

CONSTRUCTION | INDUSTRY

Regufoam®

# Vibration Insulation

Technical  
Data for  
Regufoam®

150, 220, 300,  
400, 510, 680



**Regupol**  
(Australia) Pty. Ltd.

[www.regupol.com.au](http://www.regupol.com.au)

# Vibration Absorption and Structure Borne Sound Insulation

The material Regufoam® achieves top levels in vibration absorption and insulation of structure-borne noise. This material is a hydrolysis-proof and rot-proof polyurethane foam that is manufactured in six different grades according to firmness. These different degrees of hardness are colour-labelled to prevent confusion. Selection form amongst the different types depends on the load involved. They are available in standard

thicknesses of 12 and 25 mm and combinations thereof. Regufoam® shows very low intrinsic frequency levels within the relevant load ranges, resulting in high noise insulation values. Another advantage of this insulation material is its relatively low compression ratio, combined with enormous resilience. Regufoam® can be used in a wide variety of applications. The material is used wherever structure-borne sound and

vibrations require highly effective insulation. This includes the fields of structural and civil engineering and track-laying. Regufoam® also plays an important role in mechanical engineering and shipbuilding. The standard supply form for this material is in rolls. Stamped parts, cutouts produced with a water jet and mould-formed articles are also available on request.

## Fields of application

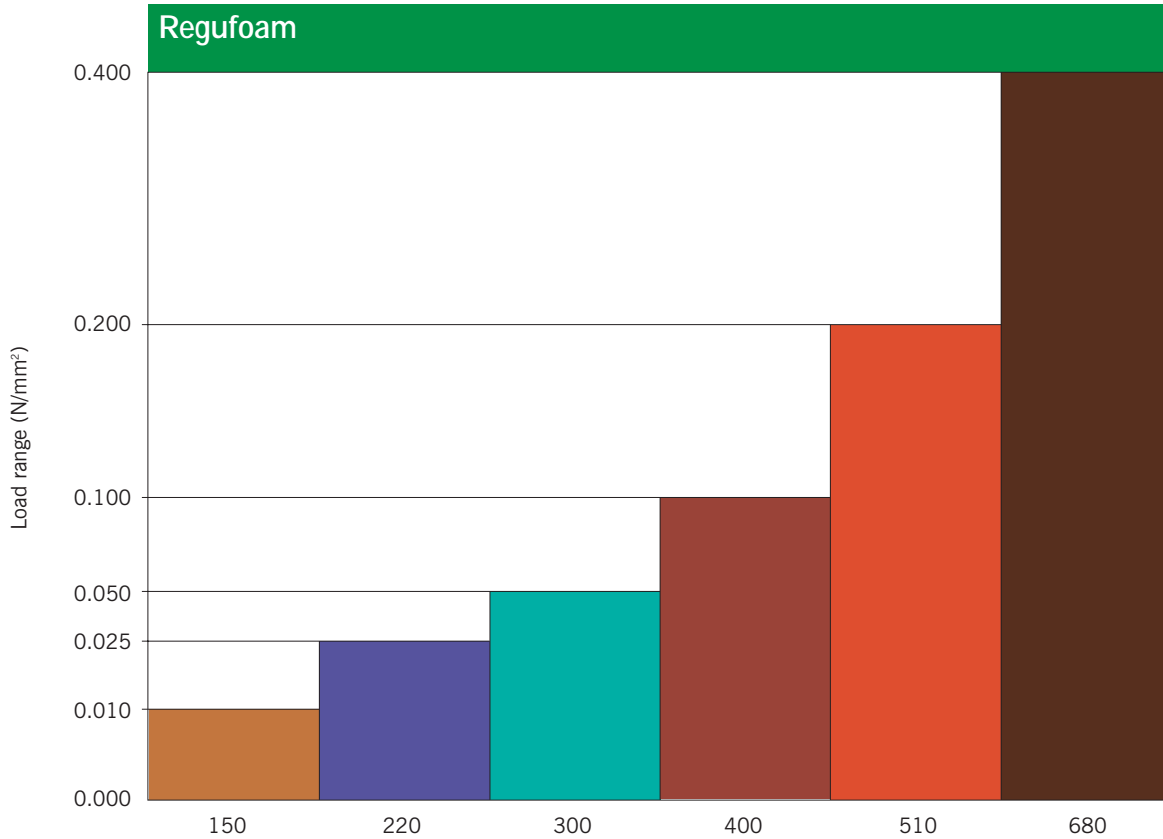
### Road construction

In track-laying and tunnel construction, as well as in road and bridge construction, BSW materials are used to damp vibrations and to protect structures from damaging vibrations.

### Foundations

Buildings with load distribution plates rest on Regufoam® to protect them against ground vibrations.

## Load Ranges



### Structural engineering

Whether in lift motors, pumps, ventilation systems or block-type thermal power stations, Regufoam® is easy to install and has a long useful life.

### Industry

In industrial applications, Regufoam® is used for active insulation of machines and passive insulation of floor plates on which fine measuring equipment is installed, in laboratory rooms and in measuring booths. Both sub-critical and hyper-critical mounts are possible.

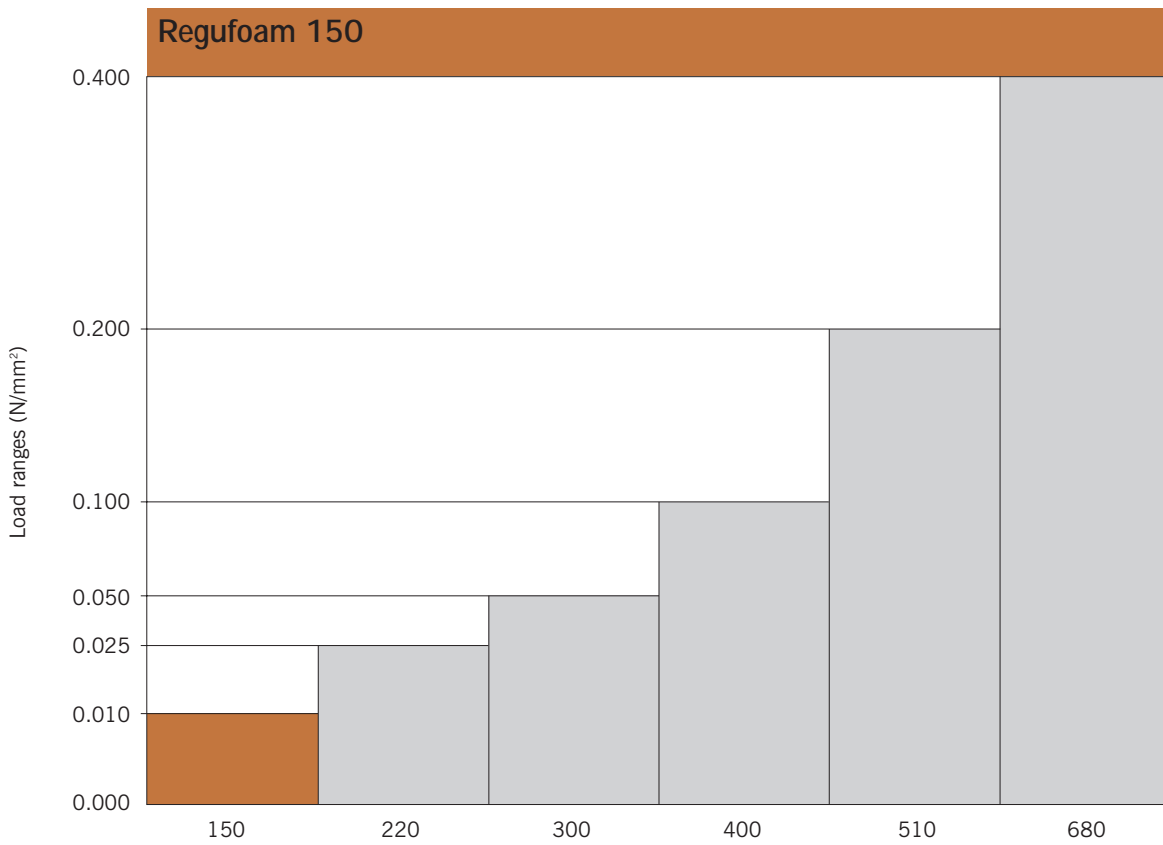
Standard sizes, on stock:

Thickness:  
12 and 25 mm  
Other thicknesses possible.

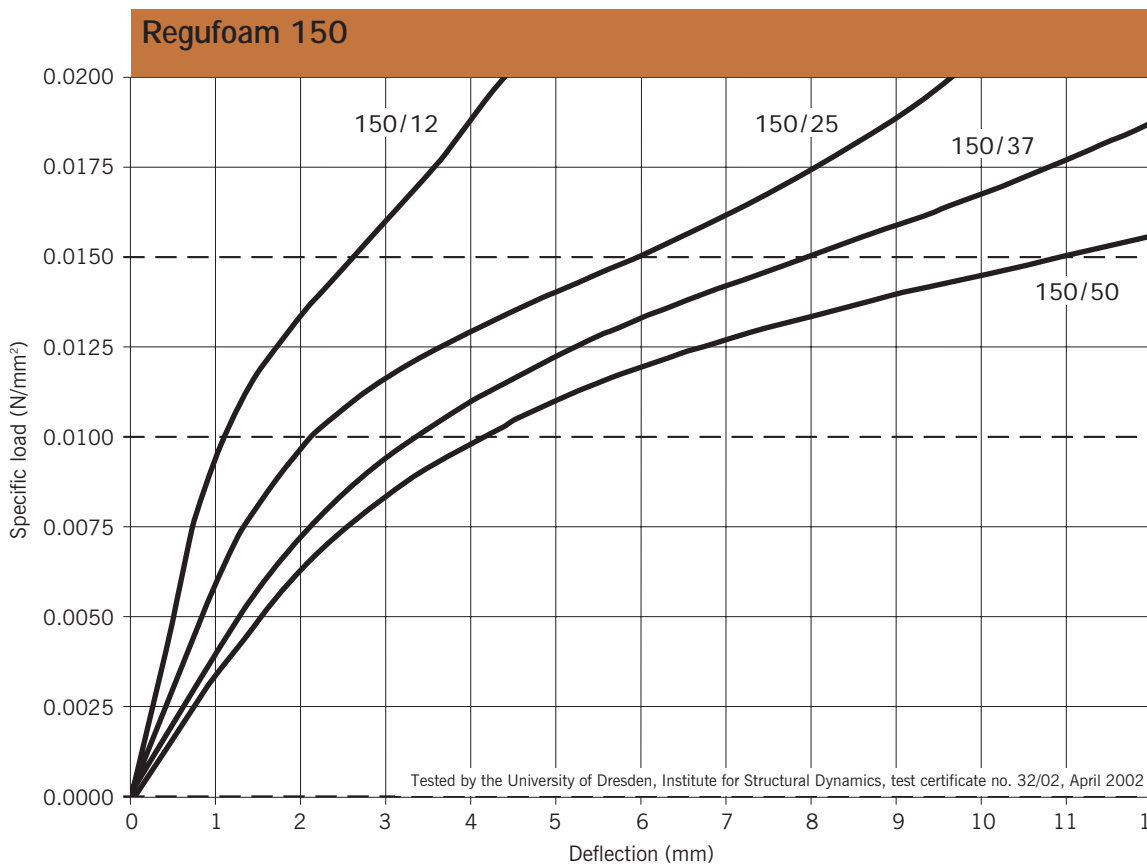
Rolls:

