Dynamic shear modulus[3]	0.53 N/mm^2	DIN ISO 1827[1]	At a pretension of 0.03 N/mm^2, 10 Hz
Min. rupture stress under tension	0.4 N/mm^2	DIN EN ISO 527-3/5/100[1]	
Min. elongation at rupture under tension	175 %	DIN EN ISO 527-3/5/100[1]	
Abrasion[2]	≤ 3100 mm^3	DIN ISO 4649[1]	Load 10 N
Coefficient of friction (steel)	≥ 0.5	Getzner Werkstoffe	Dry, static friction
Coefficient of friction (concrete)	≥ 0.7	Getzner Werkstoffe	Dry, static friction
Specific volume resistivity	> 10^{12} Ω·cm	DIN IEC 60093	Dry
Thermal conductivity	0.043 W/mK	DIN EN 12667	
Temperature range[4]	-30 °C to 70 °C		Optimum damping range from 5 °C to 40 °C
Flammability	Class E	EN ISO 11925-2	Normal combustibility, EN 13501-1

1 Measurement/evaluation in accordance with the relevant standard
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Sylodamp® SP 30

Deflection curve

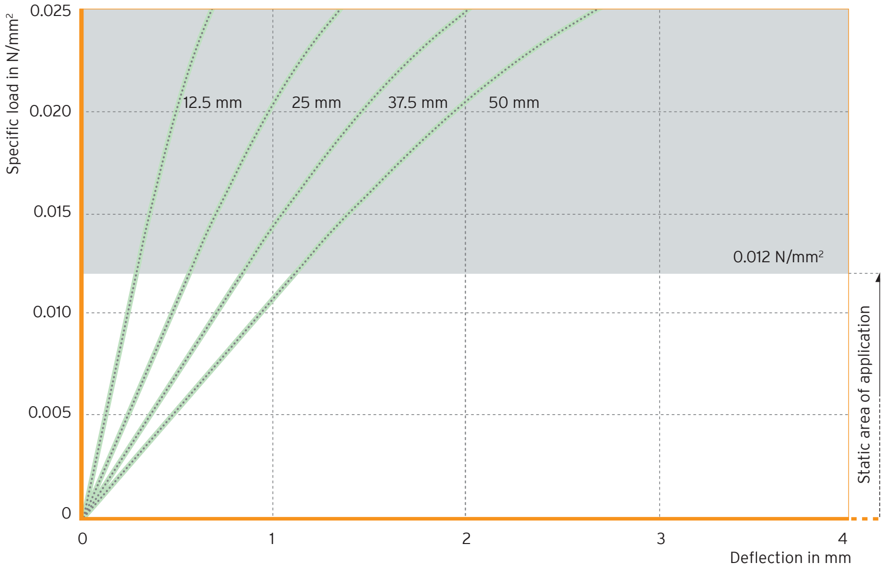


Fig. 1: Quasi-static load deflection curve for different bearing thicknesses

Quasi-static load deflection curve with a loading rate of 1 % of the thickness of the unloaded sample per second.

Recording of the 1st load, with filtered starting range (in accordance with ISO 844), testing at room temperature.

Form factor q = 3

Modulus of elasticity

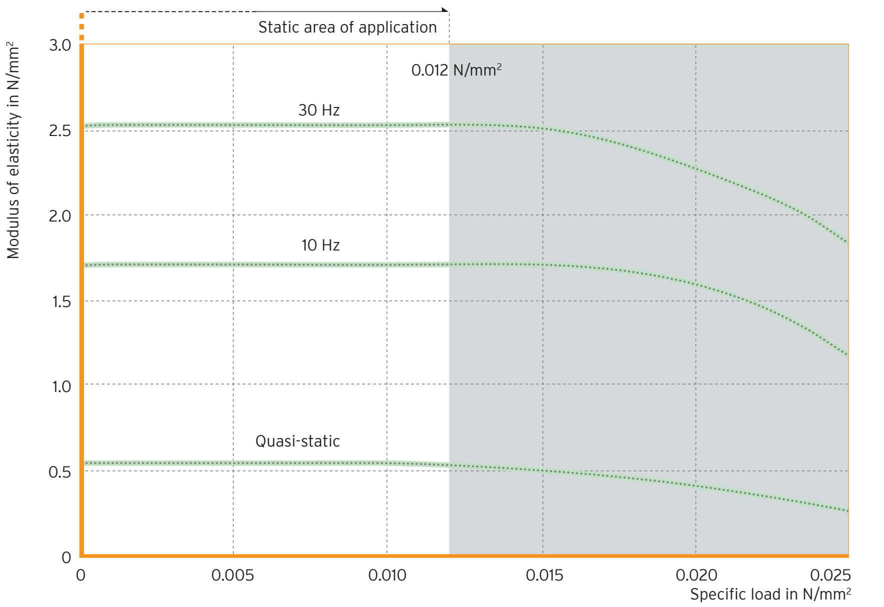


Fig. 2: Load-dependency of the static and dynamic shear modulus

Quasi-static modulus of elasticity as tangential modulus from the load deflection curve. Dynamic modulus of elasticity from sinusoidal excitation at a vibration velocity 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

Form factor q = 3

Natural frequencies

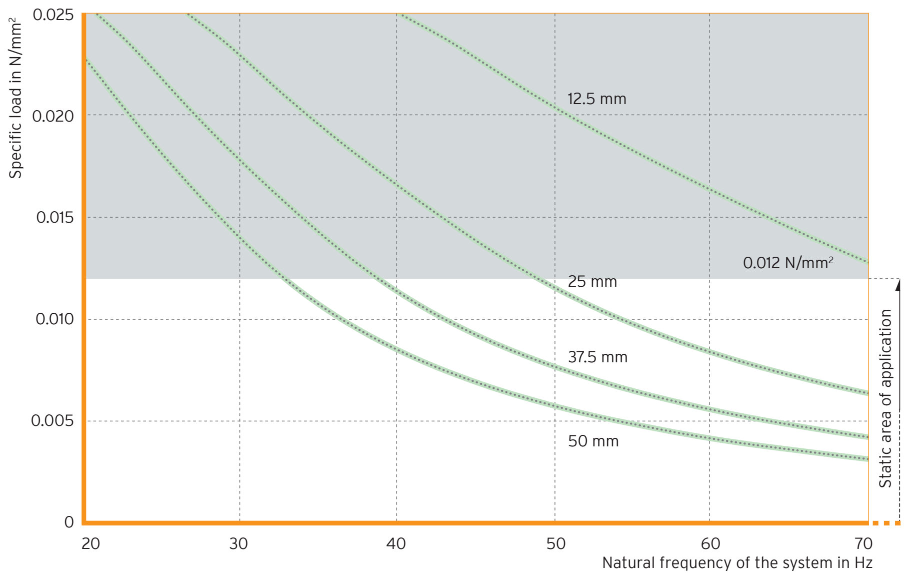


Fig. 3: Natural frequencies for different bearing thicknesses

Natural frequencies of a vibratory system with a single degree of freedom, consisting of a mass and an elastic bearing made of Sylodamp® SP 30 on a rigid surface.

Parameter: thickness of the Sylodamp® bearing

Form factor q = 3

Energy absorption

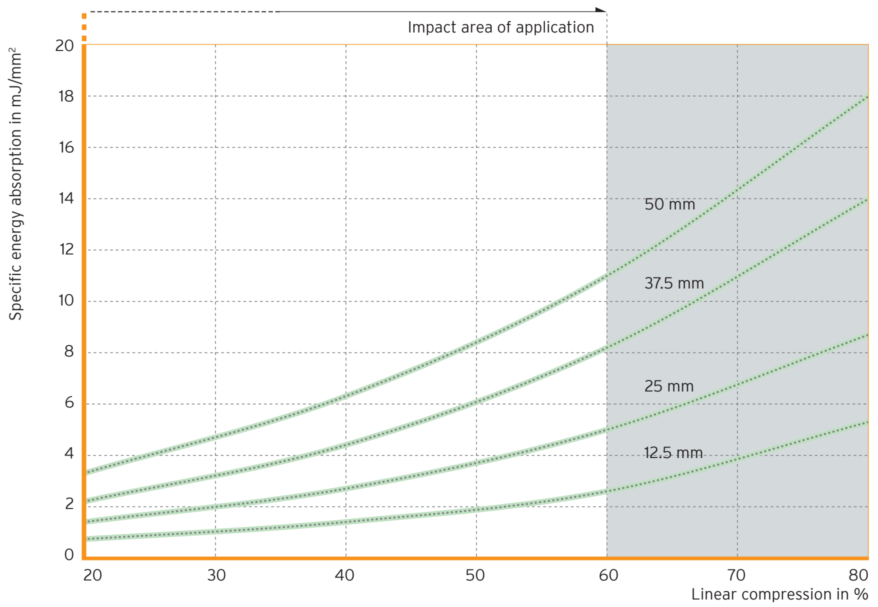


Fig. 4: Specific energy absorption for different bearing thicknesses

Specific energy absorption from an impact load at an impact speed of up to 5 m/s.

Drop impact test with a round, flat stamp, recording of the 1st load, testing at room temperature.

