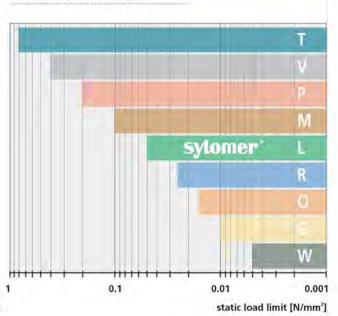
### sylomer\*

Material:	mixed cellular polyurethane		
Colour:	green		
Area of application:	compression load deflection (depending on shape factor)		
Static load limit:	up to 0.05 N/mm <sup>2</sup> approx.		
Operating load range: (static plus dynamic loads)	up to 0.08 N/mm²	approx. 25%	
Load peaks: (short term, infrequent loads)	up to 2.0 N/mm <sup>2</sup>	approx. 80%	

#### Standard dimensions on stock:

12.5 mm with Sylomer L12	
ng	

#### Standard Sylomer range

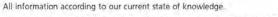


other dimensions (also thickness), as well as stamped and molded parts on request

MATERIAL PROPERTIES			test methods	comment
tensile stress at break	0.75	N/mm²	DIN EN ISO 527-3/5/100*	minimum value
elongation at break	300	%	DIN EN ISO 527-3/5/100*	minimum value
tear strength	2.5	N/mm	DIN 53515*	minimum value
abrasion	1,160	mm³	DIN 53516	load 7.5 N, bottom surface
coefficient of friction (steel)	0.5		Getzner Werkstoffe	dry
coefficient of friction (concrete)	0.7		Getzner Werkstoffe	dry
compression set	< 5	%	EN ISO 1856	50%, 23°C, 70 h, 30 minutes after unloading
static shear modulus	0.13	N/mm <sup>2</sup>	DIN ISO 1827*	at static load limit
dynamic shear modulus	0.27	N/mm <sup>2</sup>	DIN ISO 1827*	at static load limit
mechanical loss factor	0.20		DIN 53513*	depending on frequency, load and amplitude (reference value)
rebound elasticity	55	%	DIN 53573	tolerance */- 10%
operating temperature	-30 up to 70	°C		short term higher temperatures possible
flammability	B2		DIN 4102	normal flammable
	B, C and D		EN ISO 11925-2	passed
specific volume resistance	> 1011	·cm	DIN IEC 93	dry
thermal conductivity	0.07	W/[m·K]	DIN 52612/1	

further characteristic values on request

\* tests according to respective standards



All data can be used for calculation and reference values and are subject to usual production tolerances. Subject to modifications and alterations at any time and without prior notice.



## \_ sylomer\*

## load deflection curve

## modulus of elasticity

## natural frequency

shape factor: q=3

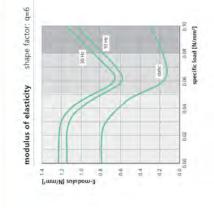
natural frequency

0.08

[,wu

NI peol Sitis and

131



static load limit

0.04

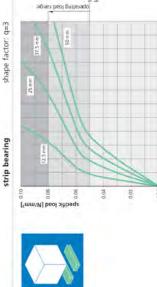
0.02

0.00

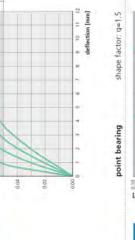
abuer beol grider

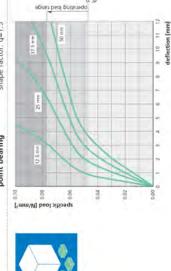
shape factor: q=6

full surface bearing



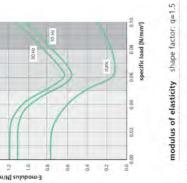
-static load limit





static load limit

recording of the 314 loading, testing at room temperature Quasi-static load deflection curve measured at a velocity of deformation of 1% of the thickness per second; testing between flat steel-plates;



0.02

10.04

000

shape factor: q=3

natural frequency

modulus of elasticity shape factor: q=3

4

deflection [mm]

10

Ŀ

0.10

[20

0.08 0.06

N) beol 50 (N/

natural frequency [Hz]