width 1,500 mm  
length 5,000 mm  
Special lengths possible  
die-cutting, water-jet cutting,  
self adhesive possible.

# Load Ranges



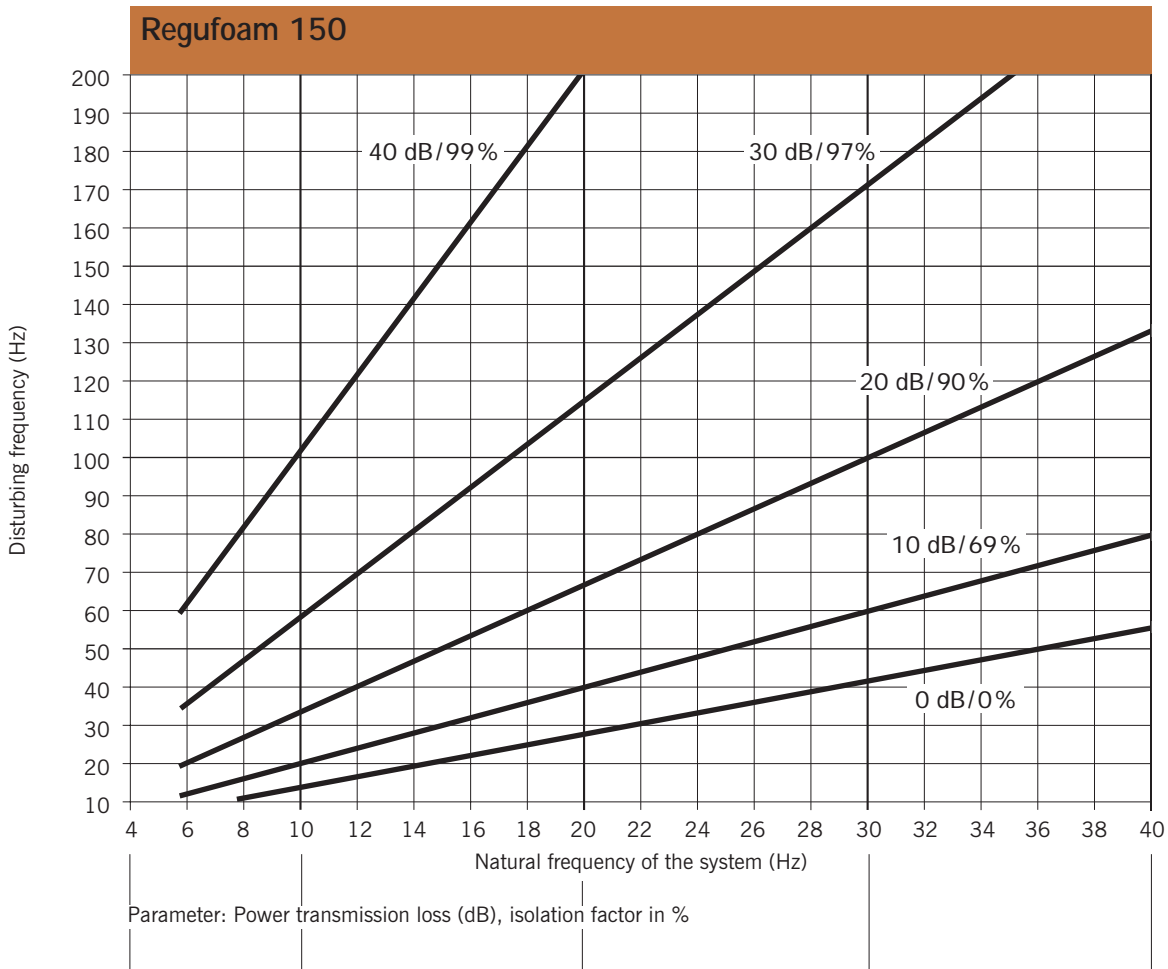
# 1 Load Deflection



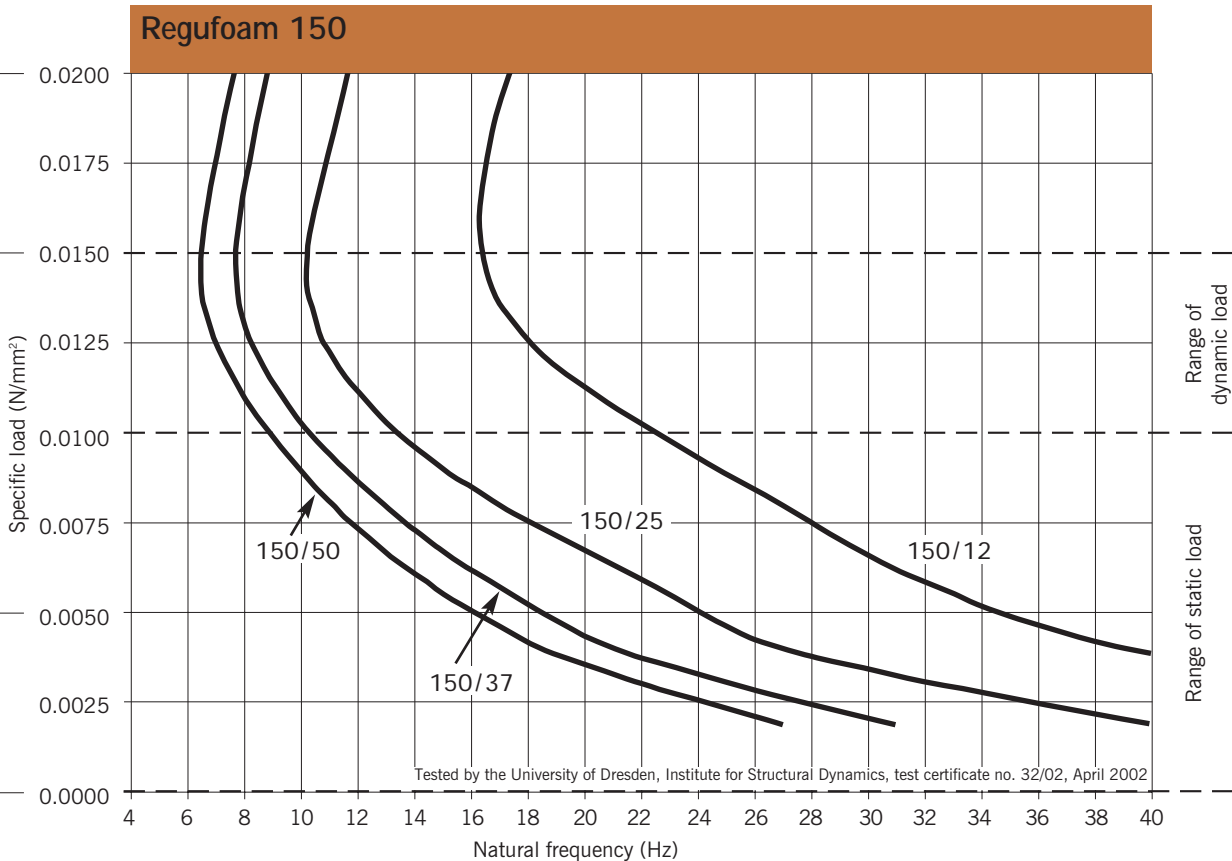
Tested by the University of Dresden, Institute for Structural Dynamics, test certificate no. 32/02, April 2002

Samples: 300 mm x 300 mm, 3<sup>rd</sup> load cycle, between flat plates  
load rate: 0.02 MPa/min, ambient temperature

