TECHNICAL DETAILS

VIBRATION TECHNOLOGY

with Regupol® and Regufoam®

Regupol®

Regufoam[®]





Regupol®

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Regupol®

Sample Projects

Vibration Isolation



AGBU administration building, Jerewan, Armenia: full-surface decoupling of the building foundation with ${\rm Regupol}^{\circledast}$



Flight simulator Airbus A400M, Wunstorf, Germany: full-surface decoupling of machine foundation with ${\rm Regupol}^{\circledast}$



Southhampton Row, London, UK: full surface decoupling of the building foundation with ${\rm Regu foam}^{\circledast}$



Kurfürstenplatz, Munich, Germany: vertical decoupling of the building foundation with ${\bf Regupol}^{\circledast}$



Nextower, Palaisquartier, Frankfurt, Germany: vibration isolation of heating, ventilating, and air conditioning with ${\rm Regupol}^{\circledast}$



Commuter train station, Helsinki, Finland: Regupol® ballast mats

Regupol®

Sample Projects

1.3 More information at www.bswvibration-technology. com

Impact Sound Insulation Under Screed



RTL-Studios, Cologne, Germany: room-in-room construction with Regupol® impact sound insulation under screed



Wisselord-Studios, Hilversum, Netherlands: room-in-room construction with $\textbf{Regufoam}^{\circledast}$



Audi plant, Györ, Hungary: impact sound insulation under screed $\textbf{Regupol}^{\$}$ with in heavy-load high-bay racking



ADAC Building, Munich, Germany: $\textbf{Regupol}^{\circledast}$ impact sound insulation under screed in in-house printing plant



Cinemagnum Cinema, Nuremberg, Germany: $\textbf{Regupol}^{*}$ impact sound insulation under screed in subterranean garage



Elbphilharmonie, Hamburg, Germany: Regupol® impact sound insulation under screed in concert halls and studios

vibration

Technical Details Overview

Regufoam® vibration is a mixed cell polyurethane foam for vibration isolation. It is available in 12 different qualities.

Standard forms of delivery, ex warehouse

Rolls for types 150, 190, 220, 270, 300

Thickness:12,5 and 25 mm, special thicknesses on requestLength:5,000 mm, special lengths availableWidth:1,500 mm

Plates for types 400, 510, 570, 680, 740, 810, 990

Thickness: 12,5 and 25 mm, special thicknesses on requestLength:1,500 mmWidth:1,000 mm

Stripping/Plates

On request

Die-cutting, water-jet cutting, self-adhesive versions possible



Regufoam [®] vibration Colour	150 ^{plus} Green	190 ^{plus} Yellow	220 ^{plus} Purple	270 ^{plus} Blue	300 ^{plus} Black	400 ^{plus} Grey	510 ^{plus} Beige	570 ^{plus} Rose	680 ^{plus} Turquoise	740 ^{plus} Red	810 ^{plus} Brown	990 ^{plus} Orange
Permanent static load N/mm ²	0.011	0.018	0.028	0.042	0.055	0.11	0.22	0.30	0.45	0.60	0.85	2.50
Optimum load range N/mm ²	0.004 to 0.011	0.011 to 0.018	0.018 to 0.028	0.028 to 0.042	0.042 to 0.055	0.055 to 0.11	0.11 to 0.22	0.22 to 0.30	0.30 to 0.45	0.45 to 0.60	0.60 to 0.85	0.85 to 2.50
Tensile strength ¹ N/mm ²	0.31	0.4	0.5	0.9	1.2	1.5	2.4	2.9	3.6	4.0	4.6	6.9
Mechanical loss factor ²	0.28	0.25	0.22	0.20	0.18	0.17	0.15	0.14	0.12	0.11	0.10	0.09
Static modulus of elasticity ³ N/mm ²	0.06 to 0.16	0.1 to 0.25	0.15 to 0.35	0.25 to 0.45	0.35 to 0.58	0.6 to 1.0	1.1 to 1.7	2.6 to 2.9	3.8 to 4.1	4.3 to 5.9	5.4 to 8.0	20.0 to 78.0
Dynamic modulus of elasticity ⁴ N/mm ²	0.15 to 0.38	0.25 to 0.55	0.35 to 0.72	0.60 to 1.05	0.68 to 1.25	1.2 to 2.0	2.2 to 3.7	5.3 to 6.5	7.0 to 10.0	8.9 to 13.0	11.0 to 16.5	41.0 to 160.0
Compression hardness ⁵ kPa	14	22	22	63	82	170	330	620	840	1050	1241	3640
Fire behaviour						 B2						

1 Measurement based on DIN EN ISO 1798

- 2 Measurement based on DIN 53513; load-, amplitude- and frequencydependent.
- 3 Measurement based on an EN 826.
- 4 Measurement based on DIN 53513; depending on frequency, load and thickness.
- Measurement based on DIN EN ISO 3386-2; compressive stress at 25 % deformation, depending on thickness.

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vibration

Regufoam[®] – Mixed-Cell Polyurethane Elastomers

Material Composition

Regufoam[®] elastomers consist of a mixed-cell polyurethane foam. Similar to the various **Regupol**[®] types, **Regufoam**[®] isolation materials have been precisely designed for different load ranges. Various standard thicknesses of 12.5 mm, 25 mm, 37 mm and 50 mm cover a wide spectrum of support frequencies up to 8 Hz.

The successful use of polyurethanes in vibration isolation over the course of many years offers expert consultants a conventional solution and a valuable alternative to **Regupol**[®] elastomers.

Moreover, the BSW test lab offers the option of developing project- and application-specific elastomers with special properties.

Regufoam[®] elastomers and their specific load ranges can be distinguished from one another using colour codes (green, yellow, purple, blue, black, grey, beige, rose, turquoise, red, brown, orange).

Possible Uses

Due to their different dynamic rigidities and admissible load ranges, building and machine foundations can be placed elastically on strips or delicate point supports. Due to the low support frequencies, this type of support is technically efficient, but more difficult to plan and execute.

The majority of isolation jobs are performed on full-surface **Regufoam**[®] elastomers with lower rigidity, because this is more feasible and less error-prone.

The technical details, clearly arranged and determined as well as tested, provide a full overview of the load range of the **Regufoam**[®] elastomers and their non-linear material properties. They allow expert consultants to select and properly size the elastomer type that suits the situation at hand and meets its respective requirements.

Regufoam[®] elastomers are moisture- and rot-resistant. They are also ozone-resistant, but the colours may fade over time due to UV radiation. Because of their mixed-cell structure, especially types with lower dynamic rigidity can absorb water. These must be protected against water uptake.



Effectiveness of the Regufoam® Elastomers

Regufoam[®] elastomers can be specifically set for support frequencies between 20 Hz and 8 Hz in a broad load range from 0.011 N/mm² to 2.50 N/mm². Expert consultants in particular benefit from this large degree of flexibility.

The use of polyurethanes in vibration isolation over the course of many years offers expert consultants a conventional solu-tion and valuable alternative. The admissible continuous load limits must be kept, as overload on the elastomers may lead to creep as well as rigidification of the material.

Regufoam[®] elastomers are produced and shipped in rolls. They can be cut to size with a standard utility knife right at the construction site. The professional company at the con-struction site is thus ensured that the installation is going to be simple, quick and, above all, cost-efficient.

Regupol®

vibration

Technical Details Overview

Regupol® vibration is a rubber-polyurethane-composite for vibration isolation. It is available in 8 different qualities.

Standard forms of delivery, ex warehouse

Depending on material. Exact dimensions are mentioned in the technical data sheets of each material type.