Parameter: thickness of the Sylodamp® bearing

Influence of the form factor

The graphs show the material properties at different form factors.

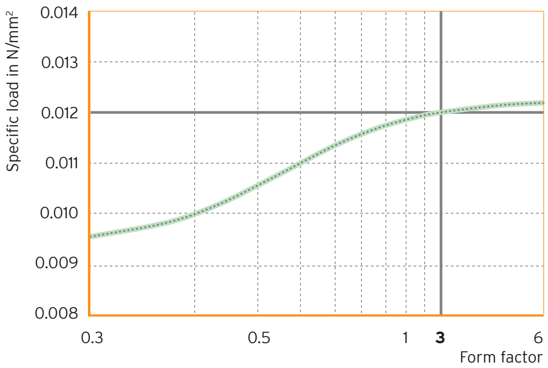


Fig. 5: Static area of application in relation to the form factor

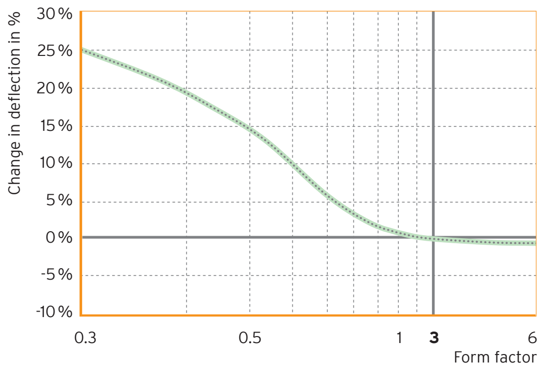


Fig. 6: Deflection[5] in relation to the form factor

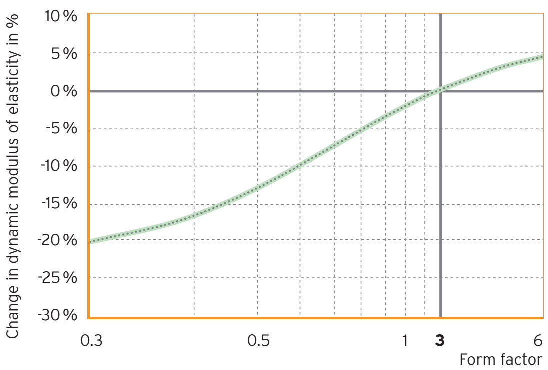


Fig. 7: Dynamic modulus of elasticity[5] at 10 Hz in relation to the form factor

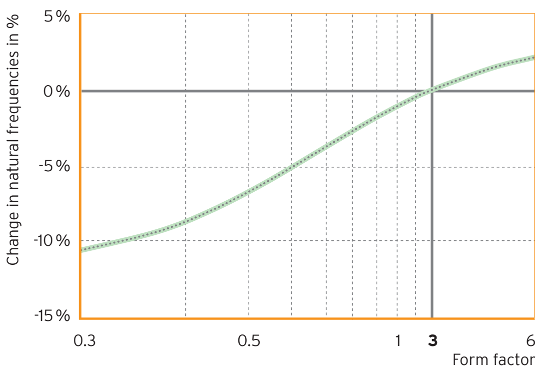


Fig. 8: Natural frequency[5] in relation to the form factor

[5] Reference values: specific load 0.012 N/mm², form 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).

Sylodamp® SP 100
Material data sheet

sylodamp® by getzner

Material Mixed cellular PU elastomer (Polyurethane)

Colour Light green

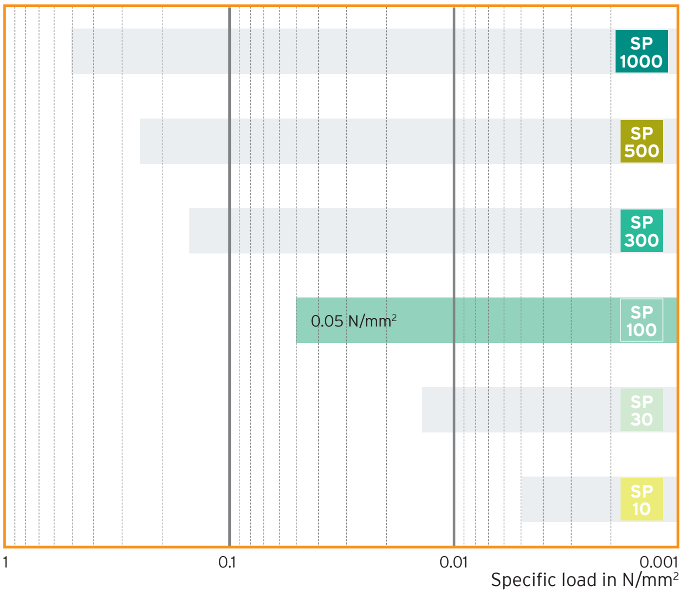
Standard delivery dimensions

Thicknesses: 12.5 mm / 25 mm
Rolls: 1.5 m wide, 5.0 m long
Strips: up to 1.5 m wide, up to 5.0 m long

Other dimensions, punched and moulded parts available on request.

Area of application	Pressure load	Deformation
	Form factor-dependent, the specified values apply for a form factor of q = 3	
Static area of application (static loads)	up to 0.05 N/mm²	approx. 4 %
Impact area of application (dynamic loads)		up to 55 %
Load peaks (occasional, brief loads)	up to 2 N/mm²	approx. 75 %

Sylodamp® range
Static area of application



Properties		Test procedure	Comment
Mechanical loss factor	0.47	DIN 53513 [1]	Temperature-, frequency-, specific load- and amplitude-dependent
Impact resilience	15 %	EN ISO 8307 [1]	
Specific energy absorption	12 mJ/mm³	Getzner Werkstoffe	At a thickness of 25 mm
Compression hardness [3]	0.1 N/mm²	EN ISO 844 [1]	At 10 % linear compression, 1st load cycle
Compression set [2]	< 5 %	EN ISO 1856	25 % deformation, 23 °C, 72 h, 30 min after removal of load
Static shear modulus [3]	0.31 N/mm²	DIN ISO 1827 [1]	At a pretension of 0.1 N/mm²
Dynamic shear modulus [3]	0.89 N/mm²	DIN ISO 1827 [1]	At a pretension of 0.1 N/mm², 10 Hz
Min. rupture stress under tension	0.6 N/mm²	DIN EN ISO 527-3/5/100 [1]	
Min. elongation at rupture under tension	150 %	DIN EN ISO 527-3/5/100 [1]	
Abrasion [2]	≤ 2000 mm³	DIN ISO 4649 [1]	Load 10 N
Coefficient of friction (steel)	≥ 0.5	Getzner Werkstoffe	Dry, static friction
Coefficient of friction (concrete)	≥ 0.7	Getzner Werkstoffe	Dry, static friction
Specific volume resistivity	> 10^{12} Ω·cm	DIN IEC 60093	Dry
Thermal conductivity	0.061 W/mK	DIN EN 12667	
Temperature range [4]	-30 °C to 70 °C		Optimum damping range from 5 °C to 40 °C
Flammability	Class E	EN ISO 11925-2	Normal combustibility, EN 13501-1

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 applicable to form factor q = 3
4 Take account of heating caused by energy conversion

All information and data is based on our current knowledge. It can be used in calculations and for reference purposes, but is subject to typical manufacturing tolerances and does not represent warranted properties. Subject to change without notice.

Deflection curve

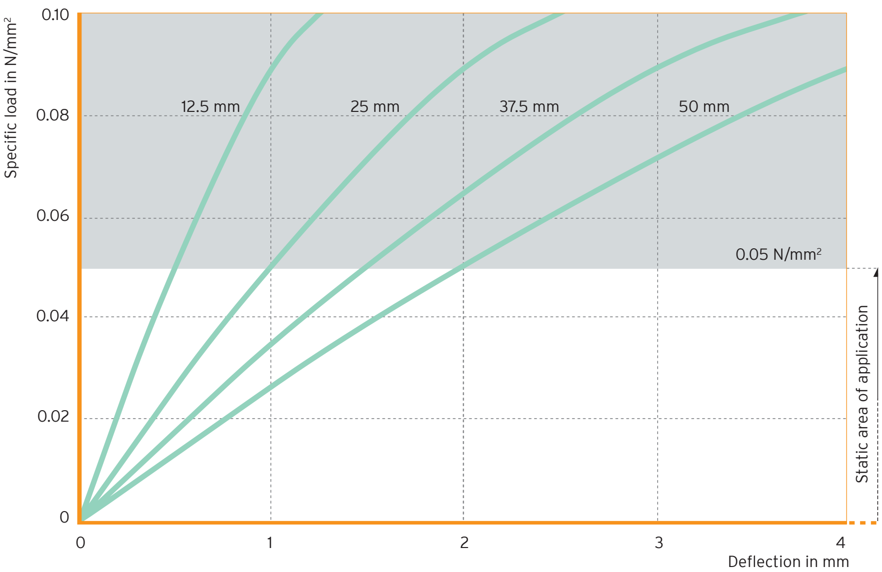


Fig. 1: Quasi-static load deflection curve for different bearing thicknesses

Quasi-static load deflection curve with a loading rate of 1 % of the thickness of the unloaded sample per second.