2

0.02

000

0.04

000

shape factor: q=1.5

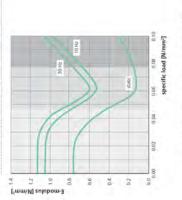
natural frequency

90.08

['mm\N] beol sifisaqa

90.0 0.04

natural frequency [Hz]

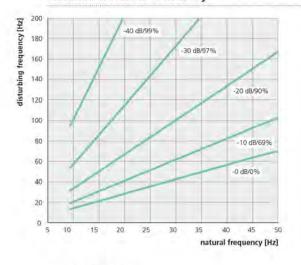


the load deflection curve; dynamic modulus of elasticity due to sinusoidal excitation with a velocity level of 100 dBv re. 5-104 m/s; Static modulus of elasticity as a tangent modulus taken from

test according to DIN 53513

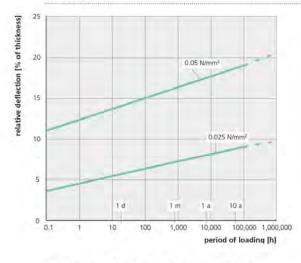
Natural frequency of a single-degree-of-freedom system natural frequency [Hz] 0.02 0.00

bearing consisting of Sylomer L based on a stiff subgrade; parameter: thickness of elastomeric bearing (SDOF system) consisting of a fixed mass and an elastic

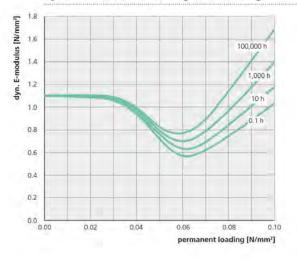


vibration isolation - efficiency

creep behaviour



dynamic E-modulus at long term loading



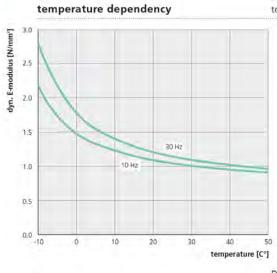
reduction of the transmitted mechanical vibrations by implementation of an elastic bearing consisting of Sylomer L parameter: factor of transmission in dB, isolation rate in %

increase in deformation under consistent loading **parameter:** permanent loading shape factor q=3

change of dynamic modulus of elasticity under consistent loading parameter: load duration shape factor q=3



| 5 |



frequency dependency

2.0

1.8

1.6 1.4

1.2 1.0

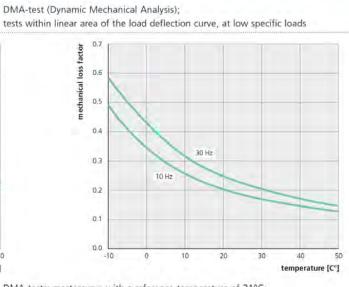
0.8

0.6 0.4

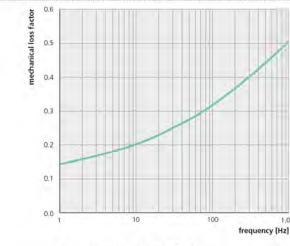
0.2

0.0

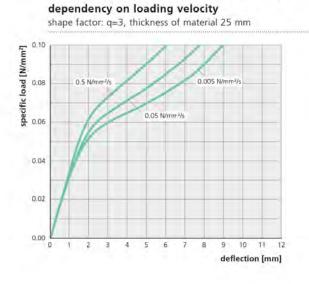
dyn. E-modulus [N/mm<sup>2</sup>]



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



dependency on amplitude

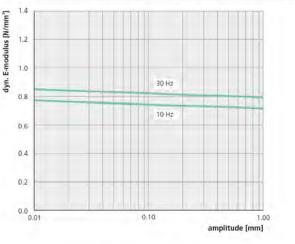


10

100

1,000

frequency [Hz]



preload at static load limit; shape factor: q=3, thickness of material 25 mm

1,000

#### Shape factor

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

definition.