Stripping/Plates

On request

Die-cutting, water-jet cutting, self-adhesive versions possible



Regupol [®] vibration	200	300	400	450	480	550	800	1000
Permanent static load N/mm²	0,02	0,05	0,10	0,12	0,15	0,30	0,80	1,50
Optimum load range N/mm ²	0,004 to 0,014	0,010 to 0,050	0,050 to 0,10	6	0,05 to 0,15	0,15 to 0,30	0,20 to 0,80	0,80 to 1,50
Tensile strength ¹ N/mm ²	0,12	0,30	0,34	0,15	0,36	0,60	0,90	2,30
Mechanical loss factor ²	0,22	0,18	0,17	0,17	0,17	0,16	0,18	0,16
Static modulus of elasticity ³ N/mm ²	0,02 to 0,08	0,1 to 0,2	0,3 to 0,55	0,2 to 0,4	0,25 to 0,8	0,5 to 1,7	1,2 to 2,9	4,0 to 11,0
Dynamic modulus of elasticity ⁴ N/mm ²	0,05 to 0,38	0,2 to 1,4	0,9 to 2,4	0,45 to 2,7	1,2 to 3,3	2,5 to 7,0	3,6 to 18,2	15,0 to 45,0
Compression hardness⁵ kPa	14	50	180	83	220	415	545	1650
Fire behaviour				B2, E				

1 Measurement based on DIN EN ISO 1798

- 2 Measurement based on DIN 53513; load-, amplitude- and frequencydependent.
- 3 Measurement based on an EN 826.
- 4 Measurement based on DIN 53513; depending on frequency, load and thickness.
- 5 Measurement based on DIN EN ISO 3386-2; compressive stress at 25 % deformation, depending on thickness.
- 6 Regupol[®] vibration 450 is used for vertical isolation.

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Regupol®

vibration

Regupol® Elastomer Mats

Material Composition

Regupol[®] elastomers are composed of SBR and NBR rubber elements. For their production, rubber granulates, rubber fibres and rubber crumbs are combined with one another, processed and elasticised with various polyurethanes using a special manufacturing method.

Eight different **Regupol**[®] elastomers are available for the daily requirements. They can be used in a very wide load range if required.

The **Regupol**[®] elastomers offer a solution that is technically sufficient as well as the most economical one available for most vibration-technology-related jobs.

Moreover, the BSW test lab offers the option of developing special, project- and application-specific types which can be given desired elastomer properties.

Regupol[®] elastomers can be distinguished from one another based on their individual load ranges and, accordingly, their dynamic rigidities.

Possible Uses

 $\ensuremath{\textit{Regupol}}\xspace^{\ensuremath{\circledast}}$ elastomers are suitable for all different kinds of vibration isolation.

Due to higher dynamic rigidities and the admissible load ranges of some elastomer types, buildings and machine foundations can either be bedded elastically on strips or on delicate point supports. Due to the low support frequencies, this type of support is technically efficient, but more difficult to plan and execute. The majority of isolation jobs are performed on full-surface **Regupol**[®] elastomers with lower rigidity, because this is more feasible and less error-prone.

The technical details provide a full overview of the load range of the **Regupol**[®] elastomers and their non-linear material properties. They allow expert consultants to select and properly size the elastomer type that suits the situation at hand and meets its respective requirements.

Additional benefits of **Regupol**[®] elastomers are their excellent moisture resistance, their rot-proof properties, their ozone resistance and their permanent elasticity even after frost-thaw cycles.

The use of **Regupol**[®] is therefore admissible not only inside but also outside of buildings. The only exception here is **Regupol**[®] **vibration 200**. Because of its rigidity and its cellular structure this material has to be protected against water uptake.



Effectiveness of the Regupol® Elastomers

Regupol[®] elastomers can be specifically set for support frequencies between 20 Hz and 10 Hz in a broad load range from 0.020 N/mm² to 1.50 N/mm². Expert consultants in particular benefit from this large degree of flexibility.

The natural frequency progressions of the **Regupol**[®] elastomers are benign, offering expert consultants nearly constant natural frequencies across a wide load range. This makes for a large degree of security in planning and execution.

The creep (or creep behaviour) is low for all different **Regupol**[®] elastomers at approx. 5-7% of the total thickness. The admissible permanent load limits are kept, the only effect of overloading on the elastomers is increased rigidity (rise in dynamic rigidity and natural frequency), which shows in progressive deflection.

Regupol[®] elastomers are produced and shipped in rolls. They can be cut to size with a standard utility knife right at the construction site. The professional company at the construction site is thus ensured that the installation is going to be simple, quick and cost-efficient.

1 /

TECHNICAL DETAILS

VIBRATION ISOLATION

with Regufoam®

Regufoam[®]





Downloads

www.bswvibration-technology. com

2

All Tools for the Download

You will find all documents and information which you need for making a decision, for calculation as well as the installation and application of the BSW vibration technology products, at **www.bsw-vibration-technology.com**. In a matter of seconds you can download technical datasheets, certificates and installation instructions, all in the required file formats.

Up to date information is provided on our website and in the PDF versions of this catalogue. The PDF versions are available for download on our website.

The website **www.bsw-vibration-technology.com** serves mainly as a planning basis for architectural acoustics and construction engineers. You must register to use the technical documents. BSW will send you your user name and password right away. Since being put up in January 2010, this website already has several hundred registered users.



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BSW	PRODUCTS	MA TERIAL S	SERVICE	NEWS	ABOUT 85W	CONTACT
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Variofoam®				-	JAC.	
Impact Sound Insulation, Vibration Isolation	You are here by Dowsloads	ine • Dodocla • Im	paul Scored Insul	alico, Mibration	lastation + Vitration	inclution of Dubblings +
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Pull-Surface Decoupling	P Ta					
Strp Decoupling						
Porr Decoupling						

vibration 150 plus

2.1

N/mm²

-0.85

-0.60

-0.45

990ppuns

810plus

740plus

680plus

570plus

510plus

400plus

300plus

270plus

220plus

190plus

150°

Standard forms of delivery, ex warehouse Rolls

Thickness:12.5 and 25 mm, special thicknesses on requestLength:5,000 mm, special lengths availableWidth:1,500 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

0.011 N/mm² Continuous and variable loads/operating load range 0 to 0.016 N/mm² Peak loads (rare, short-term loads) 0.5 N/mm²



Colour: Green

Static modulus of elasticity	Based on EN 826	0.06 - 0.16	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	-0.30 -
Dynamic modulus of elasticity	Based on DIN 53513	0.15 - 0.38	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"	-0.22 —
Mechanical loss factor	DIN 53513	0.28		Load-, amplitude- and fre- quency-dependent	
Compression set	Based on DIN EN ISO 1856	1.6	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.11 —
Tensile strength	Based on DIN EN ISO 1798	0.31	N/mm ²		-0.055
Elongation at break	Based on DIN EN ISO 1798	220	%		-0.042
Tear resistance	Based on DIN ISO 34-1		N/mm		
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability	-0.028
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8		Steel (dry) Concrete (dry)	
Compression hardness	Based on DIN EN ISO 3386-2	14	kPa	Compressive stress at 25 % deformation test specimen h = 25 mm	-0.018
Rebound elasticity	Based on DIN EN ISO 8307	34		dependent on thickness, test specimen $h = 25 \text{ mm}$	-0.011
Force reduction	DIN EN 14904	49	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	0



0





Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

vibration 150 plus

Modulus of Elasticity



of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load and an amplitude of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

2.1

Regufoam®

Long-Term Creep Test



vibration 150 plus



Exclusion of Liability

Technical services and offers based on these are subject to our General Terms and Conditions of sale, a copy of which can be found on our website www. berleburger.com. Special attention should be paid to paragraphs 4 and 5. In so far, please be advised as follows:

Our expertise is the development and manufacturing of products. With our recommendation we can only assist you in selecting a product that is suitable for your demand. However, we cannot act as your architect or consulting expert. This would only be possible subject to a separately concluded service contract that we would have to bill you for. Such contracts are not part of our scope of supply and services. Hence, our recommendation does not lay claim for its correctness. Guarantees do only apply to the technical properties of the material supplied.

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vibration 150 plus

Vibration Isolation



Illustration of the isolation efficiency of a single-degree-of-freedom system (SDOF system) on a rigid base with Regufoam® vibration 150 plus. Parameter: power transmission (insertion loss) in dB, isolation factor in %.