## 2 Vibration Insulation

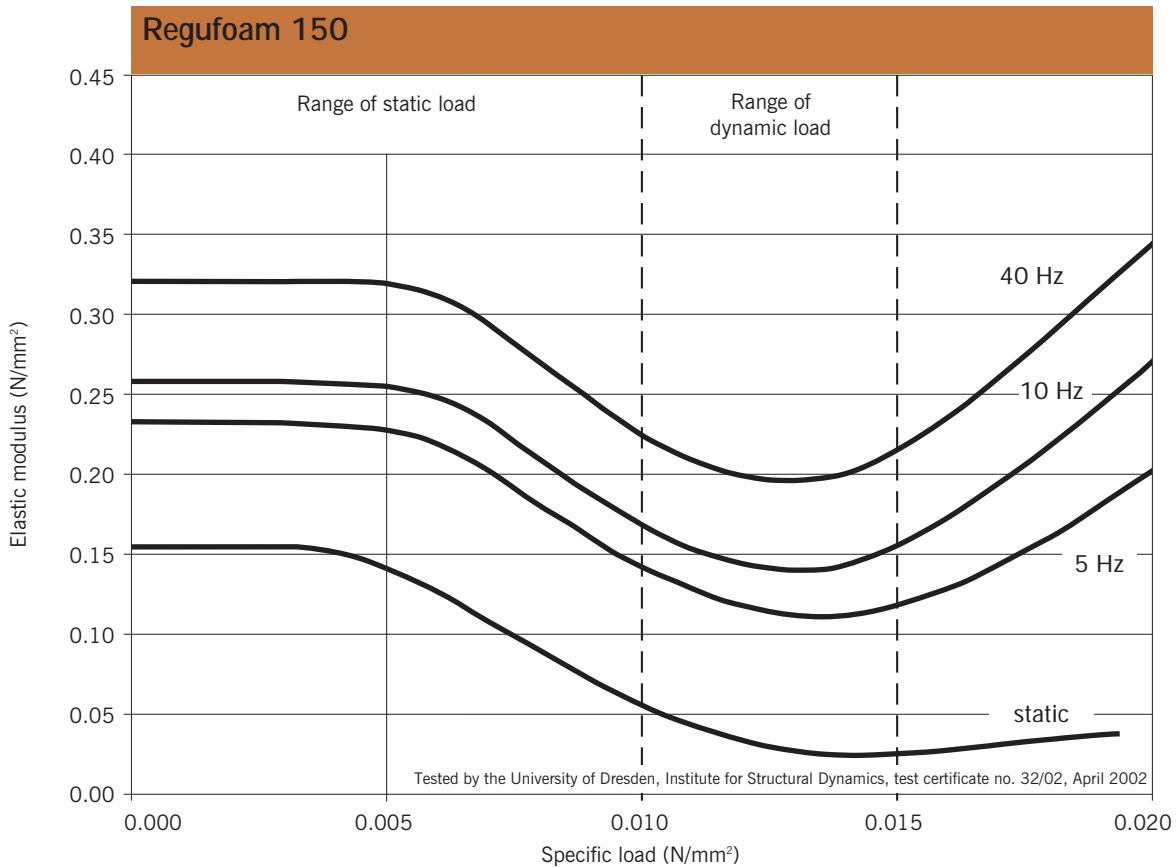


## 3 Natural Frequency



The diagram refers to a structure consisting of a rigid base and an elastic layer of Regufoam® 150.

## 4 Modulus of Elasticity

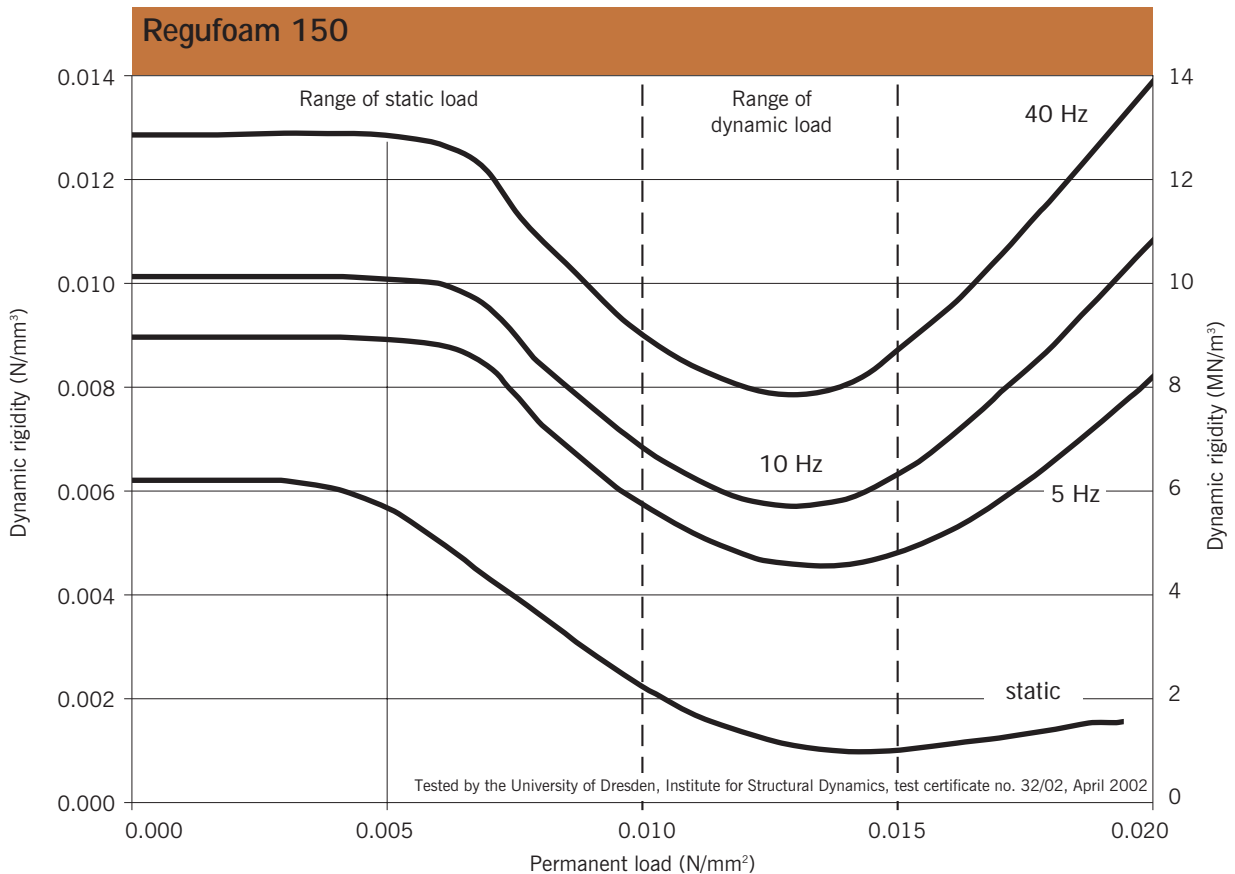


Static modulus of elasticity: Tangential modulus from the deflection curves

Dynamic modulus: samples 300 mm x 300 mm x 25 mm

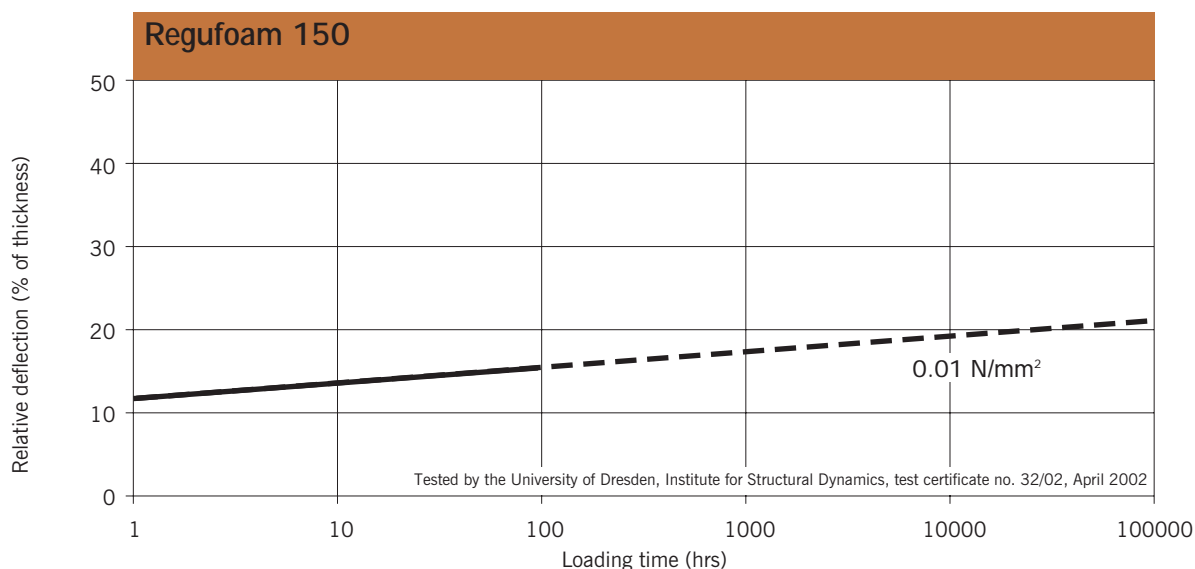
Sinusoidal excitation, amplitude +/- 0.25 mm

## 5 Dynamic Rigidity



Samples: 300 mm x 300 mm x 25 mm  
DIN 53513

## 6 Long-term Creep Test



## Technical Data

Permanent static load range:  
0 to 0.010 N/mm<sup>2</sup>

Permanent and variable loads/  
operating load range:  
0 to 0.015 N/mm<sup>2</sup>