30%

15% 10% 5% 0%

-5% -10% -15%

0

1

deviation [%] 25% 20%

loaded area perimeter surface area

for a rectangular shape:

static load limit respectively.

reference value: shape factor q=3

I+W q = 2-t-(1+w)

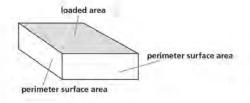
(I...length, w...width, t...thickness)

decrease of deflection

5

shape factor

ä

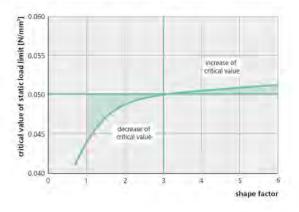


#### Elastic Sylomer-bearings are considered as:

full surface bearing: strip bearing: point bearing:

shape factor > 6 shape factor between 2 and 6 shape factor < 2

influence of the shape factor on the critical value of the static load limit for homogeneous material reference value: shape factor q=3



G3157/0603D Subject to diange.

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The shape factor has an influence on the deflection and the

influence of the shape factor on the critical value

of the static load limit for homogeneous material

increase of deflection

2

### sylomer

в

Material:	mixed cellular polyurethane		
Colour:	red		
Area of application:	compression load (depending on shape f		
Static load limit:	0.20 N/mm <sup>2</sup>	approx. 9%	

 
 Operating load range: (static plus dynamic loads)
 up to 0.30 N/mm²
 approx. 20%

 Load peaks: (short term, infrequent loads)
 up to 4.0 N/mm²
 approx. 70%

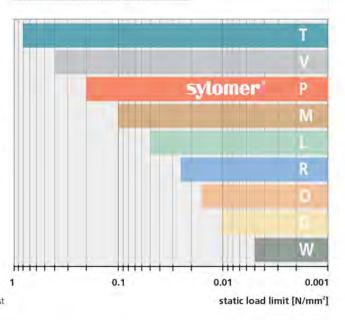
#### Standard dimensions on stock:

MATERIAL PROPERTIES

thickness:	12.5 mm with Sylomer P12
	25 mm with Sylomer P25
rolls:	1,5 m wide, 5.0 m long
stripes:	max. 1.5 m wide, 5.0 m long

other dimensions (also thickness), as well as stamped and molded parts on request

#### Standard Sylomer range



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and the second				Sector 1 - Co
tensile stress at break	1.5	N/mm <sup>2</sup>	DIN EN ISO 527-3/5/100*	minimum value
elongation at break	300	%	DIN EN ISO 527-3/5/100*	minimum value
tear strength	6.0	N/mm	DIN 53515*	minimum value
abrasion	1,000	mm³	DIN 53516	load 10 N, bottom surface
coefficient of friction (steel)	0.5	100100010001000100	Getzner Werkstoffe	dry
coefficient of friction (concrete)	0.7		Getzner Werkstoffe	dīy
compression set	< 5	%	EN ISO 1856	50%, 23°C, 70 h, 30 minutes after unloading
static shear modulus	0.35	N/mm <sup>2</sup>	DIN ISO 1827*	at static load limit
dynamic shear modulus	0.68	N/mm <sup>2</sup>	DIN ISO 1827*	at static load limit
mechanical loss factor	0.15		DIN 53513*	depending on frequency, load and amplitude (reference value)
rebound elasticity	55	%	DIN 53573	tolerance +/- 10%
operating temperature	-30 up to 70	°C	- (-) - (-)	short term higher temperatures possible
flammability	B2		DIN 4102	normal flammable
	B, C and D		EN ISO 11925-2	passed
specific volume resistance	> 1011	·cm	DIN IEC 93	dry
thermal conductivity	0.08	W/[m·K]	DIN 52612/1	

test method

further characteristic values on request

\* tests according to respective standards

All information according to our current state of knowledge.

All data can be used for calculation and reference values and are subject to usual production tolerances. Subject to modifications and alterations at any time and without prior notice.



۵. sylomer

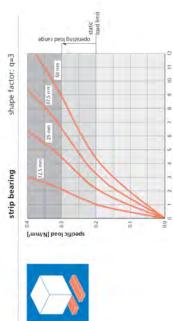
# load deflection curve

| 2 |

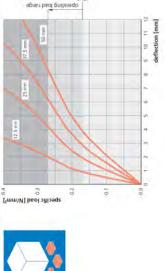
modulus of elasticity

natural frequency

#### static load limit abuei peoj bugeiado shape factor: q=6 20 mm full surface bearing [ˈmm/N] beol sitisəqə 2 2 2 0.1 0.0