Natural Frequency



Regufoam® 150, Version 2, Release 04 2016, sheet 2 of 2



2.1

Regufoam®

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.011 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



vibration 150 plus



load of 0.011 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.

vibration 190 plus

2.2

N/mm²

-0.85

-0.60

-0.45

990pplus

810plus

740plus

680plus

570plus

510plus

400plus

300plus

270plus

220plus

150^{plus}

Standard forms of delivery, ex warehouse Rolls

Thickness:12.5 and 25 mm, special thicknesses on requestLength:5,000 mm, special lengths availableWidth:1,500 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

0.018 N/mm² Continuous and variable loads/operating load range 0 to 0.028 N/mm² Peak loads (rare, short-term loads) 0.8 N/mm²



Colour: Yellow

Static modulus of elasticity	Based on EN 826	0.1 - 0.25	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	-0.30
Dynamic modulus of elasticity	Based on DIN 53513	0.25 - 0.55	N/mm²	Depending on frequency, load and thickness, see figure "dynamic stiffness"	-0.22
Mechanical loss factor	DIN 53513	0.25	[-]	Load-, amplitude- and fre- quency-dependent	
Compression set	Based on DIN EN ISO 1856	2.0	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.11
Tensile strength	Based on DIN EN ISO 1798	0.4	N/mm ²		-0.05
Elongation at break	Based on DIN EN ISO 1798	220	%		-0.04
Tear resistance	Based on DIN ISO 34-1	2.0	N/mm		
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability	-0.02
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8	[-] [-]	Steel (dry) Concrete (dry)	
Compression hardness	Based on DIN EN ISO 3386-2	22	kPa	Compressive stress at 25 % deformation test specimen $h = 25 \text{ mm}$	-0.01
Rebound elasticity	Based on DIN EN ISO 8307	35	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	-0.01
Force reduction	DIN EN 14904	61	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	



0





Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

vibration 190 plus

Modulus of Elasticity



of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Dimensions of specimens 300 mm x 300 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

2.2

Regufoam®

Long-Term Creep Test



Dimensions of specimens 300 mm x 300 mm x 50 mm

vibration 190 plus



Exclusion of Liability

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vibration 190 plus

Vibration Isolation



Natural Frequency



Regufoam® 190, Version 2, Release 04 2016, sheet 2 of 2



2.2

Regufoam®

Influence of Amplitude 30 15 ess [%] 0 ę B Ch -15 -30 0 50 100 150 200 Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



Change ot the mechanical loss factor due to changes in amplitudes. Sinusoidal excitation at a constant mean load of 0.018 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.





Amplitude [µm]

250

Sinusoidal excitation at a constant mean load of 0.018 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.

vibration 220 plus

2.3

N/mm²

-0.85

-0.60

-0.45

990pplus

810plus

740plus

680plus

570plus

510plus

400plus

300plus

270plus

220^{plus}

190plus

150plus

Standard forms of delivery, ex warehouse Rolls

Thickness:12.5 and 25 mm, special thicknesses on requestLength:5,000 mm, special lengths availableWidth:1,500 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load 0.028 N/mm²

Continuous and variable loads/operating load range 0 to 0.04 N/mm² Peak loads (rare, short-term loads) 0.9 N/mm²



Colour: Purple

Static modulus of elasticity	Based on EN 826	0.15 - 0.35	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"
Dynamic modulus of elasticity	Based on DIN 53513	0.35 - 0.72	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"
Mechanical loss factor	DIN 53513	0.22	[-]	Load-, amplitude- and fre- quency-dependent
Compression set	Based on DIN EN ISO 1856	2.3	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs
Tensile strength	Based on DIN EN ISO 1798	0.5	N/mm ²	
Elongation at break	Based on DIN EN ISO 1798	180	%	
Tear resistance	Based on DIN ISO 34-1	2.1	N/mm	
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8	[-] [-]	Steel (dry) Concrete (dry)
Compression hardness	Based on DIN EN ISO 3386-2	39	kPa	Compressive stress at 25 % deformation test specimen $h = 25 \text{ mm}$
Rebound elasticity	Based on DIN EN ISO 8307	47	%	dependent on thickness, test specimen h = 25 mm
Force reduction	DIN EN 14904	69	%	dependent on thickness, test specimen $h = 25 \text{ mm}$

Regufoam® 220, Version 2, Release 04 2016, sheet 1 of 2



0





Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

vibration 220 plus

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load an and amplitude of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Regufoam®

Long-Term Creep Test



Dimensions of specimens 300 mm x 300 mm x 50 mm

vibration 220 plus



Exclusion of Liability

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Our expertise is the development and manufacturing of products. With our recommendation we can only assist you in selecting a product that is suitable for your demand. However, we cannot act as your architect or consulting expert. This would only be possible subject to a separately concluded service contract that we would have to bill you for. Such contracts are not part of our scope of supply and services. Hence, our recommendation does not lay claim for its correctness. Guarantees do only apply to the technical properties of the material supplied.

Comment on tolerances: All technical values correspond to our current state of knowledge and are to be understood as reference values only. These values can be subject to considerable variabilities due to production and/or material reasons as well as due to outside influences (temperature, humidity etc.). Thus special agreements on material parameters might be necessary on a case-by-case basis.



vibration 220 plus

Vibration Isolation



Natural Frequency



Regufoam® 220, Version 2, Release 04 2016, sheet 2 of 2



0

2.3

Regufoam®

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.028 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



vibration 220 plus



load of 0.028 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.

vibration 270 plus

2.4

N/mm² 2.50

-0.85

-0.60

-0.45

990pplus

810plus

740plus

680plus

570plus

510plus

400plus

300plus

270plus

Standard forms of delivery, ex warehouse Rolls

Thickness: 12.5 and 25 mm, special thicknesses on request Length: 5,000 mm, special lengths available Width: 1,500 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

0.042 N/mm² Continuous and variable loads/operating load range 0 to 0.062 N/mm² Peak loads (rare, short-term loads) 1.2 N/mm²



Colour: Blue

Static modulus of elasticity	Based on EN 826	0.25 - 0.45	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"
Dynamic modulus of elasticity	Based on DIN 53513	0.60 - 1.05	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"
Mechanical loss factor	DIN 53513	0.2	[-]	Load-, amplitude- and fre- quency-dependent
Compression set	Based on DIN EN ISO 1856	3.2	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs
Tensile strength	Based on DIN EN ISO 1798	0.9	N/mm ²	
Elongation at break	Based on DIN EN ISO 1798	210	%	
Tear resistance	Based on DIN ISO 34-1	4.5	N/mm	
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8	[-] [-]	Steel (dry) Concrete (dry)
Compression hardness	Based on DIN EN ISO 3386-2	63	kPa	Compressive stress at 25 % deformation test specimen h = 25 mm
Rebound elasticity	Based on DIN EN ISO 8307	38		dependent on thickness, test specimen $h = 25 \text{ mm}$
Force reduction	DIN EN 14904	70	%	dependent on thickness, test specimen $h = 25 \text{ mm}$

220plus 190plus 150plus

Regufoam® 270, Version 2, Release 04 2016, sheet 1 of 2







Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

vibration 270 plus

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load an and amplitude of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Regufoam®

Long-Term Creep Test



Dimensions of specimens 300 mm x 300 mm x 50 mm

vibration 270 plus



Exclusion of Liability

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vibration 270 plus

Vibration Isolation



Natural Frequency



Regufoam® 270, Version 2, Release 04 2016, sheet 2 of 2



2.4

Regufoam®

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.042 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.





load of 0.042 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.

vibration 300 plus

2.5

N/mm²

-0.85

990pplus

Standard forms of delivery, ex warehouse Rolls

Thickness:12.5 and 25 mm, special thicknesses on requestLength:5,000 mm, special lengths availableWidth:1,500 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load 0.055 N/mm²

Continuous and variable loads/operating load range 0 to 0.08 N/mm² Peak loads (rare, short-term loads) 2 N/mm²



Colour: Black

Static modulus of elasticity	Based on EN 826	0.35 - 0.58	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	-0.3
Dynamic modulus of elasticity	Based on DIN 53513	0.68 - 1.25	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"	-0.2
Mechanical loss factor	DIN 53513	0.18	[-]	Load-, amplitude- and fre- quency-dependent	
Compression set	Based on DIN EN ISO 1856	3.4	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.1
Tensile strength	Based on DIN EN ISO 1798	1.2	N/mm ²		-0.0
Elongation at break	Based on DIN EN ISO 1798	240	%		-0.0
Tear resistance	Based on DIN ISO 34-1	4.8	N/mm		0.0
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability	-0.0
Sliding friction	BSW-laboratory BSW-laboratory	0.6 0.75	[-] [-]	Steel (dry) Concrete (dry)	
Compression hardness	Based on DIN EN ISO 3386-2	82	kPa	Compressive stress at 25 % deformation test specimen $h = 25 \text{ mm}$	-0.0
Rebound elasticity	Based on DIN EN ISO 8307	44	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	-0.0
Force reduction	DIN EN 14904	72	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	0

810plus -0.60 740plus -0.45 680plus 570plus 510plus 400plus 300^{plus} 270plus 220plus 190plus 150plus