Rare and short-term loads/load peaks:  
up to 0.50 N/mm<sup>2</sup>

Material basis:  
cellular Polyurethan (PUR)  
mixed cellstructure

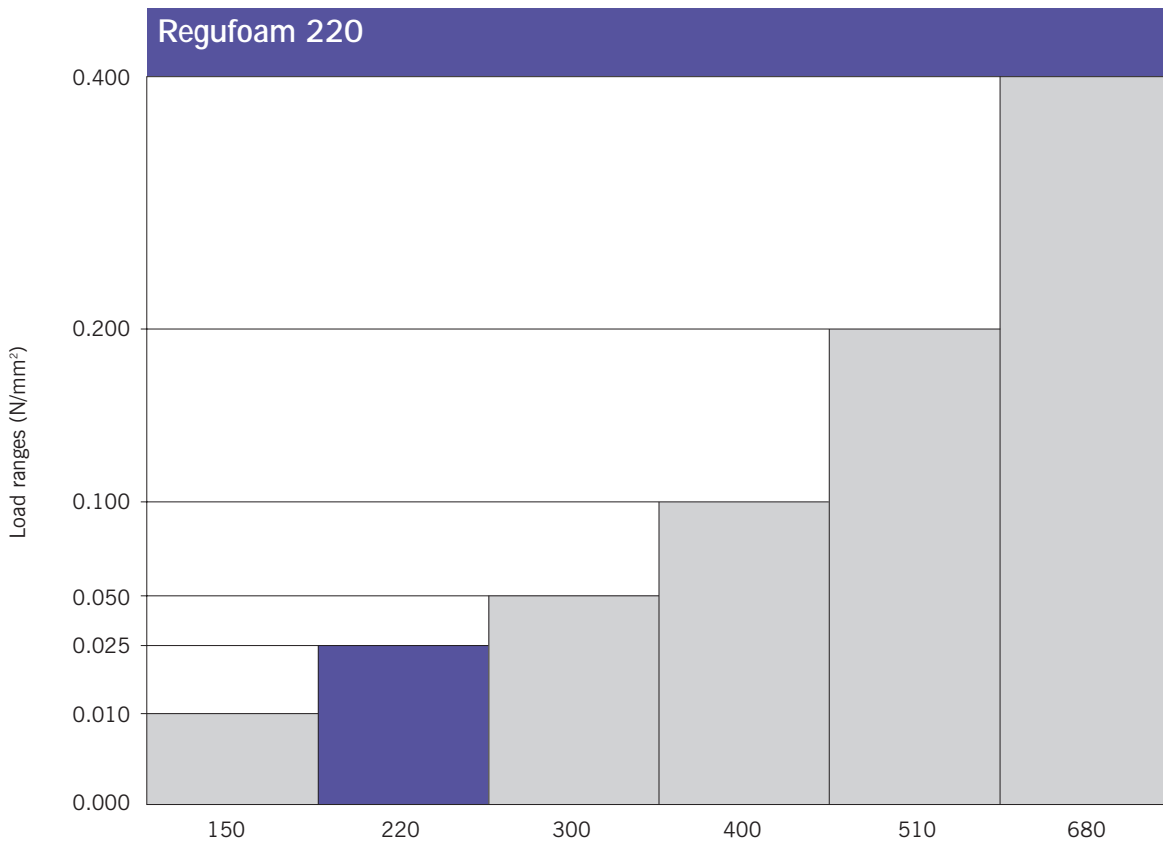
Colour: beige



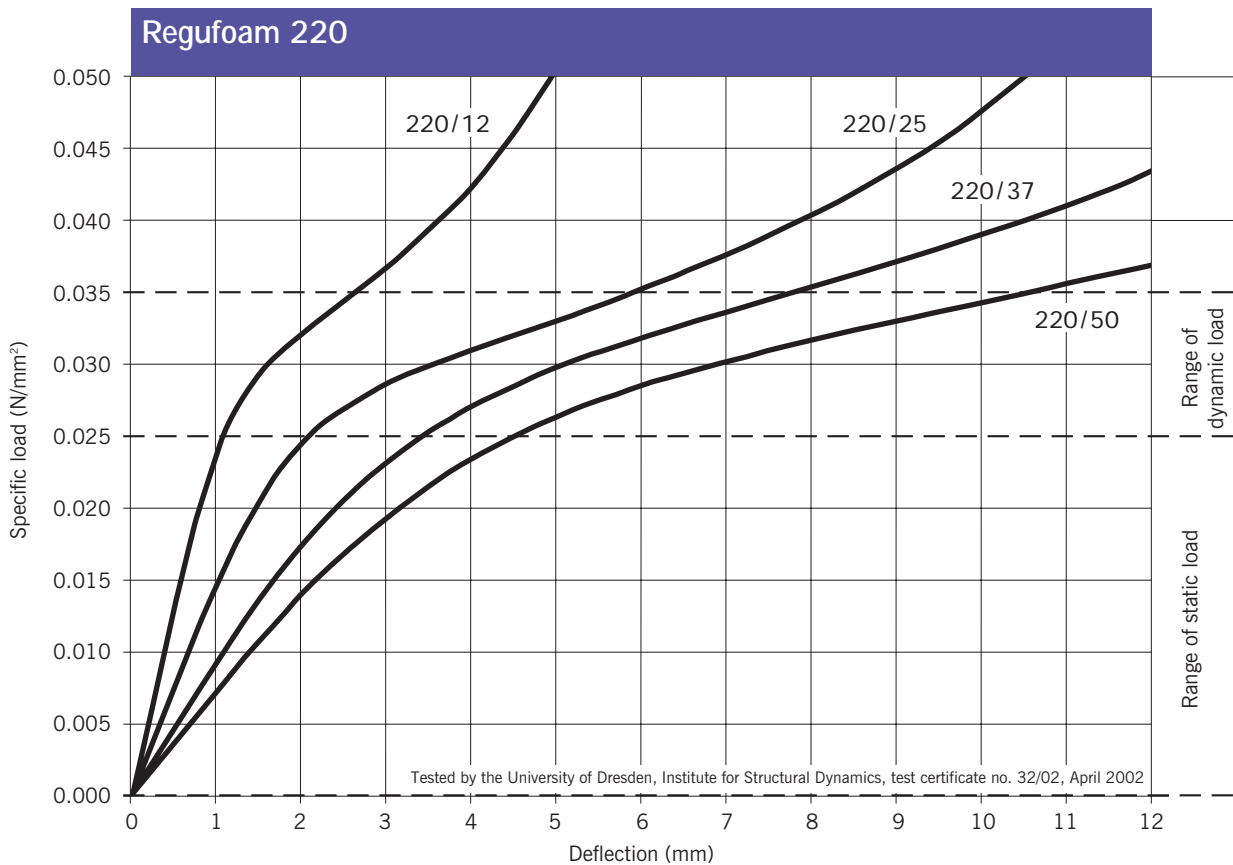
Density	DIN 53420	ca. 150	kg/m <sup>3</sup>	
Beddingsmodule	DIN 18134	0.0038	N/mm <sup>3</sup>	measured at a maximum continuous load of 0.01 N/mm <sup>2</sup> and a material thickness of 25 mm
Compression Set	DIN 53572	2.50	%	measured 30 minutes after decompression with 50% deformation/23 °C after 70 hrs.
Tensile Strength	DIN 53571	0.42	N/mm <sup>2</sup>	Minimum
Elongation at break	DIN 53571	270	%	Minimum
Tear-Resistance	DIN 53515	2.65	N/mm	Minimum
Mechanical Loss Factor	DIN 53513	0.25	-	
Inflammability	DIN 4102	B 2	-	Normal inflammable
Static Modulus of Elasticity	Similar to EN 826	0.025-0.16	N/mm <sup>2</sup>	Tangential modulus see fig. 4
Dynamic Modulus of Elasticity	DIN 53513	0.11-0.32	N/mm <sup>2</sup>	depending on load and frequency, see fig. 4

The information on this data sheet is based on the current state of our knowledge and experience and is subject to changes and production-related variations without notice.