Recording of the 1st load, with filtered starting range in accordance with ISO 844, testing at room temperature.

Form factor q = 3

Modulus of elasticity

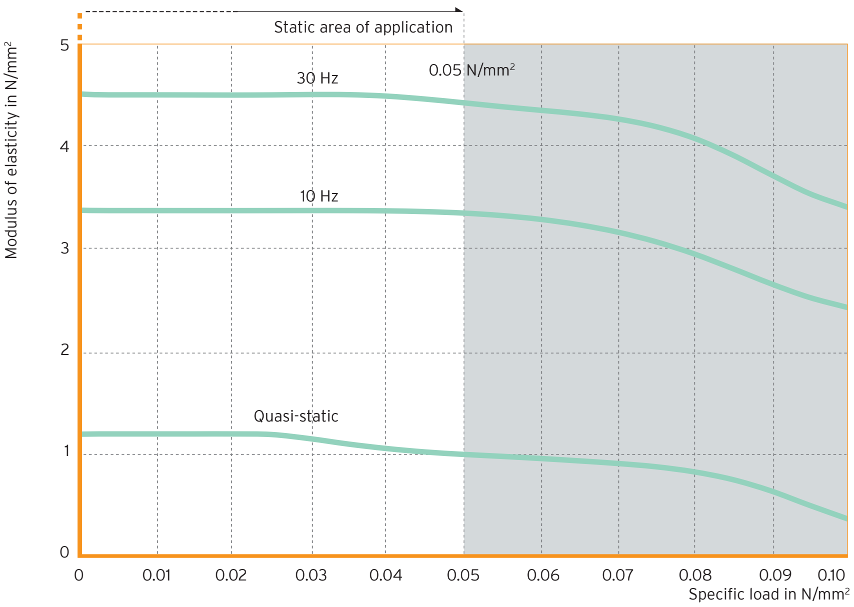


Fig. 2: Load-dependency of the static and dynamic modulus of elasticity

Quasi-static modulus of elasticity as tangential modulus from the load deflection curve. Dynamic modulus of elasticity from sinusoidal excitation at a vibration velocity 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

Form factor q = 3

Natural frequencies

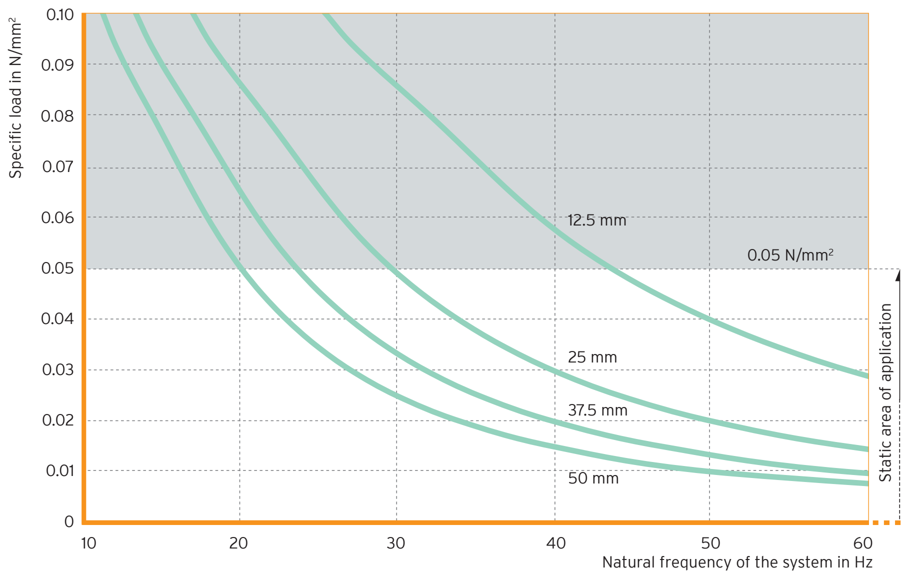


Fig. 3: Natural frequencies for different bearing thicknesses

Natural frequencies of a vibratory system with a single degree of freedom, consisting of a mass and an elastic bearing made of Sylodamp® SP 100 on a rigid surface.

Parameter: thickness of the Sylodamp® bearing

Form factor q = 3

Energy absorption

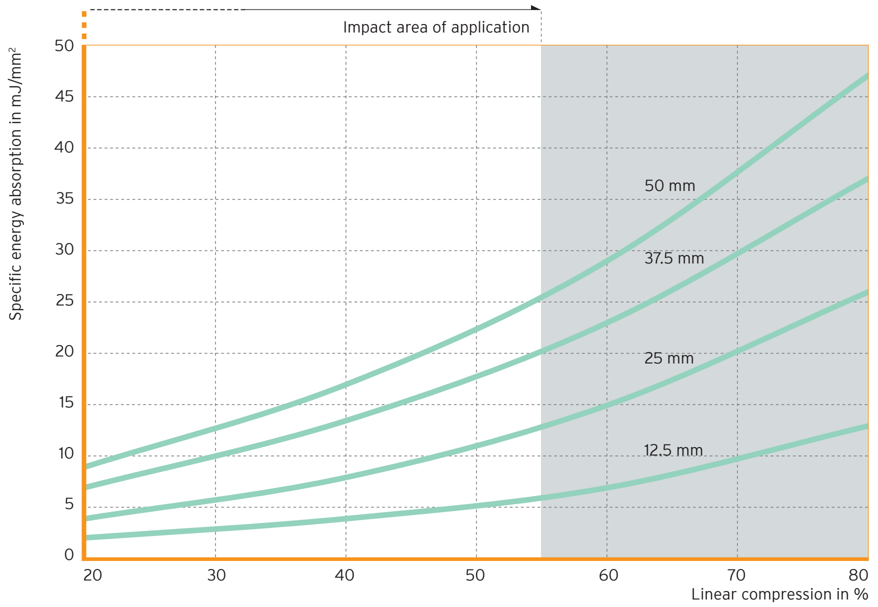


Fig. 4: Specific energy absorption for different bearing thicknesses

Specific energy absorption from an impact load at an impact speed of up to 5 m/s.

Drop impact test with a round, flat stamp, recording of the 1st load, testing at room temperature.

Parameter: thickness of the Sylodamp® bearing

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Influence of the form factor

The graphs show the material properties at different form factors.

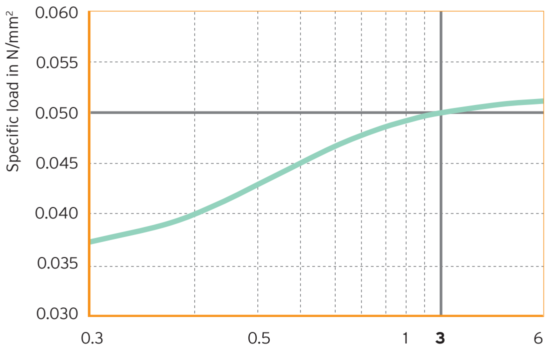


Fig. 5: Static area of application in relation to the form factor

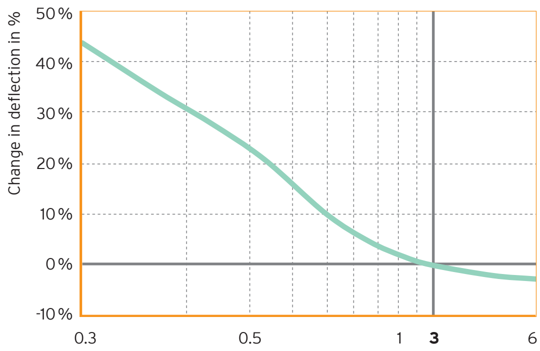


Fig. 6: Deflection[5] in relation to the form factor

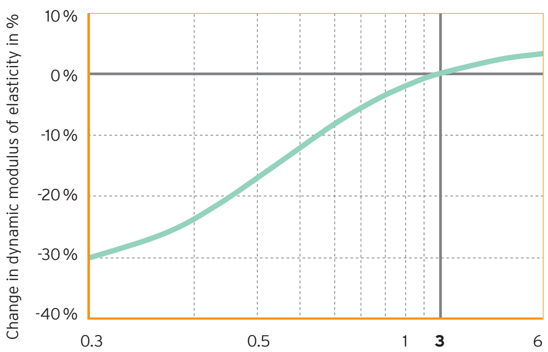


Fig. 7: Dynamic modulus of elasticity[5] at 10 Hz in relation to the form factor

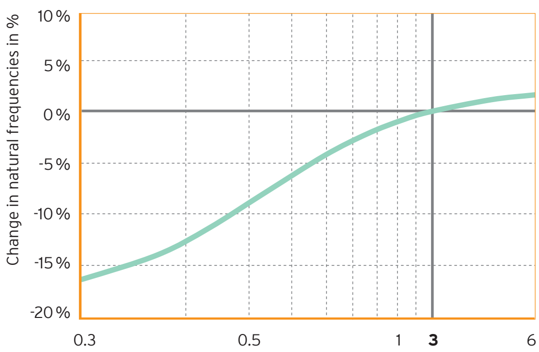


Fig. 8: Natural frequency[5] in relation to the form factor

[5] Reference values: specific load 0.05 N/mm², form 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).