Regufoam® 300, Version 2, Release 04 2016, sheet 1 of 2







Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

Regufoam® 300, Version 2, Release 04 2016, sheet 1 of 2

vibration 300 plus

Modulus of Elasticity



of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Dimensions of specimens 300 mm x 300 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Regufoam®

Long-Term Creep Test



Dimensions of specimens 300 mm x 300 mm x 50 mm

vibration 300 plus



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vibration 300 plus

Vibration Isolation



Natural Frequency



Regufoam® 300, Version 2, Release 04 2016, sheet 2 of 2



0

2.5

Regufoam®

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.055 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



load of 0.055 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.

vibration 300 plus



vibration 400 plus

2.6

N/mm²

-0.85

-0.60

-0.45

990pplus

810plus

740plus

680plus

570plus

510plus

400plus

300plus

270plus

220plus

190plus

150^{plus}

Standard forms of delivery, ex warehouse Plates

Thickness:12.5 and 25 mm, special thicknesses on requestLength:1,500 mm, special lengths availableWidth:1,000 mm

Stripping/smaller sizes

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

0.11 N/mm² Continuous and variable loads/operating load range 0 to 0.16 N/mm² Peak loads (rare, short-term loads) up to 3 N/mm²



Colour: Grey

Static modulus of elasticity	Based on EN 826	0.6 - 1.0	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	-0.30 -
Dynamic modulus of elasticity	Based on DIN 53513	1.2 - 2.0	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"	-0.22 -
Mechanical loss factor	DIN 53513	0.17		Load-, amplitude- and frequency-dependent	
Compression set	Based on DIN EN ISO 1856	3.9	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.11 —
Tensile strength	Based on DIN EN ISO 1798	1.5	N/mm ²		-0.055
Elongation at break	Based on DIN EN ISO 1798	220	%		-0.042
Tear resistance	Based on DIN ISO 34-1	6.0	N/mm		
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability	-0.028
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8	[-] [-]	Steel (dry) Concrete (dry)	
Compression hardness	Based on DIN EN ISO 3386-2	170	kPa	Compressive stress at 25 % deformation test specimen $h = 25 \text{ mm}$	-0.018
Rebound elasticity	Based on DIN EN ISO 8307	57		dependent on thickness, test specimen $h = 25 \text{ mm}$	-0.011
Force reduction	DIN EN 14904	68	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	0

Regufoam* 400, Version 2, Release 04 2016, sheet 1 of 2





Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

vibration 400 plus

Modulus of Elasticity



of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load an and amplitude of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

2.6

Regufoam®

Long-Term Creep Test



Dimensions of specimens 300 mm x 300 mm x 50 mm

vibration 400 plus



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vibration 400 plus

2.6

Regufoam®

Influence of Amplitude



Illustration of the isolation efficiency of a single-degree-of-freedom system (SDOF system) on a rigid base with Regufoam® vibration 400 plus. Parameter: power transmission (insertion loss) in dB, isolation factor in %.

Natural Frequency



Regufoam® 400, Version 2, Release 04 2016, sheet 2 of 2





Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.11 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



vibration 400 plus



load of 0.11 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.

vibration 510 plus

2.7

Standard forms of delivery, ex warehouse Plates

Thickness:12.5 and 25 mm, special thicknesses on requestLength:1,500 mm, special lengths availableWidth:1,000 mm

Stripping/smaller sizes

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load 0.22 N/mm²

Continuous and variable loads/operating load range 0 to 0.32 N/mm² Peak loads (rare, short-term loads) up to 4 N/mm²



Colour: Beige

Static modulus of elasticity	Based on EN 826	1.1 - 1.7	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	-0.30 -
Dynamic modulus of elasticity	Based on DIN 53513	2.2 - 3.7	N/mm²	Depending on frequency, load and thickness, see figure "dynamic stiffness"	-0.22-
Mechanical loss factor	DIN 53513	0.15		Load-, amplitude- and fre- quency-dependent	
Compression set	Based on DIN EN ISO 1856	4.2	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.11 -
Tensile strength	Based on DIN EN ISO 1798	2.4	N/mm ²		-0.055
Elongation at break	Based on DIN EN ISO 1798	240	%		-0.042
Tear resistance	Based on DIN ISO 34-1	9.3	N/mm		
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability	-0.028
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8	[-] [-]	Steel (dry) Concrete (dry)	
Compression hardness	Based on DIN EN ISO 3386-2	330	kPa	Compressive stress at 25 % deformation test specimen h = 25 mm	-0.018
Rebound elasticity	Based on DIN EN ISO 8307	60		dependent on thickness, test specimen $h = 25 \text{ mm}$	-0.011
Force reduction	DIN EN 14904	61	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	



Regufoam® 510, Version 2, Release 04 2016, sheet 1 of 2
Regufoam[®]



0



Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

vibration 510 plus

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



spring characteristic. Tested in accordance with DIN 53513.

2.7

Regufoam®

Long-Term Creep Test





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vibration 510 plus



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vibration 510 plus

Vibration Isolation



Natural Frequency



Regufoam® 510, Version 2, Release 04 2016, sheet 2 of 2



0

2.7

Regufoam®

Influence of Amplitude

vibration 510 plus



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.22 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



load of 0.22 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.



vibration 570 plus

2.8

N/mm²

Standard forms of delivery, ex warehouse Plates

Thickness:12.5 and 25 mm, special thicknesses on requestLength:1,500 mm, special lengths availableWidth:1,000 mm

Stripping/smaller sizes

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load 0.30 N/mm²

Continuous and variable loads/operating load range 0 to 0.42 N/mm² Peak loads (rare, short-term loads) up to 4.5 N/mm²



Farbe: Rosa

Static modulus of elasticity	Based on EN 826	2.6 - 2.9	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	-0.30
Dynamic modulus of elasticity	Based on DIN 53513	5.3 - 6.5	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"	-0.22 -
Mechanical loss factor	DIN 53513	0.14		Load-, amplitude- and fre- quency-dependent	
Compression set	Based on DIN EN ISO 1856	4.4	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.11 -
Tensile strength	Based on DIN EN ISO 1798	2.9	N/mm ²		-0.055
Elongation at break	Based on DIN EN ISO 1798	210	%		-0.042
Tear resistance	Based on DIN ISO 34-1	14.1	N/mm		
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability	-0.028
Sliding friction	BSW-laboratory BSW-laboratory	0.6 0.7	[-] [-]	Steel (dry) Concrete (dry)	
Compression hardness	Based on DIN EN ISO 3386-2	620	kPa	Compressive stress at 25 % deformation test specimen $h = 25 \text{ mm}$	-0.018
Rebound elasticity	Based on DIN EN ISO 8307	58		dependent on thickness, test specimen $h = 25 \text{ mm}$	-0.011
Force reduction	DIN EN 14904	50	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	0

990pplus -0.85 810plus -0.60 740plus -0.45 680plus 570plus 510plus 400plus 300plus 270plus 220plus 190plus

150plus

Regufoam® 570, Version 2, Release 04 2016, sheet 1 of 2

Regufoam[®]

0



Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

2.8

vibration 570 plus

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



2.8

Regufoam®

Long-Term Creep Test



vibration 570 plus



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vibration 570 plus

Vibration Isolation



Natural Frequency



Regufoam® 570, Version 2, Release 04 2016, sheet 2 of 2



2.8

Regufoam®

Influence of Amplitude **Regufoam**[®] vibration 570 ^{plus} 30 15 [%] C ę

S

-15

-30 0 50 100 150 200 250 300 350 400 450 Amplitude [µm] Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.30 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.

Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.





vibration 570 plus





vibration 680 plus

2.9

N/mm²

-0.85

-0.60

-0.45

990pplus

810plus

740plus

680plus

570plus

510plus

400plus

300plus

270plus

220plus

190plus

150^{plus}

Standard forms of delivery, ex warehouse Plates

Thickness:12.5 and 25 mm, special thicknesses on requestLength:1,500 mm, special lengths availableWidth:1,000 mm

Stripping/smaller sizes

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

0.45 N/mm² Continuous and variable loads/operating load range 0 to 0.62 N/mm² Peak loads (rare, short-term loads) up to 5 N/mm²



Colour: Turquoise

Static modulus of elasticity	Based on EN 826	3.8 - 4.1	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"
Dynamic modulus of elasticity	Based on DIN 53513	7.0 - 10.0	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"
Mechanical loss factor	DIN 53513	0.12	[-]	Load-, amplitude- and fre- quency-dependent
Compression set	Based on DIN EN ISO 1856	6.2	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs
Tensile strength	Based on DIN EN ISO 1798	3.6	N/mm ²	
Elongation at break	Based on DIN EN ISO 1798	230	%	
Tear resistance	Based on DIN ISO 34-1	18.5	N/mm	
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability
Sliding friction	BSW-laboratory BSW-laboratory	0.6 0.7	[-] [-]	Steel (dry) Concrete (dry)
Compression hardness	Based on DIN EN ISO 3386-2	840	kPa	Compressive stress at 25 % deformation test specimen h = 25 mm
Rebound elasticity	Based on DIN EN ISO 8307	58	%	dependent on thickness, test specimen $h = 25 \text{ mm}$
Force reduction	DIN EN 14904	44	%	dependent on thickness, test specimen $h = 25 \text{ mm}$

Regufoam® 680, Version 2, Release 04 2016, sheet 1 of 2

Regufoam[®]



0



Load Deflection



Regufoam® type designation

Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

vibration 680 plus

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Dimensions of specimens 300 mm x 300 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

2.9

Regufoam®

Long-Term Creep Test



vibration 680 plus



Exclusion of Liability

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vibration 680 plus

Vibration Isolation



Natural Frequency



Regufoam® 680, Version 2, Release 04 2016, sheet 2 of 2



0

2.9

Regufoam®

15(

Influence of Amplitude **Regufoam**[®] vibration 680 ^{plus} 30 20 [%] 10 C -10 S -20 -30 0 50 100 150 200 250

Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.45 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



load of 0.45 N/mm², dimensions of the specimens 300 mm x 300 mm x 25 mm.

vibration 680 plus





Amplitude [µm]

vibration 740 plus



N/mm²

-0.85

-0.60

-0.45

990pplus

810plus

740^{pl}

680plus

570plus

510plus

400plus

300plus

270plus

220plus

190plus

150plus

Standard forms of delivery, ex warehouse Plates

Thickness:12.5 and 25 mm, special thicknesses on requestLength:1,500 mm, special lengths availableWidth:1,000 mm

Stripping/smaller sizes

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load 0.60 N/mm² Continuous and variable load

Continuous and variable loads/operating load range 0 to 0.85 N/mm² Peak loads (rare, short-term loads) up to 6 N/mm²



Colour: Red

Static modulus of elasticity	Based on EN 826	4.3 - 5.9	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	-0.30-
Dynamic modulus of elasticity	Based on DIN 53513	8.9 - 13.0	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"	-0.22 -
Mechanical loss factor	DIN 53513	0.11		Load-, amplitude- and fre- quency-dependent	
Compression set	Based on DIN EN ISO 1856	4.8	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.11 -
Tensile strength	Based on DIN EN ISO 1798	4.0	N/mm ²		-0.055
Elongation at break	Based on DIN EN ISO 1798	210	%		-0.042
Tear resistance	Based on DIN ISO 34-1	19.0	N/mm		
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability	-0.028
Sliding friction	BSW-laboratory BSW-laboratory	0.6 0.7	[-] [-]	Steel (dry) Concrete (dry)	
Compression hardness	Based on DIN EN ISO 3386-2	1050	kPa	Compressive stress at 25 % deformation test specimen $h = 25 \text{ mm}$	-0.018
Rebound elasticity	Based on DIN EN ISO 8307	59		dependent on thickness, test specimen $h = 25 \text{ mm}$	-0.011
Force reduction	DIN EN 14904	39	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	0

Regufoam® 740, Version 2, Release 04 2016, sheet 1 of 2

Regufoam[®]









Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 250 mm x 250 mm.

vibration 740 plus

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 250 mm x 250 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load an and amplitude of \pm 0.25 mm. Dimensions of specimens 250 mm x 250 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

2.10

Regufoam®

Long-Term Creep Test

Regufoam[®] vibration 740 ^{plus} 50 45 40 35 30 ď 25 % 20 15 0.60 N 10 0.30 N/m 10 100 Duration of load [h]

Dimensions of specimens 250 mm x 250 mm x 50 mm

vibration 740 plus





Exclusion of Liability

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vibration 740 plus

Vibration Isolation



Natural Frequency



Regufoam® 740, Version 2, Release 04 2016, sheet 2 of 2



2.10

Regufoam®

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.60 N/mm², dimensions of the specimens 250 mm x 250 mm x 50 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



load of 0.60 N/mm², dimensions of the specimens 250 mm x 250 mm x 50 mm.

vibration 740 plus



vibration 810 plus



N/mm²

-0.85

-0.60

-0.45

990ppuns

810plus

740plus

680plus

570plus

510plus

400plus

300plus

270plus

220plus

190plus

150plus

Standard forms of delivery, ex warehouse Plates

Thickness:12.5 and 25 mm, special thicknesses on requestLength:1,500 mm, special lengths availableWidth:1,000 mm

Stripping/smaller sizes

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load 0.85 N/mm²

Continuous and variable loads/operating load range 0 to 1.20 N/mm² Peak loads (rare, short-term loads) up to 7 N/mm²



Colour: Brown

Static modulus of elasticity	Based on EN 826	5.4 - 8.0	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"
Dynamic modulus of elasticity	Based on DIN 53513	11.0 - 16.5	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"
Mechanical loss factor	DIN 53513	0.10	[-]	Load-, amplitude- and fre- quency-dependent
Compression set	Based on DIN EN ISO 1856	7.9	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs
Tensile strength	Based on DIN EN ISO 1798	4.6	N/mm ²	
Elongation at break	Based on DIN EN ISO 1798	230	%	
Tear resistance	Based on DIN ISO 34-1	20.0	N/mm	
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability
Sliding friction	BSW-laboratory BSW-laboratory	0.6 0.75	[-] [-]	Steel (dry) Concrete (dry)
Compression hardness	Based on DIN EN ISO 3386-2	1241	kPa	Compressive stress at 25 % deformation test specimen $h = 25 \text{ mm}$
Rebound elasticity	Based on DIN EN ISO 8307	58	%	dependent on thickness, test specimen $h = 25 \text{ mm}$
Force reduction	DIN EN 14904	35	%	dependent on thickness, test specimen $h = 25 \text{ mm}$

Regufoam[®]







Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 250 mm x 250 mm.

vibration 810 plus

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of \pm 0.10 mm. Dimensions of specimens 250 mm x 250 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load an and amplitude of \pm 0.10 mm. Dimensions of specimens 250 mm x 250 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

2.11

Regufoam®

Long-Term Creep Test



Dimensions of specimens 250 mm x 250 mm x 50 mm

vibration 810 plus



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vibration 810 plus

Vibration Isolation



Natural Frequency



Regufoam[®] 810, Version 2, Release 04 2016, sheet 2 of 2



Regufoam®

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.85 N/mm², dimensions of the specimens 250 mm x 250 mm x 25 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



2.11

vibration 810 plus



load of 0.85 N/mm², dimensions of the specimens 250 mm x 250 mm x 25 mm.

vibration 990 plus



N/mm²

-0.85

-0.60

-0.45

006 0

810plus

740plus

680plus

570plus

510plus

400plus

300plus

270plus

220plus

190plus

150plus

Standard forms of delivery, ex warehouse Plates

Thickness:12.5 and 25 mm, special thicknesses on requestLength:1,500 mm, special lengths availableWidth:1,000 mm

Stripping/smaller sizes

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

2.5 N/mm² Continuous and variable loads/operating load range 0 to 3.5 N/mm² Peak loads (rare, short-term loads) up to 8.0 N/mm²



Colour: Orange

Static modulus of elasticity	Based on EN 826	20.0 - 78.0	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	-0.30
Dynamic modulus of elasticity	Based on DIN 53513	41.0 - 160.0	N/mm²	Depending on frequency, load and thickness, see figure "dynamic stiffness"	-0.22
Mechanical loss factor	DIN 53513	0.09	[-]	Load-, amplitude- and fre- quency-dependent	
Compression set	Based on DIN EN ISO 1856	8.6	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.11
Tensile strength	Based on DIN EN ISO 1798	6.9	N/mm ²		-0.05
Elongation at break	Based on DIN EN ISO 1798	190	%		-0.04
Tear resistance	Based on DIN ISO 34-1	34.5	N/mm		
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability	-0.02
Sliding friction	BSW-laboratory BSW-laboratory	0.5 0.6	[-] [-]	Steel (dry) Concrete (dry)	
Compression hardness	Based on DIN EN ISO 3386-2	3640	kPa	Compressive stress at 25 % deformation test specimen h = 25 mm	-0.01
Rebound elasticity	Based on DIN EN ISO 8307	55		dependent on thickness, test specimen $h = 25 \text{ mm}$	-0.01
Force reduction	DIN EN 14904	20	%	dependent on thickness, test specimen $h = 25 \text{ mm}$	0