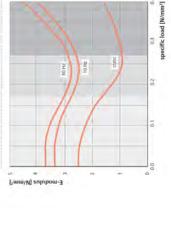




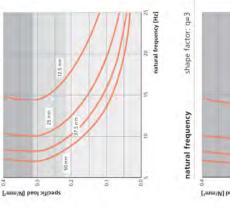


static Joad limit

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



bearing consisting of Sylomer P based on a stiff subgrade; parameter: thickness of elastomeric bearing Natural frequency of a single-degree-of-freedom system (SDOF system) consisting of a fixed mass and an elastic the load deflection curve; dynamic modulus of elasticity due to sinusoidal excitation with a velocity level of 100 dBv re. 5 10° m/s; Static modulus of elasticity as a tangent modulus taken from test according to DIN 53513



shape factor: g=3

modulus of elasticity

[2mm/N] sulubom-3

specific load [N/mm<sup>2</sup>]

deflection [mm]

tatic

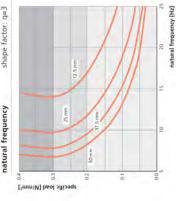
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[rmm/N] sulubom-3



shape factor: q=1.5 natural frequency

shape factor: q=1.5

modulus of elasticity

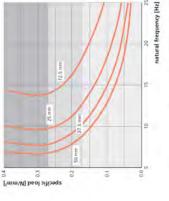
specific load [N/mm<sup>2</sup>]

0.3

5

static

OHE 30 Ht

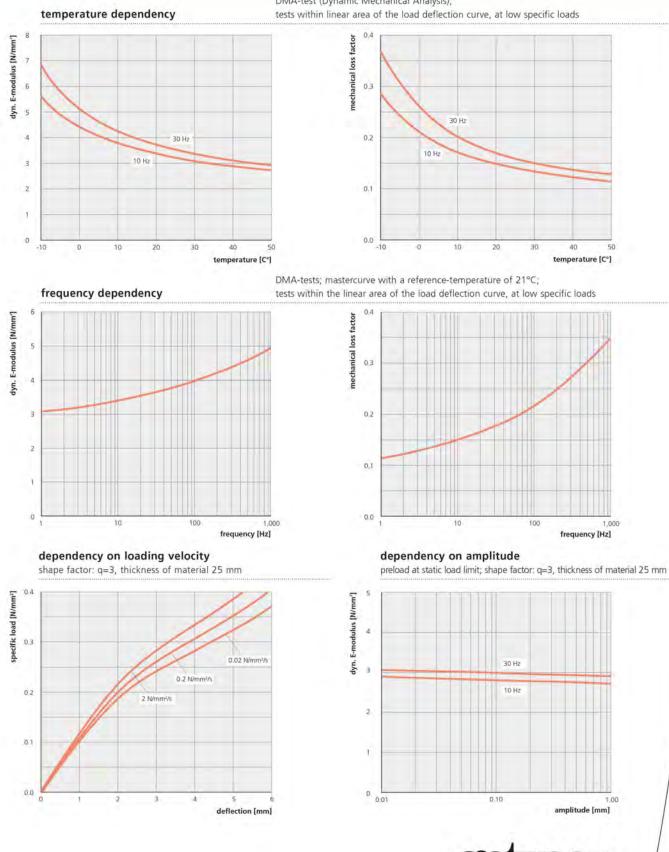


shape factor: g=6

natural frequency

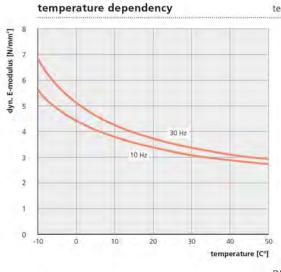
shape factor: q=6

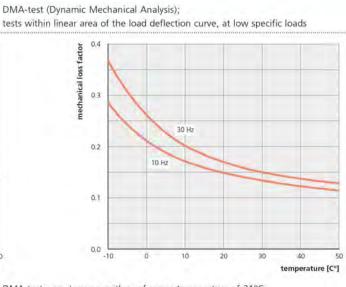
modulus of elasticity



DMA-test (Dynamic Mechanical Analysis);