Sylodamp® SP 300
Material data sheet

Material Mixed cellular PU elastomer (Polyurethane)
Colour Traffic green

Standard delivery dimensions

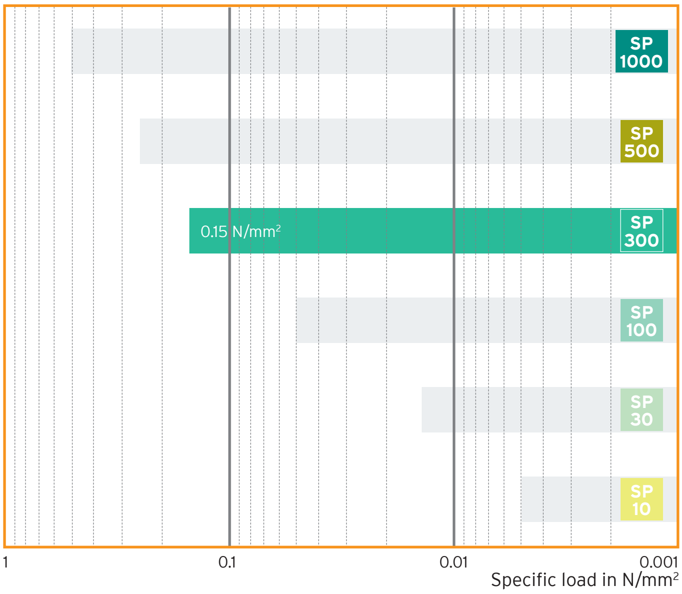
Thicknesses: 12.5 mm / 25 mm
Rolls: 1.5 m wide, 5.0 m long
Strips: up to 1.5 m wide, up to 5.0 m long

Other dimensions, punched and moulded parts available on request.

Area of application	Pressure load	Deformation
	Form factor-dependent, the specified values apply for a form factor of q = 3	
Static area of application (static loads)	up to 0.15 N/mm^2	approx. 4.2 %
Impact area of application (dynamic loads)		up to 50 %
Load peaks (occasional, brief loads)	up to 3 N/mm^2	approx. 70 %

Sylodamp® range

Static area of application



Properties		Test procedure	Comment
Mechanical loss factor	0.47	DIN 53513 [1]	Temperature-, frequency-, specific load- and amplitude-dependent
Impact resilience	14 %	EN ISO 8307 [1]	
Specific energy absorption	up to 30 mJ/mm^2	Getzner Werkstoffe	At a thickness of 25 mm
Compression hardness [3]	0.3 N/mm^2	EN ISO 844 [1]	At 10 % linear compression, 1st load cycle
Compression set [2]	< 5 %	EN ISO 1856	25 % deformation, 23 °C, 72 h, 30 min after removal of load
Static shear modulus [3]	1.1 N/mm^2	DIN ISO 1827 [1]	At a pretension of 0.3 N/mm^2
Dynamic shear modulus [3]	2.3 N/mm^2	DIN ISO 1827 [1]	At a pretension of 0.3 N/mm^2, 10 Hz
Min. rupture stress under tension	1.5 N/mm^2	DIN EN ISO 527-3/5/100 [1]	
Min. elongation at rupture under tension	125 %	DIN EN ISO 527-3/5/100 [1]	
Abrasion [2]	≤ 1700 mm^3	DIN ISO 4649 [1]	Load 10 N
Coefficient of friction (steel)	≥ 0.5	Getzner Werkstoffe	Dry, static friction
Coefficient of friction (concrete)	≥ 0.7	Getzner Werkstoffe	Dry, static friction
Specific volume resistivity	> 10^{12} Ω·cm	DIN IEC 60093	Dry
Thermal conductivity	0.082 W/mK	DIN EN 12667	
Temperature range [4]	-30 °C to 70 °C		Optimum damping range from 5 °C to 40 °C
Flammability	Class E	EN ISO 11925-2	Normal combustibility, EN 13501-1

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 applicable to form factor q = 3
4 Take account of heating caused by energy conversion

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Sylodamp® SP 300

Deflection curve

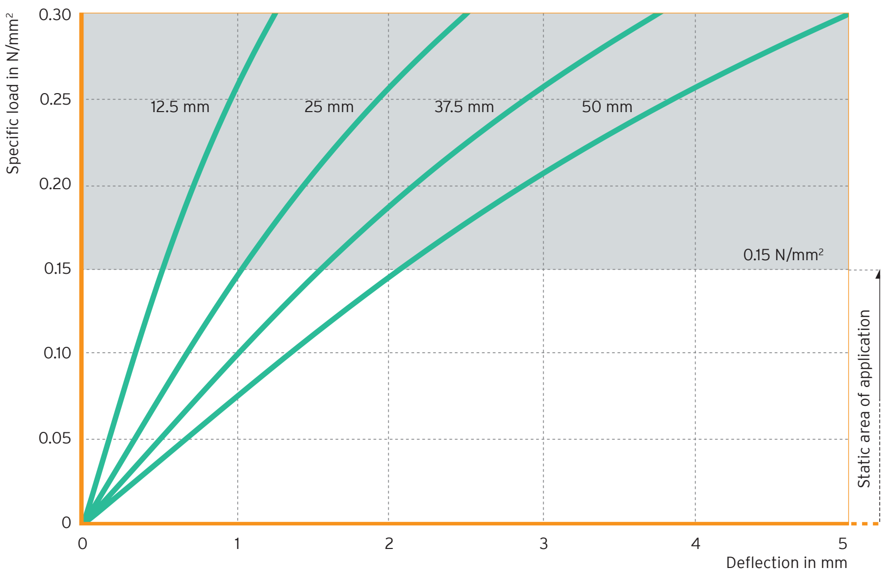

Fig. 1: Quasi-static load deflection curve for different bearing thicknesses

Quasi-static load deflection curve with a loading rate of 1% of the thickness of the unloaded sample per second.

Recording of the 1st load, with filtered starting range in accordance with ISO 844, testing at room temperature.

Form factor q = 3

Modulus of elasticity

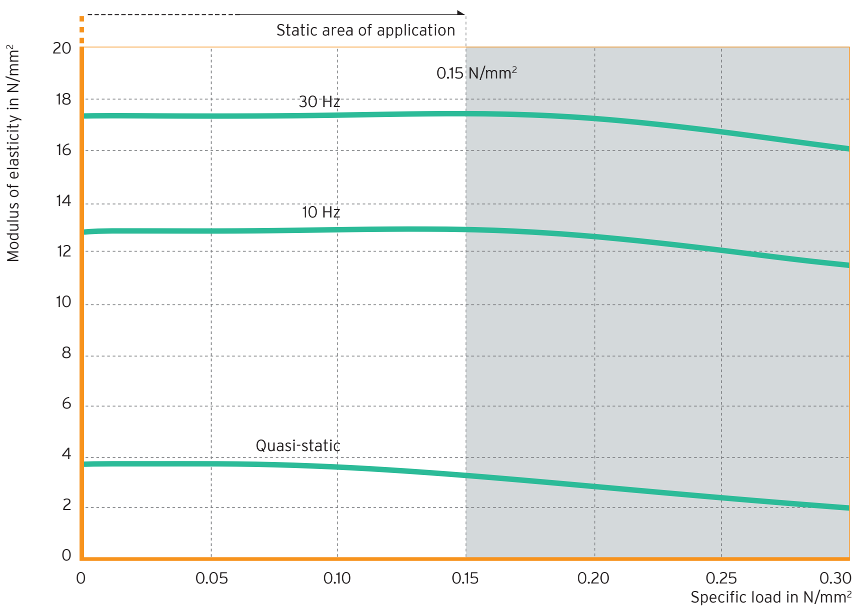

Fig. 2: Load-dependency of the static and dynamic modulus of elasticity

Quasi-static modulus of elasticity as tangential modulus from the load deflection curve. Dynamic modulus of elasticity from sinusoidal excitation at a vibration velocity 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

Form factor q = 3

Natural frequencies

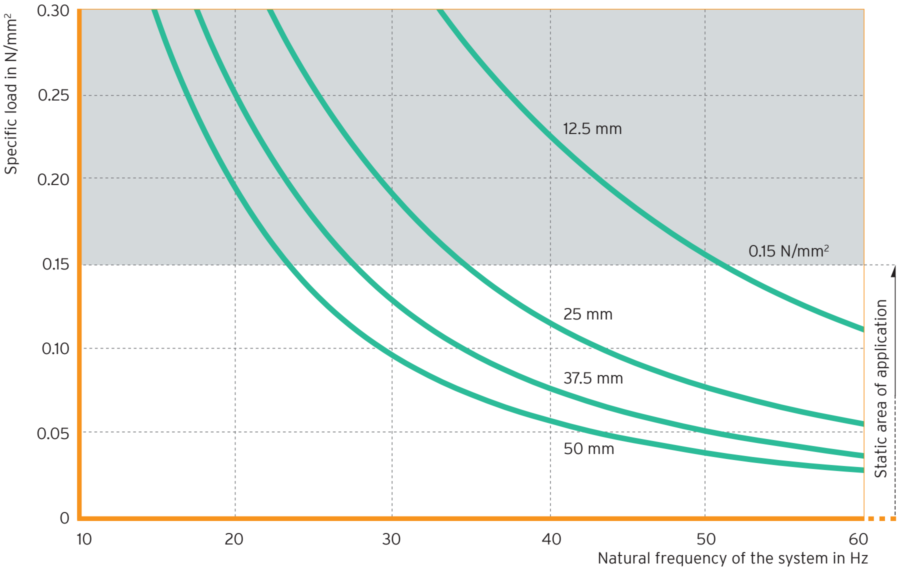

Fig. 3: Natural frequencies for different bearing thicknesses

Natural frequencies of a vibratory system with a single degree of freedom, consisting of a mass and an elastic bearing made of Sylodamp® SP 300 on a rigid surface.