Regufoam[®]











Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocity of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 125 mm x 125 mm.

vibration 990 plus

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of \pm 0.10 mm. Dimensions of specimens 125 mm x 125 mm x 25 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Dimensions of specimens 125 mm x 125 mm x 25 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

2.12

Regufoam®

Long-Term Creep Test



Dimensions of specimens 125 mm x 125 mm x 50 mm

vibration 990 plus



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vibration 990 plus

Vibration Isolation



Natural Frequency



Regufoam[®] 990, Version 2, Release 04 2016, sheet 2 of 2



2.12

Regufoam[®]

Influence of Amplitude

In order to get information of changes in mechanical loss or dynamic stiffness due to changes in amplitudes please ask technical staff of BSW.

vibration 990 plus



TECHNICAL DETAILS

VIBRATION ISOLATION WITH REGUPOL®

Regupol®





Reg Regupol®

Downloads

www.bswvibration-technology. com

3

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vibration 200

Standard forms of delivery, ex warehouse

Rolls Thickness: Length: Width:

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

17 mm, dimpled

1,250 mm

10,000 mm, special lengths available

Continuous static load 0.02 N/mm² Peak loads (rare, short-term loads)

0.05 N/mm²



The material must be carefully and permanently protected against moisture during transport, storage, processing and use. Wet material may not be used.

					N/mr	n²
Static modulus of elasticity	Based on EN 826	0.02 - 0.08	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	-1.50-	00
Dynamic modulus of elasticity	Based on DIN 53513	0.05 - 0.38	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"	-0.80-	100
Mechanical loss factor	DIN 53513	0.22	[-]	Load-, amplitude- and fre- quency-dependent		800
Compression set	Based on DIN EN ISO 1856	3.1	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.30 -	550
Tensile strength	Based on DIN EN ISO 1798	0.12	N/mm ²		-0.15-	
Elongation at break	Based on DIN EN ISO 1798	40	%		-0.12-	480
Tear resistance	Based on DIN ISO 34-1	1.0	N/mm			
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability	-0.10-	45(
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8	[-] [-]	Steel (dry) Concrete (dry)		400
Compression hardness	Based on DIN EN ISO 3386-2	14	kPa	Compressive stress at 25 % deformation test specimen $h = 51 \text{ mm}$	-0.05-	00
Rebound elasticity	Based on DIN EN ISO 8307	14		dependent on thickness, test specimen $h = 51 \text{ mm}$	-0.02-	m
Force reduction	DIN EN 14904	73	%	dependent on thickness, test specimen $h = 51 \text{ mm}$	0	200

Load Ranges



Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocitiy of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

0

vibration 200

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 34 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load and an amplitude of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 34 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

3.1

Regupol®

Long-Term Creep Test

Regupol[®] vibration 200 50 45 40 35 0.02 N/ 30 % 25 0.01 20 15 10 5 0 10 100 Duration of load [h] Dimensions of specimens 300 mm x 300 mm x 51 mm

vibration 200





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vibration 200

Vibration Isolation



Natural Frequency



Regupol® 200, Version 2, Release 04 2016, sheet 2 of 2

Regupol®

3.1

N/mm²

1.50

- 0.80

- 0.30

-0.15

-0.12

-0.10

0.05

0.02

0

000

800

550

480

50

400

300

200

vibration 200

Influence of Amplitude

Regupol[®] vibration 200 30 20 [%] 10 0 -10 동 -20 -30 0 50 100 150 200 250 Amplitude [µm]

> Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.011 N/mm², dimensions of the specimens 300 mm x 300 mm x 51 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



load of 0.011 N/mm², dimensions of the specimens 300 mm x 300 mm x 51 mm.

```
3.1
```



vibration 300

Standard forms of delivery, ex warehouse

Rolls Thickness: Length: Width:

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

17 mm, dimpled

1,250 mm

10,000 mm, special lengths available

Cont1inuous static load 0.05 N/mm² Peak loads (rare, short-term loads) 0.08 N/mm²



Static modulus of elasticity	Based on EN 826	0.1 - 0.2	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	N/mm² -1.50 ——	
Dynamic modulus of elasticity	Based on DIN 53513	0.2 - 1.4	N/mm²	Depending on frequency, load and thickness, see figure "dynamic stiffness"		1000
Mechanical loss factor	DIN 53513	0.18		Load-, amplitude- and fre- quency-dependent	-0.80	
Compression set	Based on DIN EN ISO 1856	1.6	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.30 —	80(
Tensile strength	Based on DIN EN ISO 1798	0.30	N/mm ²		-0.15—	550
Elongation at break	Based on DIN EN ISO 1798	55	%			80
Tear resistance	Based on DIN ISO 34-1		N/mm		-0.12-	4
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability		450
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8		Steel (dry) Concrete (dry)	-0.10	
Compression hardness	Based on DIN EN ISO 3386-2	50	kPa	Compressive stress at 25 % deformation	-0.05	400
Rebound elasticity	Based on DIN EN ISO 8307	10	%	dependent on thickness, test specimen $h = 51 \text{ mm}$		300
Force reduction	DIN EN 14904	73	%	dependent on thickness, test specimen $h = 51 \text{ mm}$	-0.02—	
Ozone resistance	DIN EN ISO 17025	Cracking stage 0	[-]			20(

3.2

 $\mathsf{Regupol}^{\circledast}$ 300, Version 2, Release 04 2016, sheet 1 of 2

N/mm²

1000

800

550

480

450

400

300

200

-1.50

-0.80

0.30

-0.15-

0.12-

-0.10-

-0.05-

-0.02-

0

Load Ranges



Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocitiy of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

vibration 300

Modulus of Elasticity



of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 34 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load and an amplitude of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 34 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

3.2

Regupol®

Long-Term Creep Test

Regupol[®] vibration 300 50 40 thicl 30 0.05 N/mm ď %] 0.025 N/mn 20 10 0 10 100 Duration of load [h]

Dimensions of specimens 300 mm x 300 mm x 51 mm

vibration 300





Exclusion of Liability

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vibration 300

Vibration Isolation



Natural Frequency



Regupol® 300, Version 2, Release 04 2016, sheet 2 of 2

Regupol®

3.2

Influence of Amplitude

Regupol[®] vibration 300 30 20 [%] 10 0 -10 동 -20 -30 0 50 100 150 200 250 Amplitude [µm]

> Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.05 N/mm², dimensions of the specimens 300 mm x 300 mm x 51 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.





N/mm²





load of 0.05 N/mm², dimensions of the specimens 300 mm x 300 mm x 51 mm.

vibration 400

Standard forms of delivery, ex warehouse

RollsThickness:15 mm, dimpledLength:10,000 mm, special lengths availableWidth:1,250 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

0.10 N/mm² Peak loads (rare, short-term loads) 0.15 N/mm²



Static modulus of elasticity	Based on EN 826	0.3 - 0.55	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	N/mm² -1.50 —	
Dynamic modulus of elasticity	Based on DIN 53513	0.9 - 2.4	N/mm²	Depending on frequency, load and thickness, see figure "dynamic stiffness"		1000
Mechanical loss factor	DIN 53513	0.17	[-]	Load-, amplitude- and fre- quency-dependent	-0.80-	
Compression set	Based on DIN EN ISO 1856	2.1	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.30-	800
Tensile strength	Based on DIN EN ISO 1798	0.34	N/mm²		-0.15-	550
Elongation at break	Based on DIN EN ISO 1798	55	%			80
Tear resistance	Based on DIN ISO 34-1	3.2	N/mm		-0.12-	4
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability		450
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8		Steel (dry) Concrete (dry)	-0.10-	
Compression hardness	Based on DIN EN ISO 3386-2	180	kPa	Compressive stress at 25 % deformation test specimen $h = 60 \text{ mm}$	-0.05-	40(
Rebound elasticity	Based on DIN EN ISO 8307	22	%	dependent on thickness, test specimen $h = 60 \text{ mm}$		300
Force reduction	DIN EN 14904	73	%	dependent on thickness, test specimen $h = 60 \text{ mm}$	-0.02-	
Ozone resistance	DIN EN ISO 17025	Cracking stage 0			0	20(