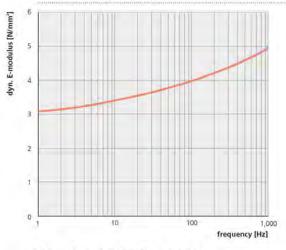
151\_



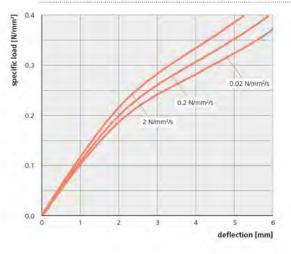


DMA-tests; mastercurve with a reference-temperature of 21°C; tests within the linear area of the load deflection curve, at low specific li

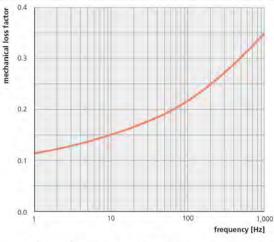
frequency dependency



dependency on loading velocity shape factor: q=3, thickness of material 25 mm

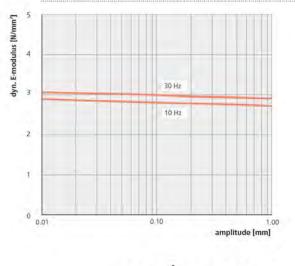


tests within the linear area of the load deflection curve, at low specific loads



dependency on amplitude

preload at static load limit; shape factor: q=3, thickness of material 25 mm





#### Shape factor

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

definition:

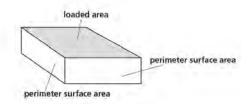
shape factor = perimeter surface area

for a rectangular shape:

 $q = \frac{1 \cdot w}{2 \cdot t \cdot (1 + w)}$ 

(I...length, w...width, t...thickness)

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

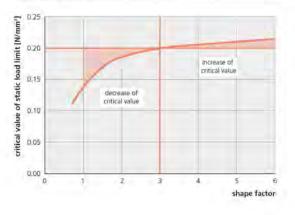


#### Elastic Sylomer-bearings are considered as:

full surface bearing: strip bearing: point bearing: shape factor > 6 shape factor between 2 and 6 shape factor < 2

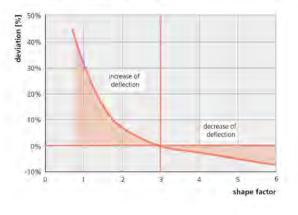
161

influence of the shape factor on the critical value of the static load limit for homogeneous material reference value; shape factor q=3



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influence of the shape factor on the critical value of the static load limit for homogeneous material reference value; shape factor q=3



### sylomer<sup>®</sup> R

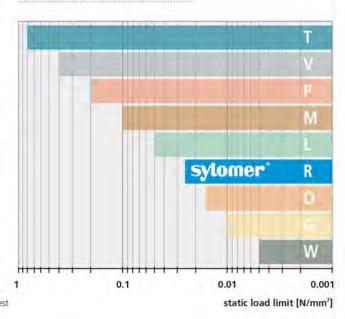
٩

mixed cellular polyurethane		
blue compression load deflection (depending on shape factor)		
up to 0.035 N/mm <sup>2</sup>	approx. 20%	
up to 1.0 N/mm <sup>2</sup>	approx. 80%	
	blue compression load (depending on shape fa up to 0.025 N/mm <sup>2</sup> up to 0.035 N/mm <sup>2</sup>	

#### Standard dimensions on stock:

12.5 mm with Sylomer R12		
25 mm with Sylomer R25		
1.5 m wide, 5.0 m long		
max 1.5 m wide, 5.0 m long		

#### Standard Sylomer range



MATERIAL PROPERTIES			test methods	comment
tensile stress at break	0.5	N/mm <sup>2</sup>	DIN EN ISO 527-3/5/100*	minimum value
elongation at break	300	%	DIN EN ISO 527-3/5/100*	minimum value
tear strength	2.0	N/mm	DIN 53515*	minimum value
abrasion	770	mm <sup>3</sup>	DIN 53516	load 5 N, bottom surface
coefficient of friction (steel)	0.5		Getzner Werkstoffe	dry
coefficient of friction (concrete)	0.7		Getzner Werkstoffe	dry
compression set	< 5	%	EN ISO 1856	50%, 23°C, 70 h, 30 minutes after unloading
static shear modulus	0.07	N/mm <sup>2</sup>	DIN ISO 1827*	at static load limit
dynamic shear modulus	0.17	N/mm <sup>2</sup>	DIN ISO 1827*	at static load limit
mechanical loss factor	0.21		DIN 53513*	depending on frequency, load and amplitude (reference value)
rebound elasticity	45	%	DIN 53573	tolerance */- 10%
operating temperature	-30 up to 70	°C		short term higher temperatures possible
flammability	B2		DIN 4102	normal flammable
	B, C and D		EN ISO 11925-2	passed
specific volume resistance	> 1011	∙cm	DIN IEC 93	dry
thermal conductivity	0.06	W/[m⋅K]	DIN 52612/1	
forether all an an all the college and an arrest				