# Load Ranges



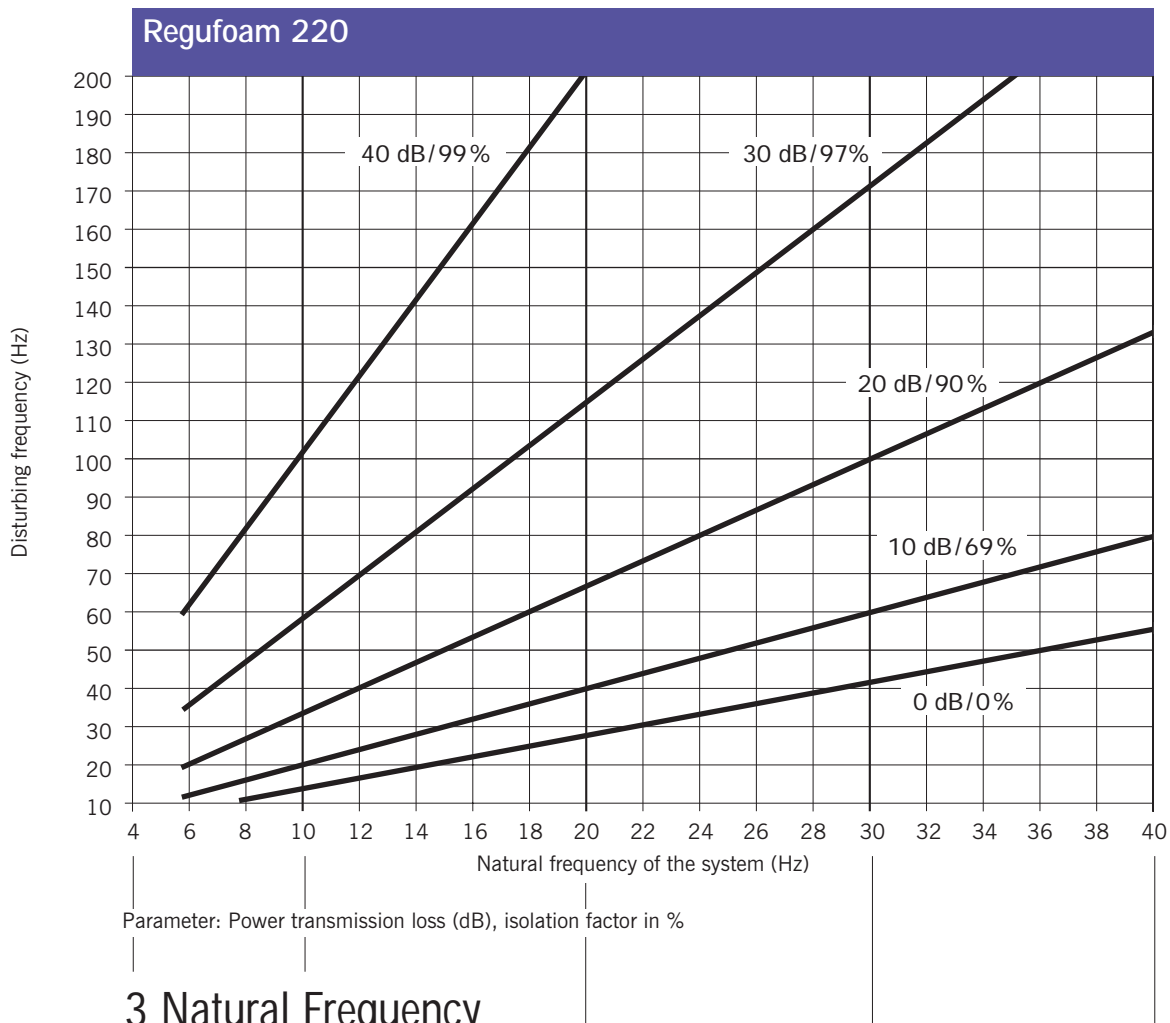
# 1 Load Deflection



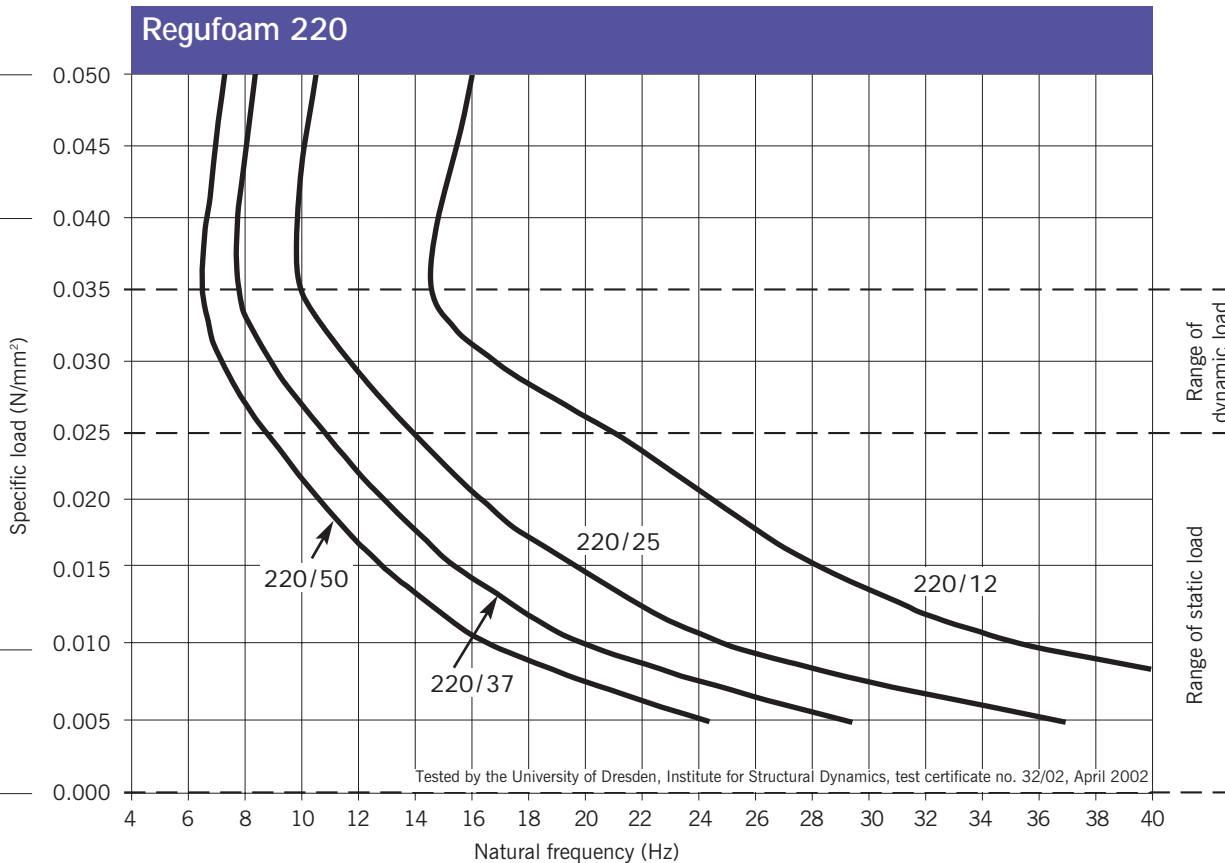
Tested by the University of Dresden, Institute for Structural Dynamics, test certificate no. 32/02, April 2002

Samples: 300 mm x 300 mm, 3<sup>rd</sup> load cycle, between flat plates  
load rate: 0.05 MPa/min, ambient temperature

## 2 Vibration Insulation

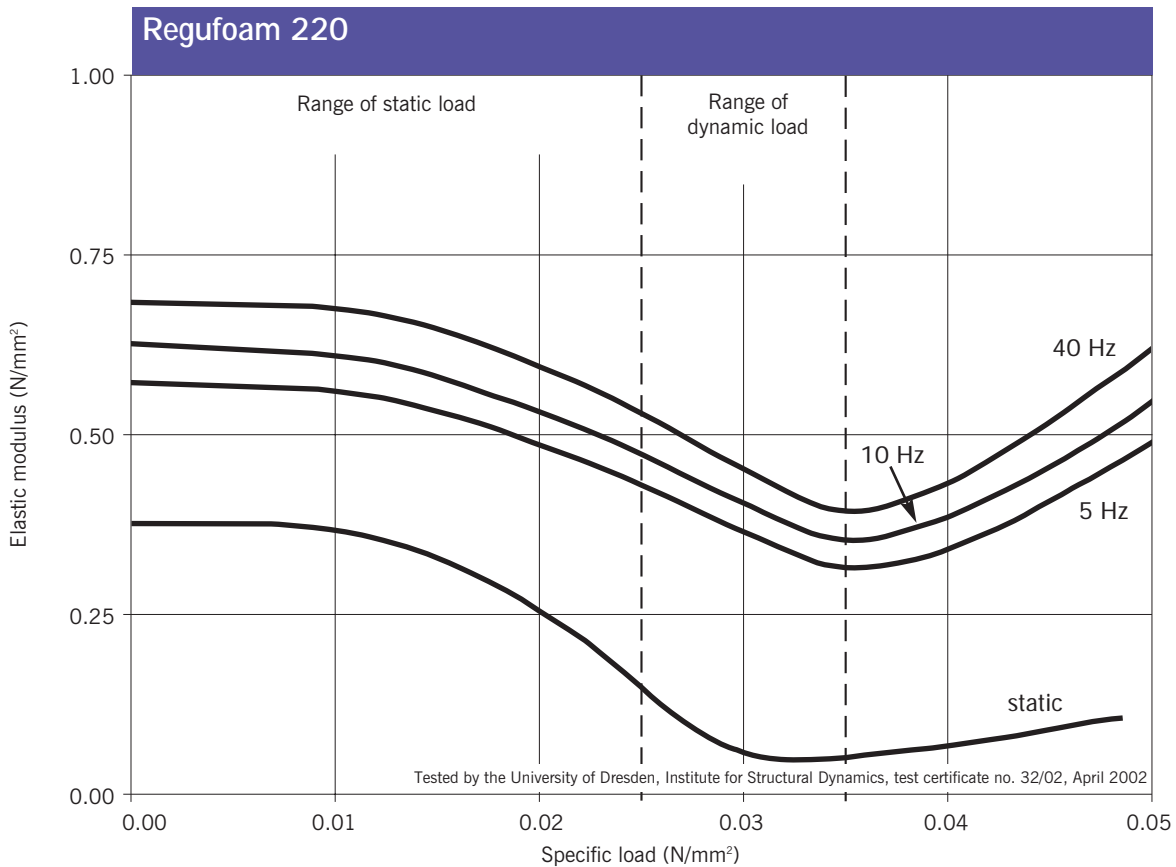


## 3 Natural Frequency



The diagram refers to a structure consisting of a rigid base and an elastic layer of Regufoam® 220.