Parameter: thickness of the Sylodamp® bearing

Form factor q = 3

Energy absorption

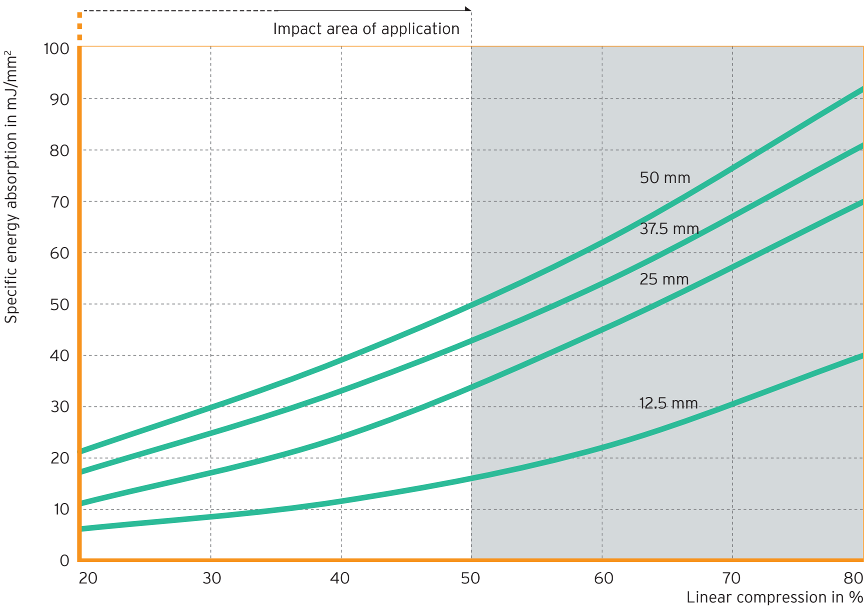

Fig. 4: Specific energy absorption for different bearing thicknesses

Specific energy absorption from an impact load at an impact speed of up to 5 m/s.

Drop impact test with a round, flat stamp, recording of the 1st load, testing at room temperature.

Parameter: thickness of the Sylodamp® bearing

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Influence of the form factor

The graphs show the material properties at different form factors.

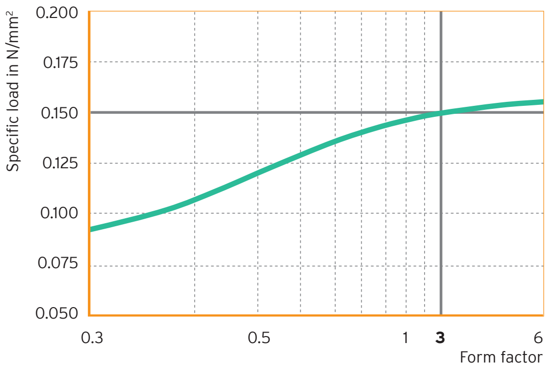


Fig. 5: Static area of application in relation to the form factor

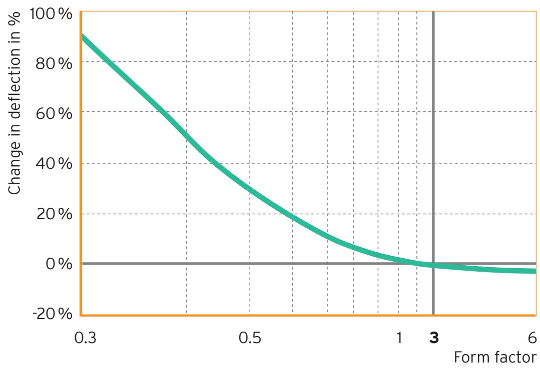


Fig. 6: Deflection[5] in relation to the form factor

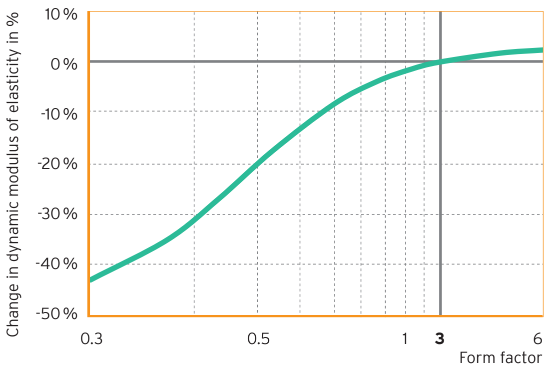


Fig. 7: Dynamic modulus of elasticity[5] at 10 Hz in relation to the form factor

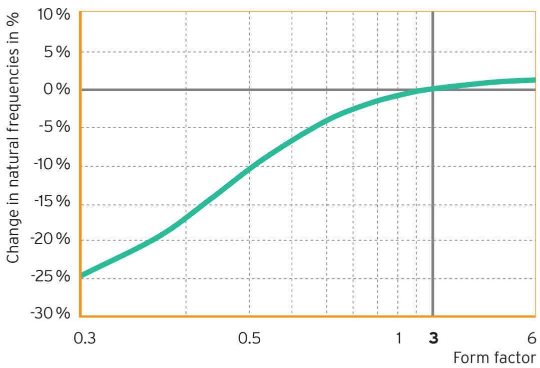


Fig. 8: Natural frequency[5] in relation to the form factor

[5] Reference values: specific load 0.15 N/mm², form 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).

Sylodamp® SP 500
Material data sheet

sylodamp® by getzner

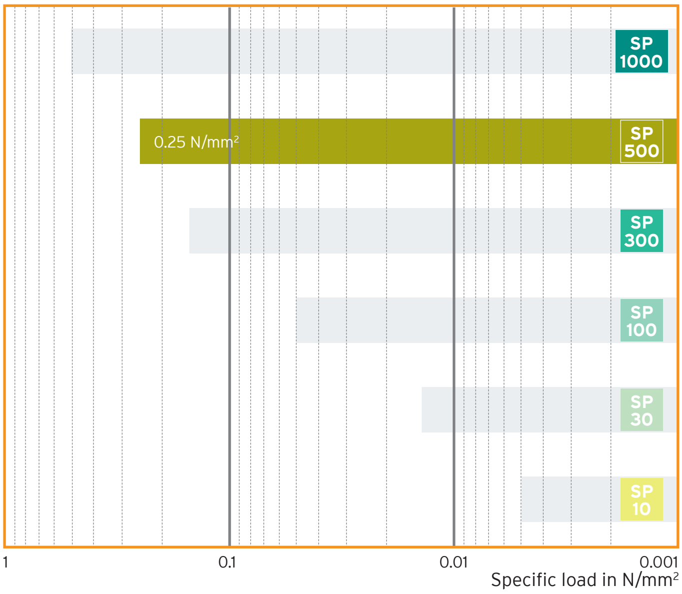
Material Mixed cellular PU elastomer (Polyurethane)
Colour Curry

Standard delivery dimensions

Thicknesses: 12.5 mm / 25 mm
Plates: 1.5 m wide, 1.0 m long

Other dimensions, punched and moulded parts available on request.

Sylodamp® range
Static area of application



Area of application	Pressure load	Deformation
	Form factor-dependent, the specified values apply for a form factor of q = 3	
Static area of application (static loads)	up to 0.25 N/mm²	approx. 4.3 %
Impact area of application (dynamic loads)		up to 45 %
Load peaks (occasional, brief loads)	up to 3.5 N/mm²	approx. 65 %

Properties		Test procedure	Comment
Mechanical loss factor	0.46	DIN 53513 [1]	Temperature-, frequency-, specific load- and amplitude-dependent
Impact resilience	16 %	EN ISO 8307 [1]	
Specific energy absorption	up to 50 mJ/mm²	Getzner Werkstoffe	At a thickness of 25 mm
Compression hardness [3]	0.5 N/mm²	EN ISO 844 [1]	At 10 % linear compression, 1st load cycle
Compression set [2]	< 5 %	EN ISO 1856	25 % deformation, 23 °C, 72 h, 30 min after removal of load
Static shear modulus [3]	1.3 N/mm²	DIN ISO 1827 [1]	At a pretension of 0.5 N/mm²
Dynamic shear modulus [3]	3.8 N/mm²	DIN ISO 1827 [1]	At a pretension of 0.5 N/mm², 10 Hz
Min. rupture stress under tension	1.8 N/mm²	DIN EN ISO 527-3/5/100 [1]	
Min. elongation at rupture under tension	125 %	DIN EN ISO 527-3/5/100 [1]	
Abrasion [2]	≤ 1600 mm³	DIN ISO 4649 [1]	Load 10 N
Coefficient of friction (steel)	≥ 0.5	Getzner Werkstoffe	Dry, static friction
Coefficient of friction (concrete)	≥ 0.7	Getzner Werkstoffe	Dry, static friction
Specific volume resistivity	> 10^{12} Ω·cm	DIN IEC 60093	Dry
Thermal conductivity	0.10 W/mK	DIN EN 12667	
Temperature range [4]	-30 °C to 70 °C		Optimum damping range from 5 °C to 40 °C
Flammability	Class E	EN ISO 11925-2	Normal combustibility, EN 13501-1

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 applicable to form factor q = 3
4 Take account of heating caused by energy conversion

All information and data is based on our current knowledge. It can be used in calculations and for reference purposes, but is subject to typical manufacturing tolerances and does not represent warranted properties. Subject to change without notice.