 $\mathsf{Regupol}^{\circledast}$ 400, Version 2, Release 04 2016, sheet 1 of 2

3.3

N/mm²

1000

800

550

480

450

400

300

200

-1.50

-0.80

0.30-

-0.15-

0.12-

-0.10-

-0.05-

-0.02-

0

Load Ranges



Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocitiy of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 300 mm x 300 mm.

vibration 400

Modulus of Elasticity



of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 45 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load and an amplitude of \pm 0.25 mm. Dimensions of specimens 300 mm x 450 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

3.3

Regupol®

Long-Term Creep Test



Dimensions of specimens 300 mm x 300 mm x 60 mm

vibration 400



Exclusion of Liability

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vibration 400

Vibration Isolation



Natural Frequency



Regupol® 400, Version 2, Release 04 2016, sheet 2 of 2

Regupol®

3.3

N/mm²

1.50

- 0.80

- 0.30

-0.15

-0.12

-0.10

- 0.05

0.02

0

000

800

550

480

50

400

300

200

vibration 400

Influence of Amplitude

Regupol[®] vibration 400 30 20 [%] 10 0 -10 동 -20 -30 0 50 100 150 200 250 Amplitude [µm]

> Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.10 N/mm², dimensions of the specimens 300 mm x 300 mm x 60 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



load of 0.10 N/mm², dimensions of the specimens 300 mm x 300 mm x 60 mm.





vibration 450

Standard forms of delivery, ex warehouse Plates Thickness: 50 mm, special thickness available 1,000 mm

500 mm

Length: Width:

Continuous static load 0.12 N/mm²

Peak loads (rare, short-term loads) 0.18 N/mm²



Static modulus of elasticity	Based on EN 826	0.2 - 0.4	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	N/mm² -1.50	
Dynamic modulus of elasticity	Based on DIN 53513	0.45 - 2.7	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"		1000
Mechanical loss factor	DIN 53513	0.17		Load-, amplitude- and fre- quency-dependent	-0.80 –	
Compression set	Based on DIN EN ISO 1856	4.1	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.30 -	80(
Tensile strength	Based on DIN EN ISO 1798	0.15	N/mm ²		-0.15-	550
Elongation at break	Based on DIN EN ISO 1798	40	%			80
Tear resistance	Based on DIN ISO 34-1	1.9	N/mm		-0.12-	4
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability		450
Sliding friction	BSW-laboratory BSW-laboratory	0.5 0.6	[-] [-]	Steel (dry) Concrete (dry)	-0.10-	
Compression hardness	Based on DIN EN ISO 3386-2	83	kPa	Compressive stress at 25 % deformation	-0.05-	400
Rebound elasticity	Based on DIN EN ISO 8307	42.7	%	dependent on thickness, test specimen $h = 50 \text{ mm}$		300
Force reduction	DIN EN 14904	74	%	dependent on thickness, test specimen $h = 50 \text{ mm}$	-0.02-	
Ozone resistance	DIN EN ISO 17025	Cracking stage 0	[-]			200

 $\mathsf{Regupol}^{\circledast}$ 450, Version 2, Release 04 2016, sheet 1 of 2

N/mm²

1000

800

550

480

450

400

300

200

-1.50

-0.80

0.30-

-0.15-

0.12-

-0.10-

-0.05-

-0.02-

0

3.4

Load Ranges



Load Deflection



 $\mathsf{Regupol}^{\circledast}$ 450, Version 2, Release 04 2016, sheet 1 of 2

vibration 450

Modulus of Elasticity



of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 50 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load and an amplitude of \pm 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 50 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

3.4

Regupol®

Long-Term Creep Test



vibration 450

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vibration 450

Vibration Isolation



Natural Frequency



Regupol® 450, Version 2, Release 04 2016, sheet 2 of 2

Regupol®

3.4

N/mm²

1.50

- 0.80

- 0.30

-0.15

-0.12

-0.10

0.05

- 0.02

0

000

800

550

480

450

400

300

200

vibration 450

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.10 N/mm², dimensions of the specimens 300 mm x 300 mm x 50 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.





load of 0.10 N/mm², dimensions of the specimens 300 mm x 300 mm x 50 mm.

vibration 480

Standard forms of delivery, ex warehouse

Rolls Thickness: Length: Width:

15 mm 10,000 mm, special length available 1,250 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

0.15 N/mm² Peak loads (rare, short-term loads) 0.25 N/mm²



Static modulus of elasticity	Based on EN 826	0.25 - 0.8	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	N/mm² -1.50 ———	
Dynamic modulus of elasticity	Based on DIN 53513	1.2 - 3.3	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"		1000
Mechanical loss factor	DIN 53513	0.17		Load-, amplitude- and fre- quency-dependent	-0.80 –	
Compression set	Based on DIN EN ISO 1856	3.0	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.30	80(
Tensile strength	Based on DIN EN ISO 1798	0.36	N/mm ²		-0.15-	550
Elongation at break	Based on DIN EN ISO 1798	55	%			80
Tear resistance	Based on DIN ISO 34-1	4.5	N/mm		-0.12-	4
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability		450
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8		Steel (dry) Concrete (dry)	-0.10	
Compression hardness	Based on DIN EN ISO 3386-2	220	kPa	Compressive stress at 25 % deformation test specimen $h = 60 \text{ mm}$	-0.05-	400
Rebound elasticity	Based on DIN EN ISO 8307	31	%	dependent on thickness, test specimen $h = 60 \text{ mm}$		300
Force reduction	DIN EN 14904	72	%	dependent on thickness, test specimen $h = 60 \text{ mm}$	-0.02-	
Ozone resistance	DIN EN ISO 17025	Cracking stage 0	[-]		0	200

 $\mathsf{Regupol}^{\circledast}$ 480, Version 2, Release 04 2016, sheet 1 of 2

N/mm²

1000

800

550

480

450

400

300

200

-1.50

-0.80

0.30-

-0.15

-0.12-

-0.10-

-0.05-

-0.02-

0

Load Ranges



Load Deflection



vibration 480

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 45 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Dimensions of specimens 300 mm x 300 mm x 45 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

3.5

Regupol®

Long-Term Creep Test



Dimensions of specimens 300 mm x 300 mm x 60 mm

vibration 480



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vibration 480

Vibration Isolation



Natural Frequency



Regupol® 480, Version 2, Release 04 2016, sheet 2 of 2

Regupol®

3.5

N/mm²

1.50

- 0.80

- 0.30

-0.15

-0.12

-0.10

0.05

0.02

0

000

800

550

480

50

400

300

200

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.10 N/mm², dimensions of the specimens 300 mm x 300 mm x 60 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.





load of 0.10 N/mm², dimensions of the specimens 300 mm x 300 mm x 60 mm.

vibration 550

Standard forms of delivery, ex warehouse

Rolls Thickness: Length: Width:

15 mm 10,000 mm, special length available 1,250 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

0.30 N/mm² Peak loads (rare, short-term loads) 0.40 N/mm²



Static modulus of elasticity	Based on EN 826	0.5 - 1.7	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	N/mm ²	
Dynamic modulus of elasticity	Based on DIN 53513	2.5 - 7.0	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"		1000
Mechanical loss factor	DIN 53513	0.16		Load-, amplitude- and fre- quency-dependent	-0.80	
Compression set	Based on DIN EN ISO 1856	3.4	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.30	800
Tensile strength	Based on DIN EN ISO 1798	0.6	N/mm ²		-0.15-	55(
Elongation at break	Based on DIN EN ISO 1798	65	%			180
Tear resistance	Based on DIN ISO 34-1	5.0	N/mm		-0.12-	
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability		450
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8		Steel (dry) Concrete (dry)	-0.10-	
Compression hardness	Based on DIN EN ISO 3386-2	415	kPa	Compressive stress at 25 % deformation	-0.05-	400
Rebound elasticity	Based on DIN EN ISO 8307	36	%	dependent on thickness, test specimen $h = 60 \text{ mm}$		300
Force reduction	DIN EN 14904	65	%	dependent on thickness, test specimen $h = 60 \text{ mm}$	-0.02-	
Ozone resistance	DIN EN ISO 17025	Cracking stage 0	[-]		0	200