further characteristic values on request

\* tests according to respective standards

All information according to our current state of knowledge.

All data can be used for calculation and reference values and are subject to usual production

tolerances. Subject to modifications and alterations at any time and without prior notice.



### 2 sylomer

# load deflection curve

121

# modulus of elasticity

## natural frequency

shape factor: q=6

natural frequency

shape factor: q=6

modulus of elasticity

0.6 105 0.4 0.3 2'0

500

[¿u

NJ beof bad [N

0.02

100

000

0.03 0.04 0.0 specific load [N/mm<sup>2</sup>]

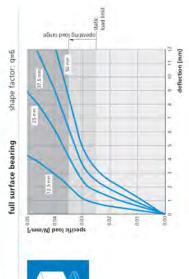
6.03

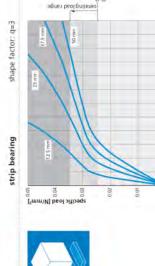
0.02

102

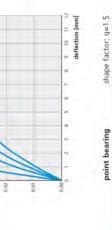
0.0

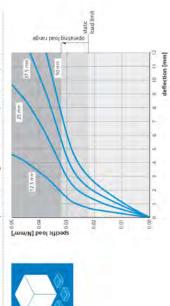
0.1



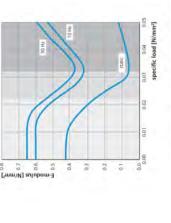


-static load limit

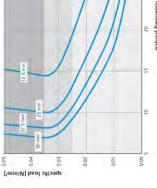




recording of the 3<sup>rd</sup> loading; testing at room temperature Quasi-static load deflection curve measured at a velocity of deformation of 1% of the thickness per second, testing between flat steel-plates;



Static modulus of elasticity as a tangent modulus taken from the load deflection curve; dynamic modulus of elasticity due to sinusoidal excitation with a velocity level of 100 dBv re. 5 10° m/s; test according to DIN 53513



natural frequency [Hz]

shape factor: q=3

natural frequency

shape factor: q=3

modulus of elasticity

u/N] sulubon in 0.5 0.4 EU 20 10

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shape factor: q=1.5

modulus of elasticity

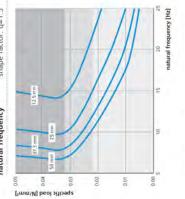
x03 0.04 0.0 specific load [N/mm<sup>2</sup>]

0.03

2070

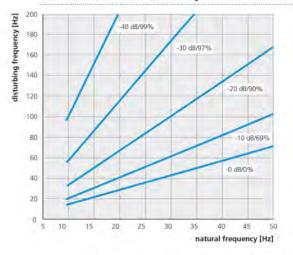
100

000



Natural frequency of a single-degree-of-freedom system (SDOF system) consisting of a fixed mass and an elastic bearing consisting of Sylomer R based on a stiff subgrade; parameter: thickness of elastomeric bearing

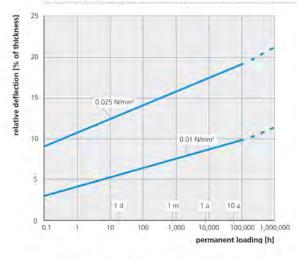
I E I



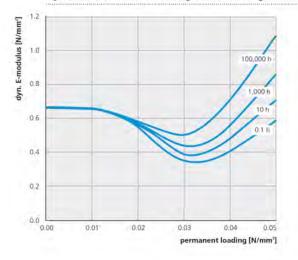
vibration isolation - efficiency

reduction of the transmitted mechanical vibrations by implementation of an elastic bearing consisting of Sylomer R parameter: factor of transmission in dB, isolation rate in %