Sylodamp® SP 500

Deflection curve

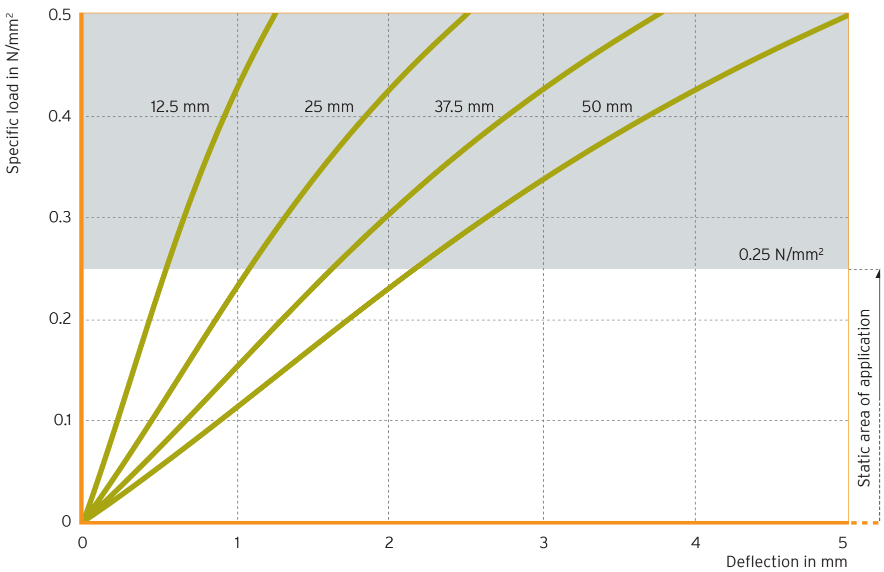


Fig. 1: Quasi-static load deflection curve for different bearing thicknesses

Quasi-static load deflection curve with a loading rate of 1% of the thickness of the unloaded sample per second.

Recording of the 1ᵗ load, with filtered starting range in accordance with ISO 844, testing at room temperature.

Form factor q = 3

Modulus of elasticity

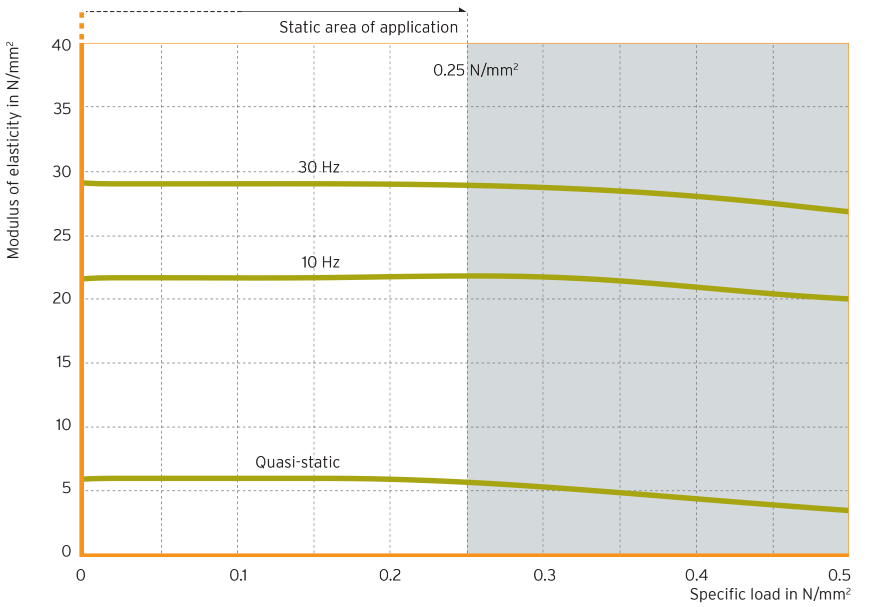


Fig. 2: Load-dependency of the static and dynamic shear modulus

Quasi-static modulus of elasticity as tangential modulus from the load deflection curve. Dynamic modulus of elasticity from sinusoidal excitation at a vibration velocity 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

Form factor q = 3

Natural frequencies

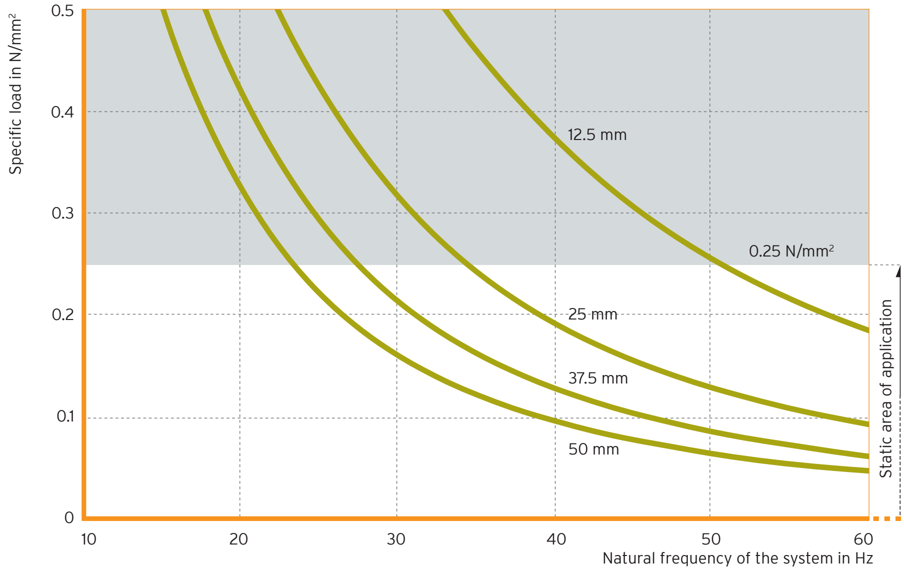


Fig. 3: Natural frequencies for different bearing thicknesses

Natural frequencies of a vibratory system with a single degree of freedom, consisting of a mass and an elastic bearing made of Sylodamp® SP 500 on a rigid surface.

Parameter: thickness of the Sylodamp® bearing

Form factor q = 3

Energy absorption

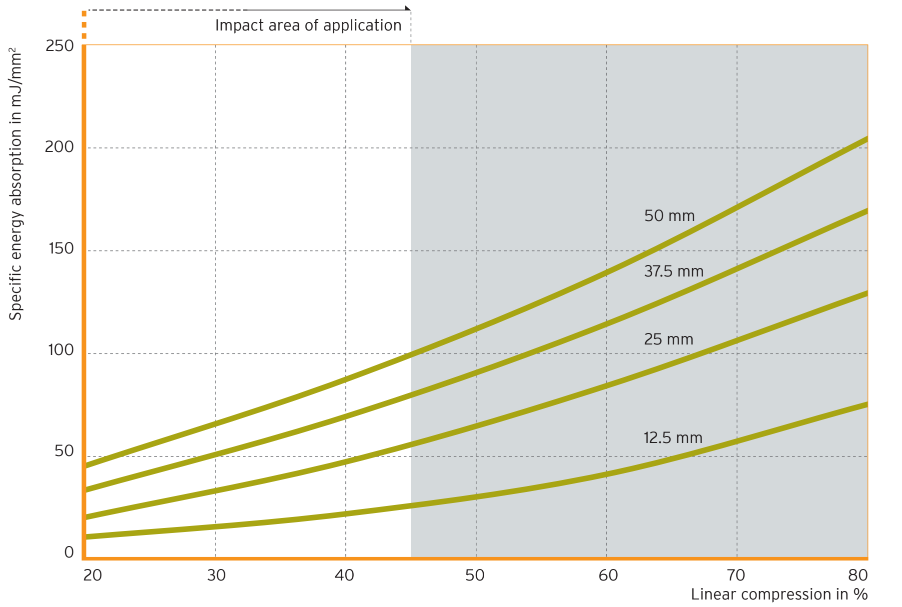


Fig. 4: Specific energy absorption for different bearing thicknesses

Specific energy absorption from an impact load at an impact speed of up to 5 m/s.

Drop impact test with a round, flat stamp, recording of the 1st load, testing at room temperature.