Regupol $^{\circ}$ 550, Version 2, Release 04 2016, sheet 1 of 2

3.6

Load Ranges



Load Deflection



 $\mathsf{Regupol}^{\circledast}$ 550, Version 2, Release 04 2016, sheet 1 of 2



vibration 550

Modulus of Elasticity



Illustration of the dynamic modulus of elasticity for sinusoidal excitation at a constant mean load and an amplitude of ± 0.25 mm. Dimensions of specimens 300 mm x 300 mm x 45 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



3.6

Regupol®

Long-Term Creep Test



Dimensions of specimens 300 mm x 300 mm x 60 mm

vibration 550



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vibration 550

Vibration Isolation



Natural Frequency



Regupol® 550, Version 2, Release 04 2016, sheet 2 of 2

Regupol®

3.6

N/mm²

1.50

- 0.80

- 0.30

-0.15

- 0.12

-0.10

0.05

0.02

0

000

800

550

480

50

400

300

200

vibration 550

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.25 N/mm², dimensions of the specimens 300 mm x 300 mm x 60 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.



load of 0.25 N/mm², dimensions of the specimens 300 mm x 300 mm x 60 mm.



vibration 800

Standard forms of delivery, ex warehouse

Rolls Thickness: Length: Width:

10 mm 8,000 mm, special length available 1,250 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load 0.80 N/mm²

Peak loads (rare, short-term loads) 1.00 N/mm²



Static modulus of elasticity	Based on EN 826	1.2 - 2.9	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	N/mm² -1.50 ——	
Dynamic modulus of elasticity	Based on DIN 53513	3.6 - 18.2	N/mm²	Depending on frequency, load and thickness, see figure "dynamic stiffness"		1000
Mechanical loss factor	DIN 53513	0.18		Load-, amplitude- and fre- quency-dependent	-0.80 -	
Compression set	Based on DIN EN ISO 1856	3.7	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.30 -	800
Tensile strength	Based on DIN EN ISO 1798	0.9	N/mm ²		-0.15-	550
Elongation at break	Based on DIN EN ISO 1798	70	%			80
Tear resistance	Based on DIN ISO 34-1	8.0	N/mm		-0.12-	4
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability		450
Sliding friction	BSW-laboratory BSW-laboratory	0.7 0.8		Steel (dry) Concrete (dry)	-0.10-	
Compression hardness	Based on DIN EN ISO 3386-2	545	kPa	Compressive stress at 25 % deformation test specimen $h = 60 \text{ mm}$	-0.05-	400
Rebound elasticity	Based on DIN EN ISO 8307	30	%	dependent on thickness, test specimen $h = 60 \text{ mm}$		300
Force reduction	DIN EN 14904	61	%	dependent on thickness, test specimen $h = 60 \text{ mm}$	-0.02-	
Ozone resistance	DIN EN ISO 17025	Cracking stage 0	[-]		0	200

Regupol® 800, Version 2, Release 04 2016, sheet 1 of 2

3.7

Load Ranges



Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocitiy of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 250 mm x 250 mm.



N/mm²

-1.50

vibration 800

Modulus of Elasticity



of \pm 0.25 mm. Dimensions of specimens 250 mm x 250 mm x 40 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Illustration of the dynamic stiffness for sinusoidal excitation at a constant mean load and an amplitude of \pm 0.25 mm. Dimensions of specimens 250 mm x 250 mm x 40 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

3.7

Regupol®

thic

ę

%

0

Long-Term Creep Test Regupol[®] vibration 800 50 40 0.80 N/mn 30 0.40 N 20 10

> 10 100 Duration of load [h] Dimensions of specimens 250 mm x 250 mm x 60 mm

vibration 800





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vibration 800

Vibration Isolation



Natural Frequency



Regupol® 800, Version 2, Release 04 2016, sheet 2 of 2

Regupol®

3.7

N/mm²

1.50

- 0.80

- 0.30

-0.15

-0.12

-0.10

0.05

- 0.02

0

000

800

550

480

50

400

300

200

vibration 800

Influence of Amplitude

Regupol[®] vibration 800 30 20 [%] 10 0 -10 동 -20 -30 0 50 100 150 200 250 Amplitude [µm]

> Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 0.80 N/mm², dimensions of the specimens 250 mm x 250 mm x 60 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.







load of 0.80 N/mm², dimensions of the specimens 250 mm x 250 mm x 60 mm.

vibration 1000

Standard forms of delivery, ex warehouse

Rolls Thickness: Length: Width:

10 mm 8,000 mm, special length available 1,250 mm

Stripping/Plates

On request Die-cutting, water-jet cutting, self-adhesive versions possible

Continuous static load

1.50 N/mm² Peak loads (rare, short-term loads) 1.75 N/mm²



Static modulus of elasticity	Based on EN 826	4.0 - 11.0	N/mm ²	Tangential modulus, see figure "Modulus of elasticity"	N/mm -1.50 -	N/mm² -1.50 -	
Dynamic modulus of elasticity	Based on DIN 53513	15.0 - 45.0	N/mm ²	Depending on frequency, load and thickness, see figure "dynamic stiffness"		1000	
Mechanical loss factor	DIN 53513	0.16		Load-, amplitude- and fre- quency-dependent	-0.80 –		
Compression set	Based on DIN EN ISO 1856	4.9	%	Measured 30 minutes after decompression with 50% deformation / 23 °C after 72 hrs	-0.30 –	80(
Tensile strength	Based on DIN EN ISO 1798	2.3	N/mm ²		-0.15-	550	
Elongation at break	Based on DIN EN ISO 1798	110	%			80	
Tear resistance	Based on DIN ISO 34-1	15.0	N/mm		-0.12-	4	
Fire behaviour	DIN 4102 DIN EN 13501	B2 E	[-] [-]	Normal flammability		450	
Sliding friction	BSW-laboratory BSW-laboratory	0.6 0.7		Steel (dry) Concrete (dry)	-0.10		
Compression hardness	Based on DIN EN ISO 3386-2	1650	kPa	Compressive stress at 25 % deformation test specimen $h = 60 \text{ mm}$	-0.05–	400	
Rebound elasticity	Based on DIN EN ISO 8307	37	%	dependent on thickness, test specimen $h = 60 \text{ mm}$		300	
Force reduction	DIN EN 14904	45	%	dependent on thickness, test specimen $h = 60 \text{ mm}$	-0.02–		
Ozone resistance	DIN EN ISO 17025	Cracking stage 0	[-]		0	200	



3.8

Regupol $^{\otimes}$ 1000, Version 2, Release 04 2016, sheet 1 of 2

Load Ranges



Load Deflection



Examination of deflection in accordance to DIN EN 826 between two stiff panels. Illustration based on the third loading. Velocitiy of loading and unloading 20 seconds. Tested at room temperature. Dimensions of test specimens 200 mm x 200 mm.

N/mm²

vibration 1000

Modulus of Elasticity



of ± 0.25 mm. Dimensions of specimens 200 mm x 200 mm x 40 mm; static modulus of elasticity as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

Dynamic Stiffness



Dimensions of specimens 200 mm x 200 mm x 40 mm; static stiffness as a result of the tangent modulus of the spring characteristic. Tested in accordance with DIN 53513.

3.8

Regupol®

Long-Term Creep Test



Dimensions of specimens 200 mm x 200 mm x 60 mm

vibration 1000

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vibration 1000

Vibration Isolation



Natural Frequency



Regupol® 1000, Version 2, Release 04 2016, sheet 2 of 2

3.8

N/mm²

1.50

- 0.80

- 0.30

-0.15

-0.12

-0.10

0.05

0.02

0

1000

800

550

480

50

400

300

200

Regupol®

vibration 1000

Influence of Amplitude



Change of the dynamic stiffness due to changes in amplitudes. Average for 5 Hz, 10 Hz and 40 Hz excitation. Sinusoidal excitation at a constant mean load of 1.50 N/mm², dimensions of the specimens 200 mm x 200 mm x 60 mm. Natural frequency of a single-degree-of-freedom system (SDOF system) on a rigid base.





load of 1.50 N/mm², dimensions of the specimens 200 mm x 200 mm x 60 mm.



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