creep behaviour



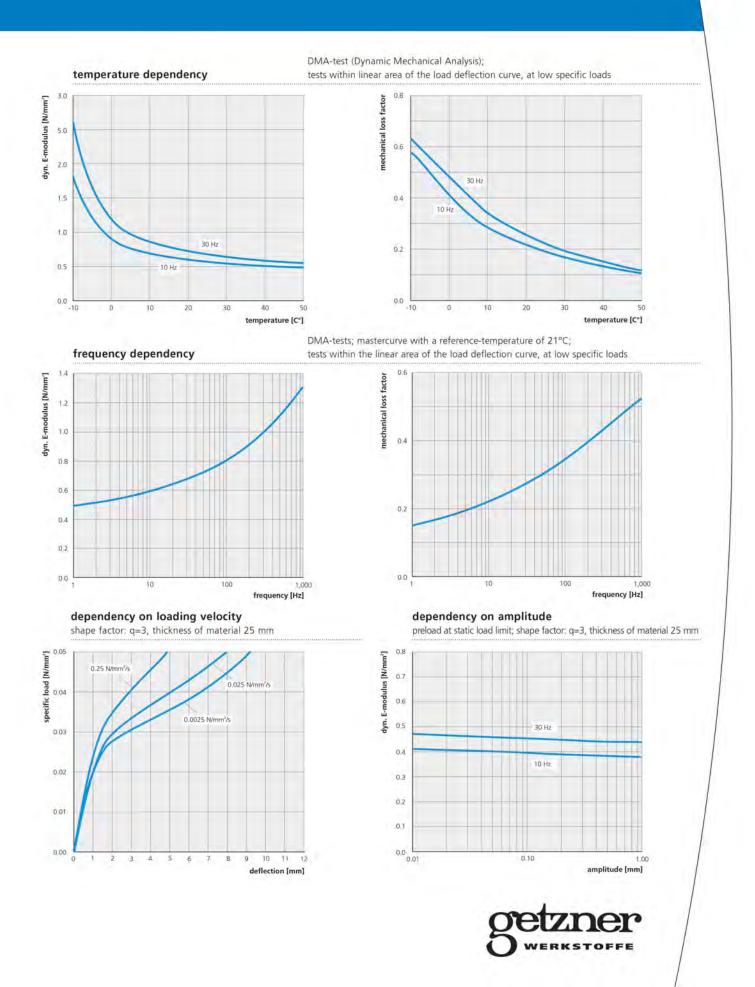
dynamic E-modulus at long term loading



increase in deformation under consistent loading **parameter:** permanent loading shape factor q=3

change of dynamic modulus of elasticity under consistent loading **parameter:** load duration shape factor q=3





#### Shape factor

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

definition:	shape factor =	loaded area	
	shape factor =	perimeter surface area	

for a rectangular shape:

1.W q =

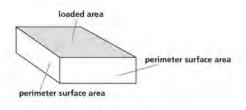
(I., length, w., width, t., thickness)

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

influence of the shape factor on the critical value

of the static load limit for homogeneous material

reference value: shape factor q=3



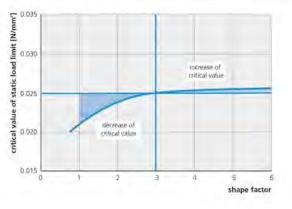
#### Elastic Sylomer-bearings are considered as:

full surface bearing: strip bearing: point bearing:

shape factor > 6 shape factor between 2 and 6 shape factor < 2

6 |

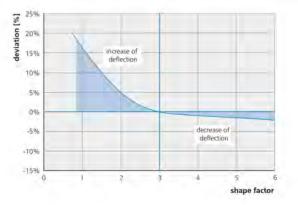
#### influence of the shape factor on the critical value of the static load limit for homogeneous material



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UCHTROKT WWIEBUNG

reference value: shape factor q=3



WORLDWIDE LOCATIONS Australia, China/Hong Kong, Czech Republic, UAE, India, Indonesia, Japan, Korea, Malaysia, Singapore, New Zealand, Taiwan, Thailand, Turkey, United Kingdom, USA, Vietnam



CONTACT DETAILS: for further information and contact details, please visit our website at www.pyroteknc.com

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