Parameter: thickness of the Sylodamp® bearing

Influence of the form factor

The graphs show the material properties at different form factors.

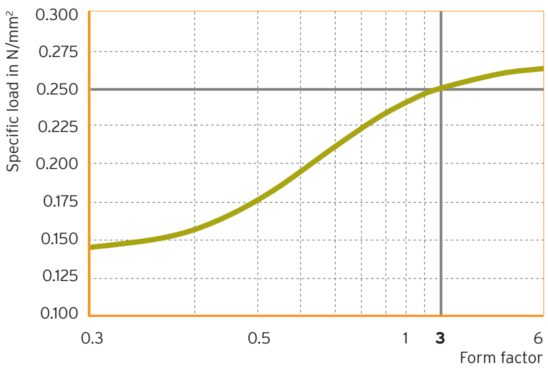


Fig. 5: Static area of application in relation to the form factor

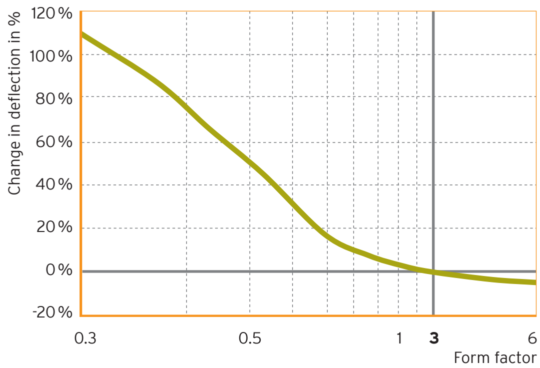


Fig. 6: Deflection[5] in relation to the form factor

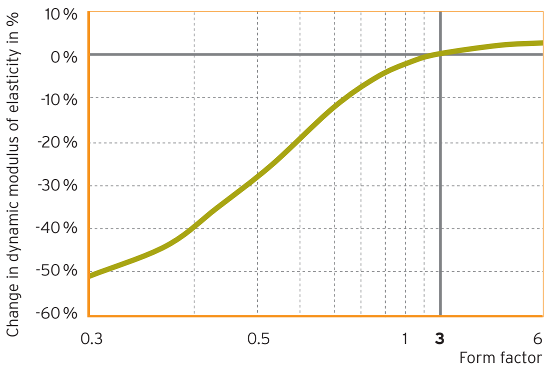


Fig. 7: Dynamic modulus of elasticity[5] at 10 Hz in relation to the form factor

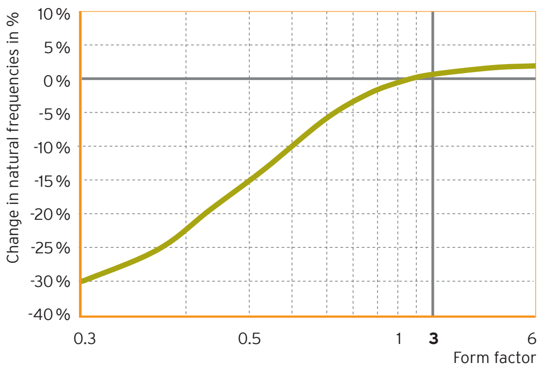


Fig. 8: Natural frequency[5] in relation to the form factor

[5] Reference values: specific load 0.25 N/mm², form 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).

Sylodamp® SP 1000
Material data sheet

sylodamp® by getzner

Material Mixed cellular PU elastomer (Polyurethane)
Colour Turquoise green

Standard delivery dimensions

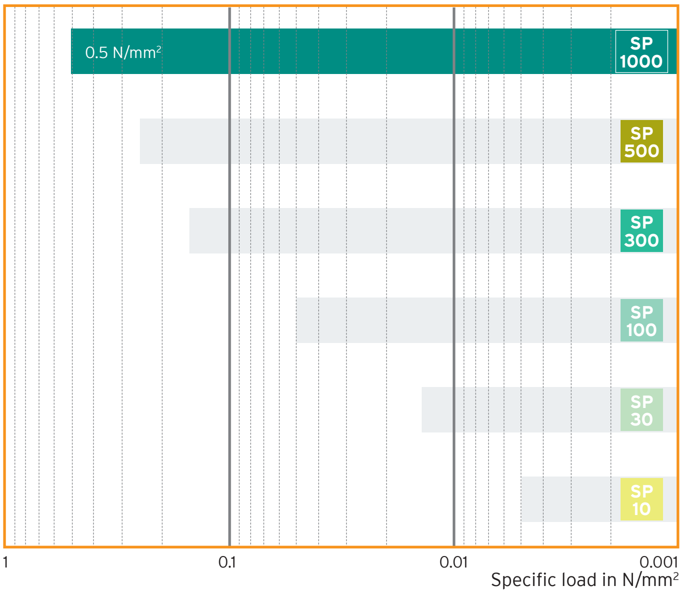
Thicknesses: 12.5 mm / 25 mm
Plates: 1.5 m wide, 1.0 m long

Other dimensions, punched and moulded parts available on request.

Area of application	Pressure load	Deformation
	Form factor-dependent, the specified values apply for a form factor of q = 3	
Static area of application (static loads)	up to 0.5 N/mm²	approx. 4.8 %
Impact area of application (dynamic loads)		up to 40 %
Load peaks (occasional, brief loads)	up to 5 N/mm²	approx. 60 %

Sylodamp® range

Static area of application



Properties		Test procedure	Comment
Mechanical loss factor	0.46	DIN 53513[1]	Temperature-, frequency-, specific load- and amplitude-dependent
Impact resilience	15 %	EN ISO 8307[1]	
Specific energy absorption	up to 84 mJ/mm²	Getzner Werkstoffe	At a thickness of 25 mm
Compression hardness[3]	1.0 N/mm²	EN ISO 844[1]	At 10 % linear compression, 1st load cycle
Compression set[2]	< 5 %	EN ISO 1856	25 % deformation, 23 °C, 72 h, 30 min after removal of load
Static shear modulus[3]	1.9 N/mm²	DIN ISO 1827[1]	At a pretension of 1.0 N/mm²
Dynamic shear modulus[3]	5 N/mm²	DIN ISO 1827[1]	At a pretension of 1.0 N/mm², 10 Hz
Min. rupture stress under tension	3 N/mm²	DIN EN ISO 527-3/5/100[1]	
Min. elongation at rupture under tension	125 %	DIN EN ISO 527-3/5/100[1]	
Abrasion[2]	≤ 1300 mm³	DIN ISO 4649[1]	Load 10 N
Coefficient of friction (steel)	≥ 0.5	Getzner Werkstoffe	Dry, static friction
Coefficient of friction (concrete)	≥ 0.7	Getzner Werkstoffe	Dry, static friction
Specific volume resistivity	> 10^{12} Ω·cm	DIN IEC 60093	Dry
Thermal conductivity	0.11 W/mK	DIN EN 12667	
Temperature range[4]	-30 °C to 70 °C		Optimum damping range from 5 °C to 40 °C
Flammability	Class E	EN ISO 11925-2	Normal combustibility, EN 13501-1

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 applicable to form factor q = 3
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Sylodamp® SP 1000

Deflection curve

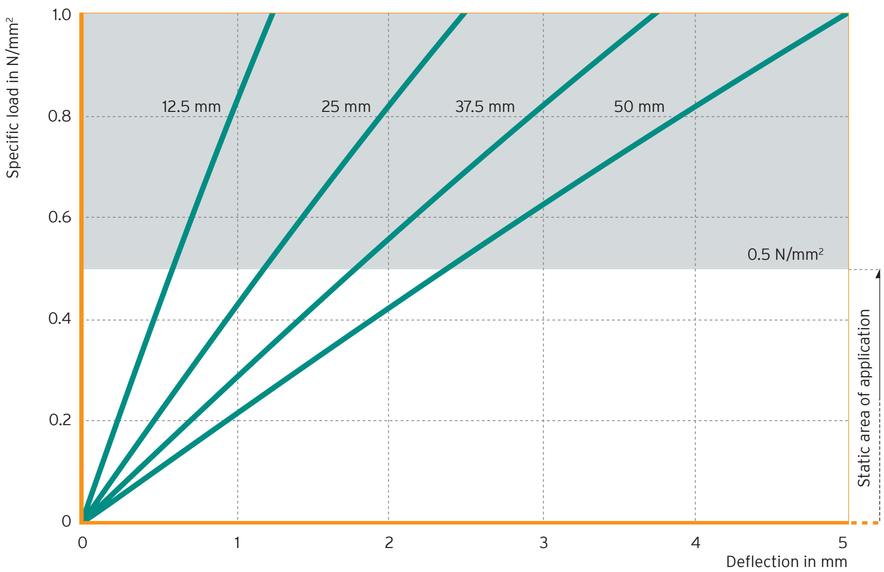

Fig. 1: Quasi-static load deflection curve for different bearing thicknesses

Quasi-static load deflection curve with a loading rate of 1% of the thickness of the unloaded sample per second.

Recording of the 1st load, with filtered starting range in accordance with ISO 844, testing at room temperature.