## 4 Modulus of Elasticity

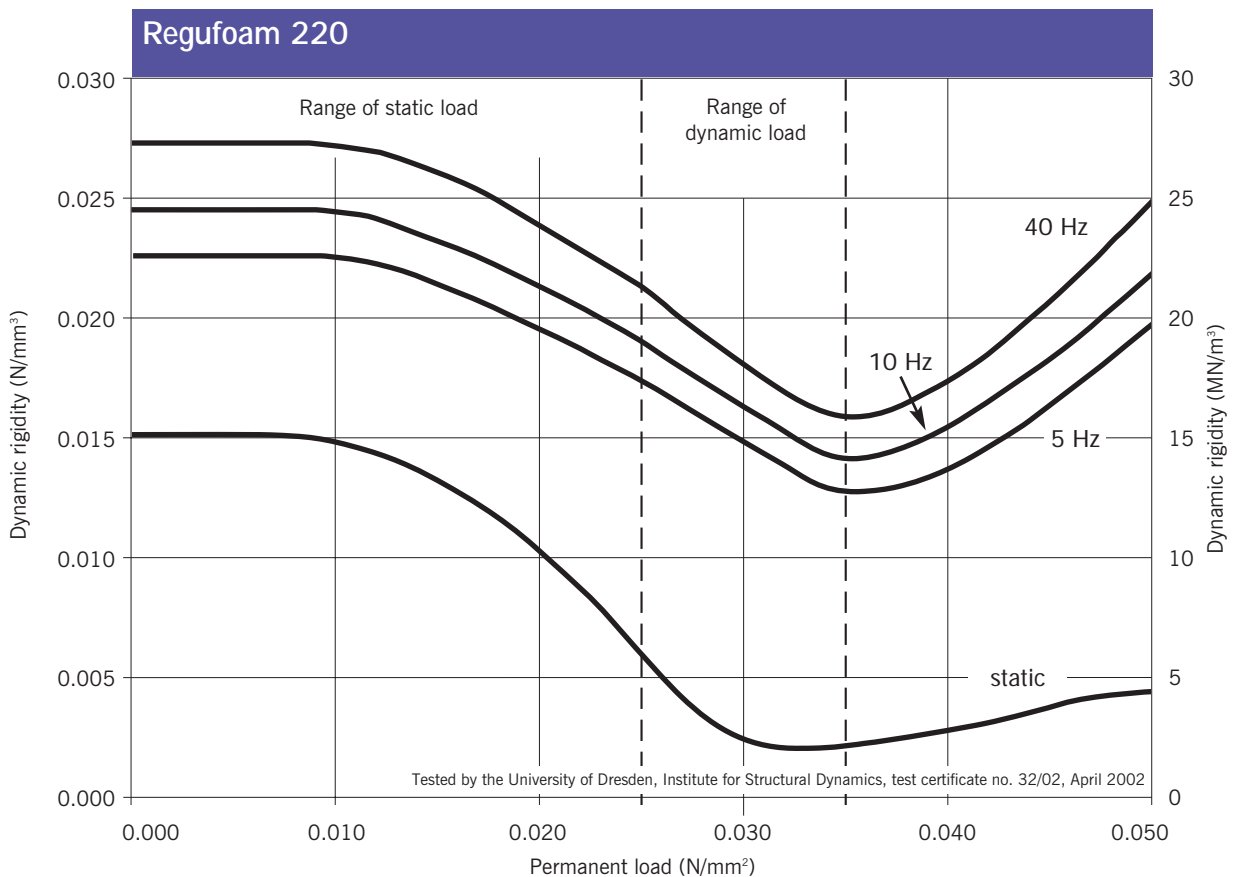


Static modulus of elasticity: Tangential modulus from the deflection curves

Dynamic modulus: samples 300 mm x 300 mm x 25 mm

Sinusoidal excitation, amplitude +/- 0.25 mm

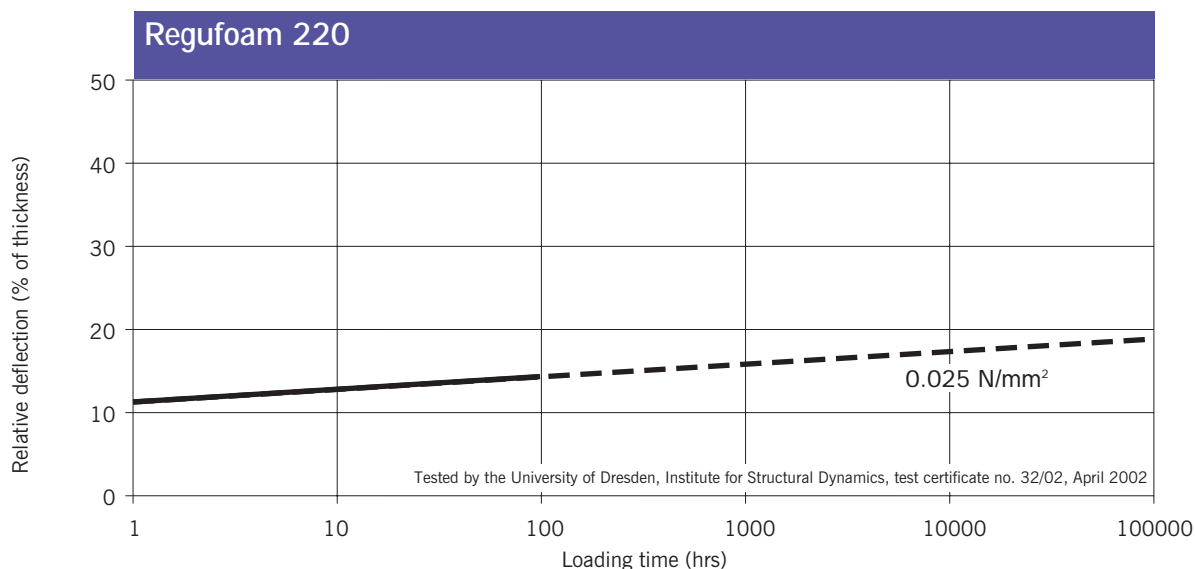
## 5 Dynamic Rigidity



Samples: 300 mm x 300 mm x 25 mm

DIN 53513

## 6 Long-term Creep Test



## Technical Data

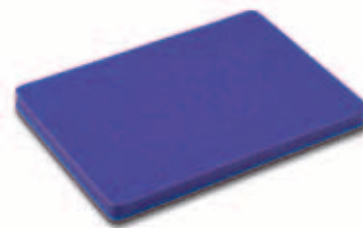
Permanent static load range:  
0 to 0.025 N/mm<sup>2</sup>

Permanent and variable loads/  
operating load range:  
0 to 0.035 N/mm<sup>2</sup>

Rare and short-term loads/load peaks:  
up to 1.0 N/mm<sup>2</sup>

Material basis:  
cellular Polyurethan (PUR)  
mixed cellstructure

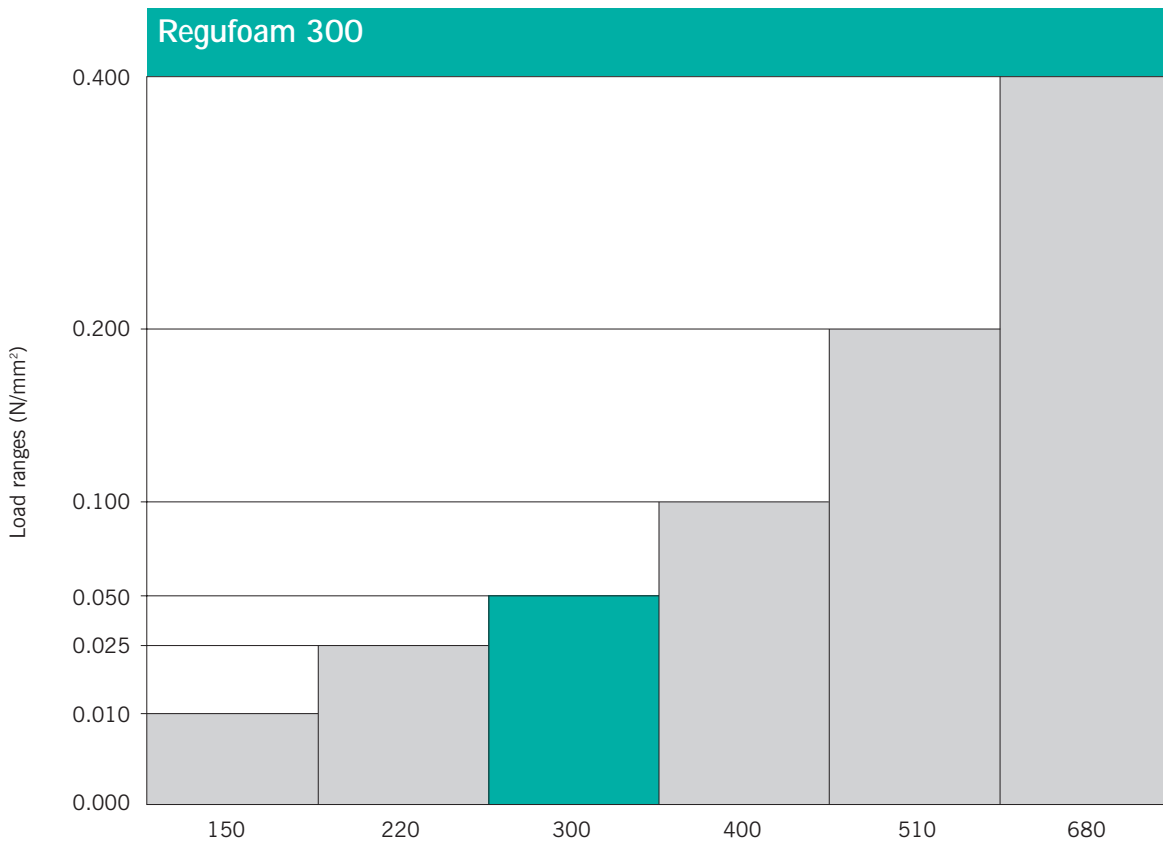
Colour: purple



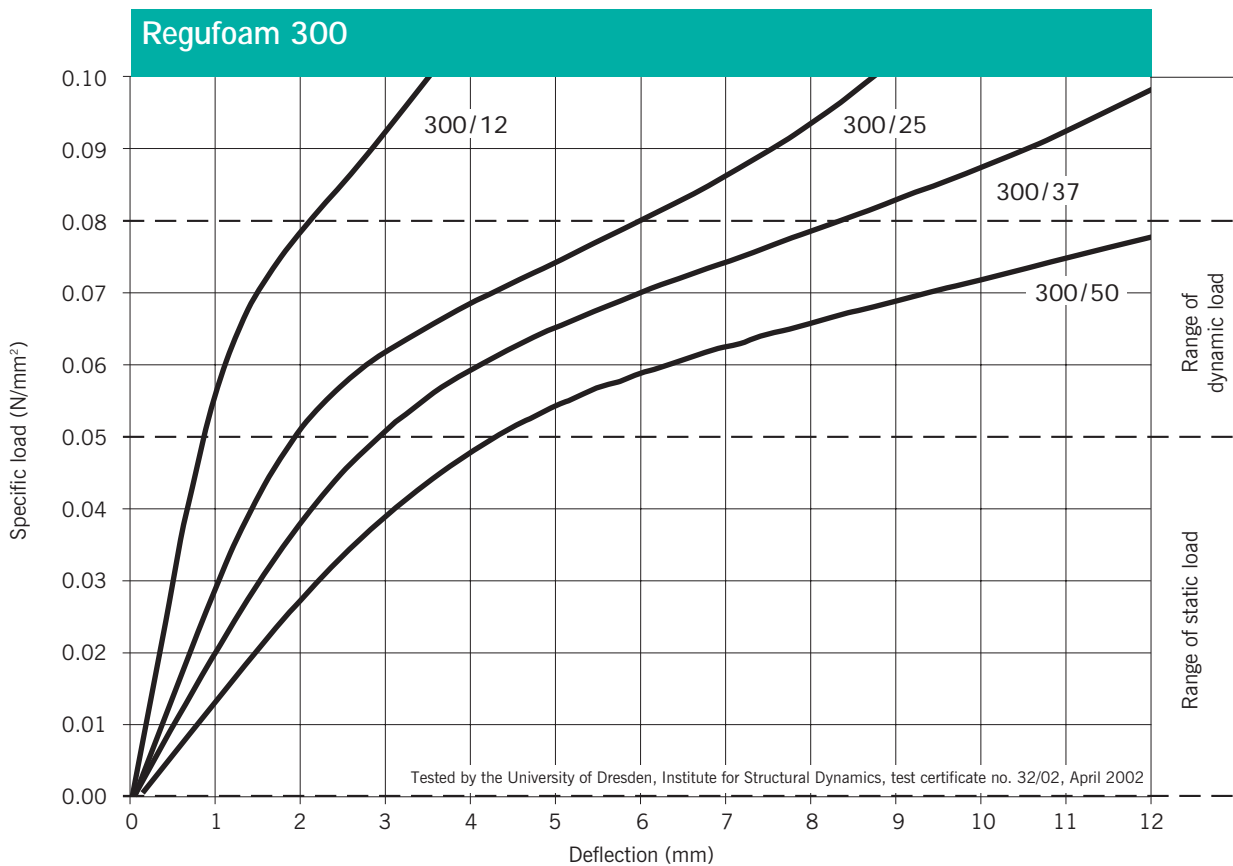
Density	DIN 53420	ca. 220	kg/m <sup>3</sup>	
Beddingsmodule	DIN 18134	0.011	N/mm <sup>3</sup>	measured at a maximum continuous load of 0.025 N/mm <sup>2</sup> and a material thickness of 25 mm
Compression Set	DIN 53572	< 4.0	%	measured 30 minutes after decompression with 50% deformation/23 °C after 70 hrs.
Tensile Strength	DIN 53571	0.56	N/mm <sup>2</sup>	Minimum
Elongation at break	DIN 53571	260	%	Minimum
Tear-Resistance	DIN 53515	3.38	N/mm	Minimum
Mechanical Loss Factor	DIN 53513	0.20	-	
Inflammability	DIN 4102	B 2	-	Normal inflammable
Static Modulus of Elasticity	Similar to EN 826	0.05-0.38	N/mm <sup>2</sup>	Tangential modulus see fig. 4
Dynamic Modulus of Elasticity	DIN 53513	0.30-0.69	N/mm <sup>2</sup>	depending on load and frequency, see fig. 4

The information on this data sheet is based on the current state of our knowledge and experience and is subject to changes and production-related variations without notice.

# Load Ranges

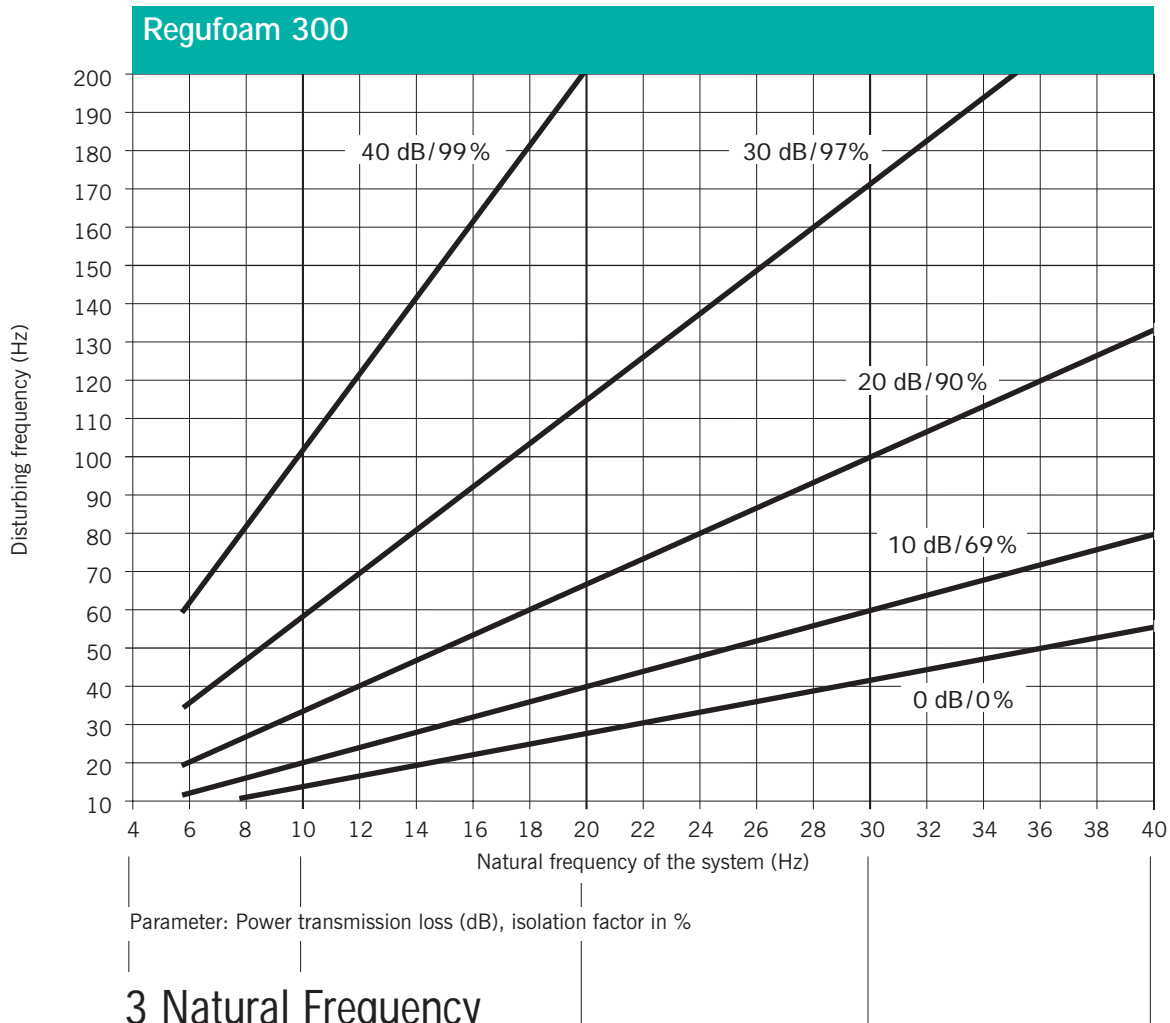


# 1 Load Deflection

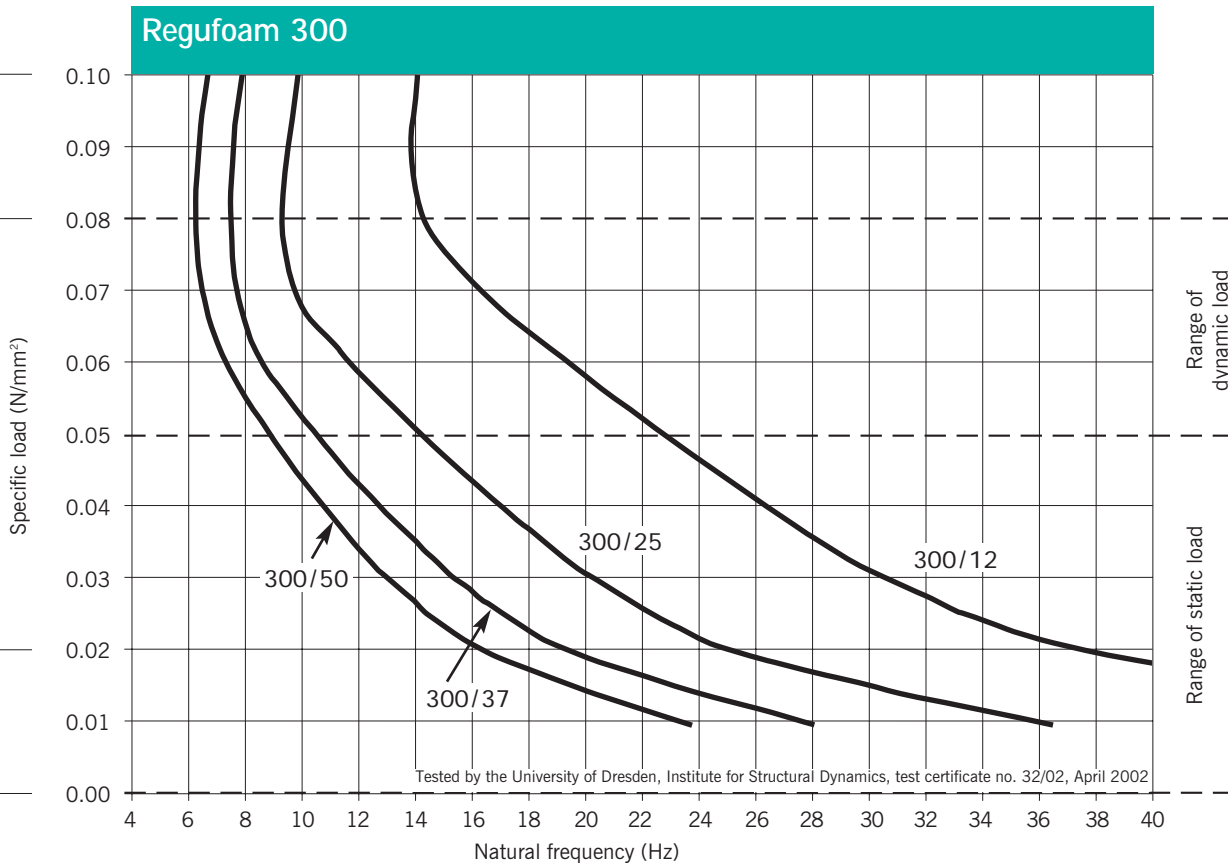


Samples: 300 mm x 300 mm, 3<sup>rd</sup> load cycle, between flat plates  
 load rate: 0.1 MPa/min, ambient temperature