Form factor q = 3

Modulus of elasticity

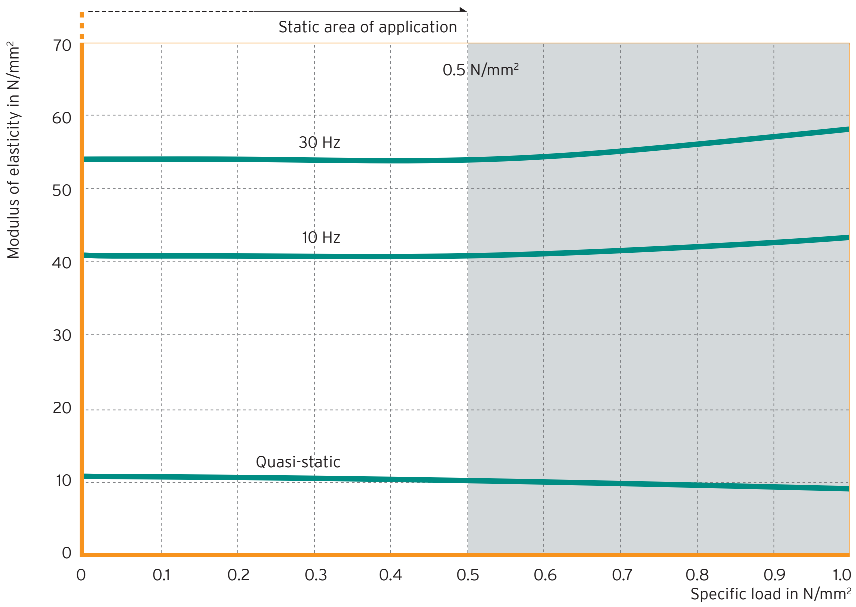

Fig. 2: Load-dependency of the static and dynamic modulus of elasticity

Quasi-static modulus of elasticity as tangential modulus from the load deflection curve. Dynamic modulus of elasticity from sinusoidal excitation at a vibration velocity 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

Form factor q = 3

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Natural frequencies

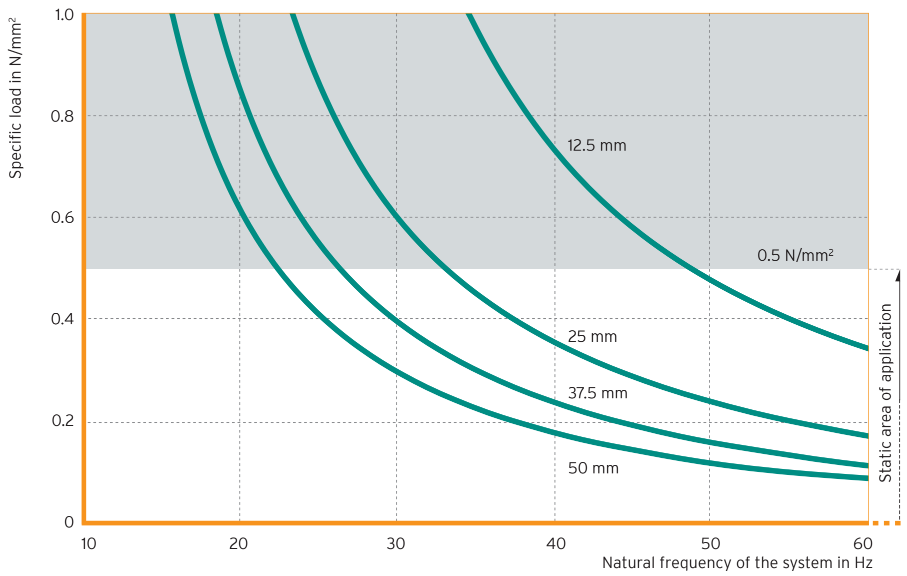

Fig. 3: Natural frequencies for different bearing thicknesses

Natural frequencies of a vibratory system with a single degree of freedom, consisting of a mass and an elastic bearing made of Sylodamp® SP 1000 on a rigid surface.

Parameter: thickness of the Sylodamp® bearing

Form factor q = 3

Energy absorption

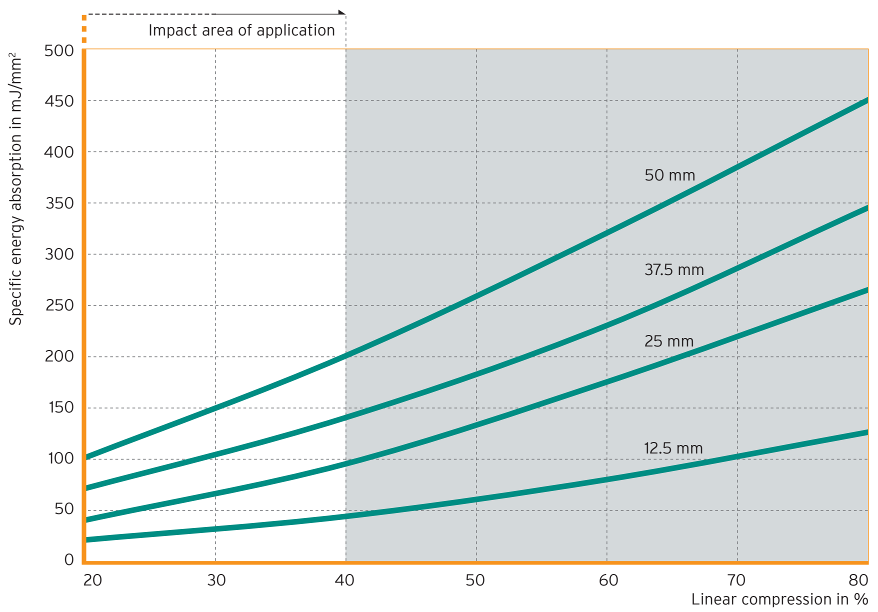

Fig. 4: Specific energy absorption for different bearing thicknesses

Specific energy absorption from an impact load at an impact speed of up to 5 m/s.

Drop impact test with a round, flat stamp, recording of the 1st load, testing at room temperature.

Parameter: thickness of the Sylodamp® bearing

Influence of the form factor

The graphs show the material properties at different form factors.

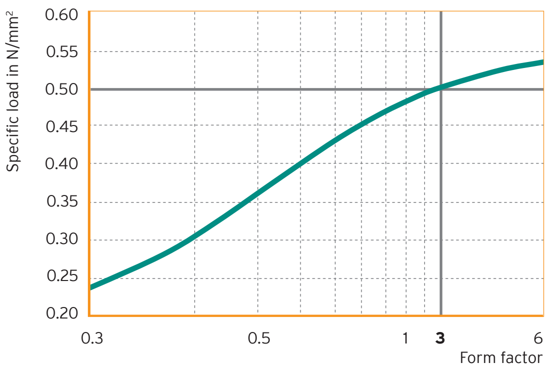

Fig. 5: Static area of application in relation to the form factor

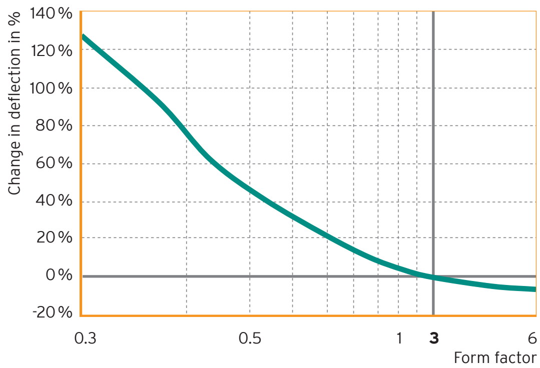

Fig. 6: Deflection[5] in relation to the form factor

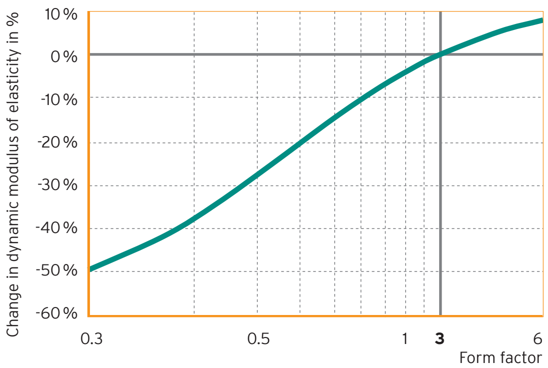

Fig. 7: Dynamic modulus of elasticity[5] at 10 Hz in relation to the form factor

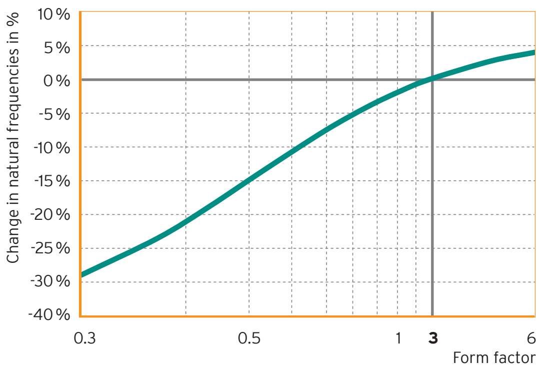

Fig. 8: Natural frequency[5] in relation to the form factor

[5] Reference values: specific load 0.5 N/mm², form 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).