## 2 Vibration Insulation

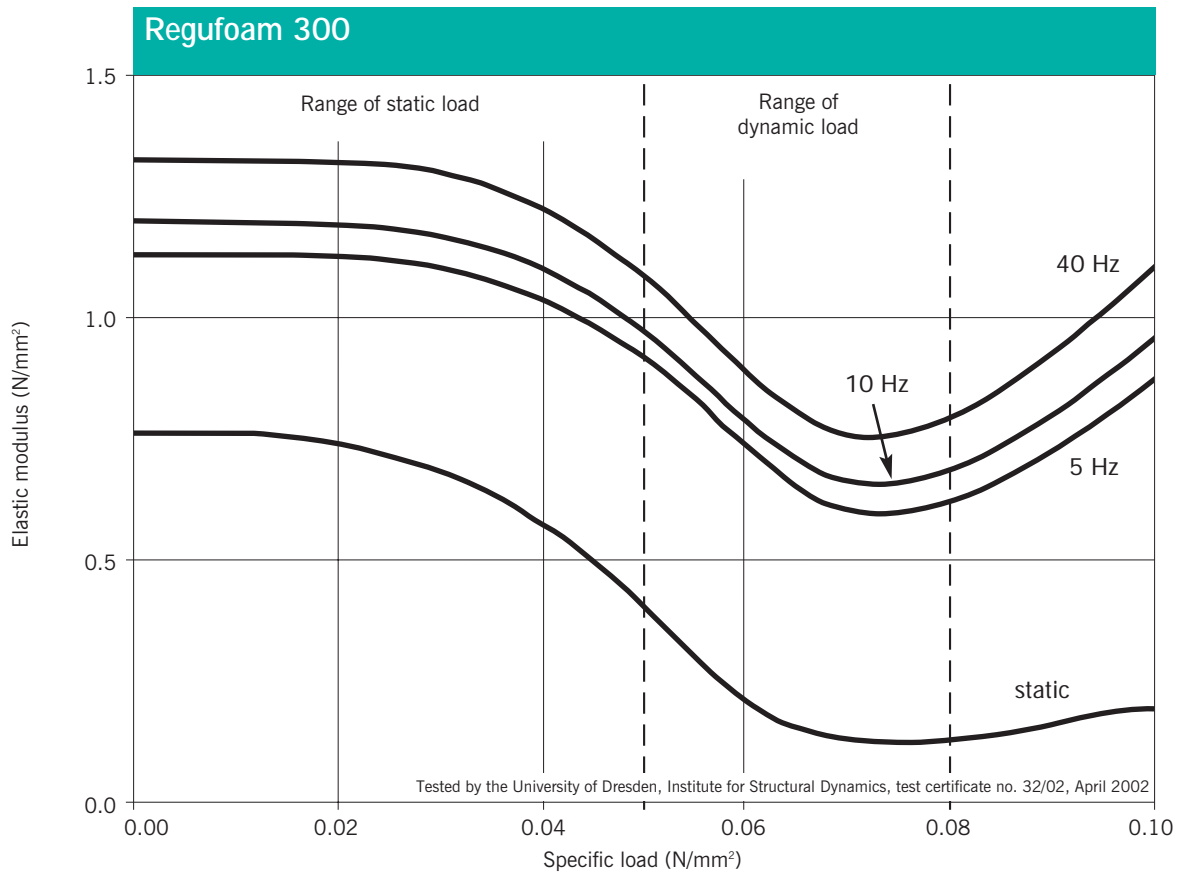


## 3 Natural Frequency



The diagram refers to a structure consisting of a rigid base and an elastic layer of Regufoam® 300.

## 4 Modulus of Elasticity

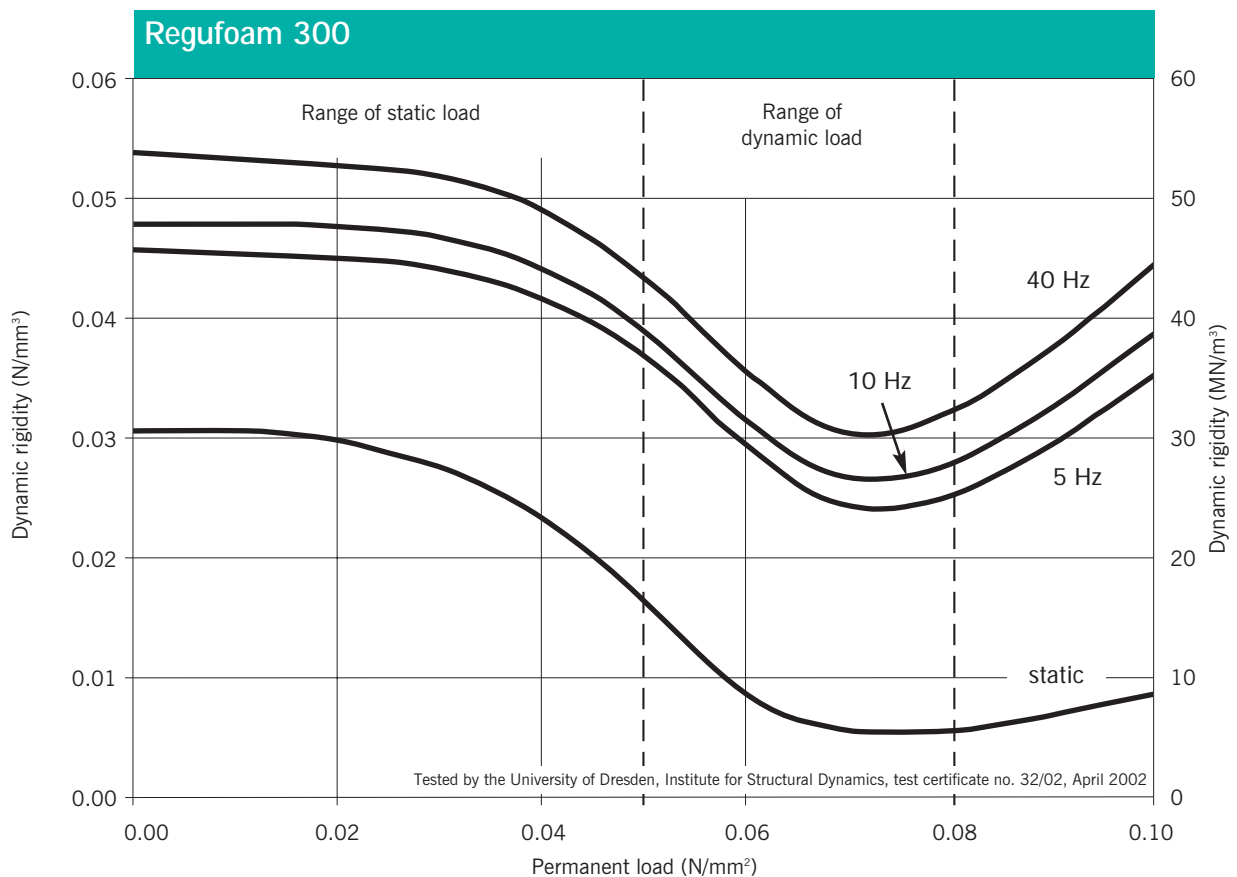


Static modulus of elasticity: Tangential modulus from the deflection curves

Dynamic modulus: samples 300 mm x 300 mm x 25 mm

Sinusoidal excitation, amplitude +/- 0.25 mm

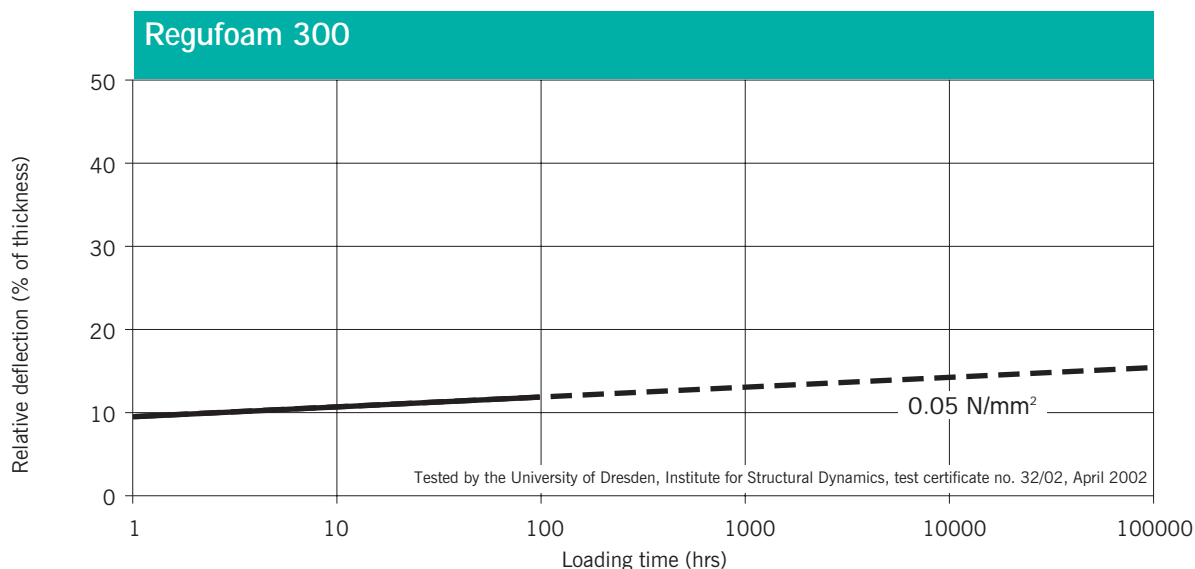
## 5 Dynamic Rigidity



Samples: 300 mm x 300 mm x 25 mm

DIN 53513

## 6 Long-term Creep Test



## Technical Data

Permanent static load range:  
0 to 0.05 N/mm<sup>2</sup>

Permanent and variable loads/  
operating load range:  
0 to 0.08 N/mm<sup>2</sup>

Rare and short-term loads/load peaks:  
up to 2 N/mm<sup>2</sup>

Material basis:  
cellular Polyurethan (PUR)  
mixed cellstructure

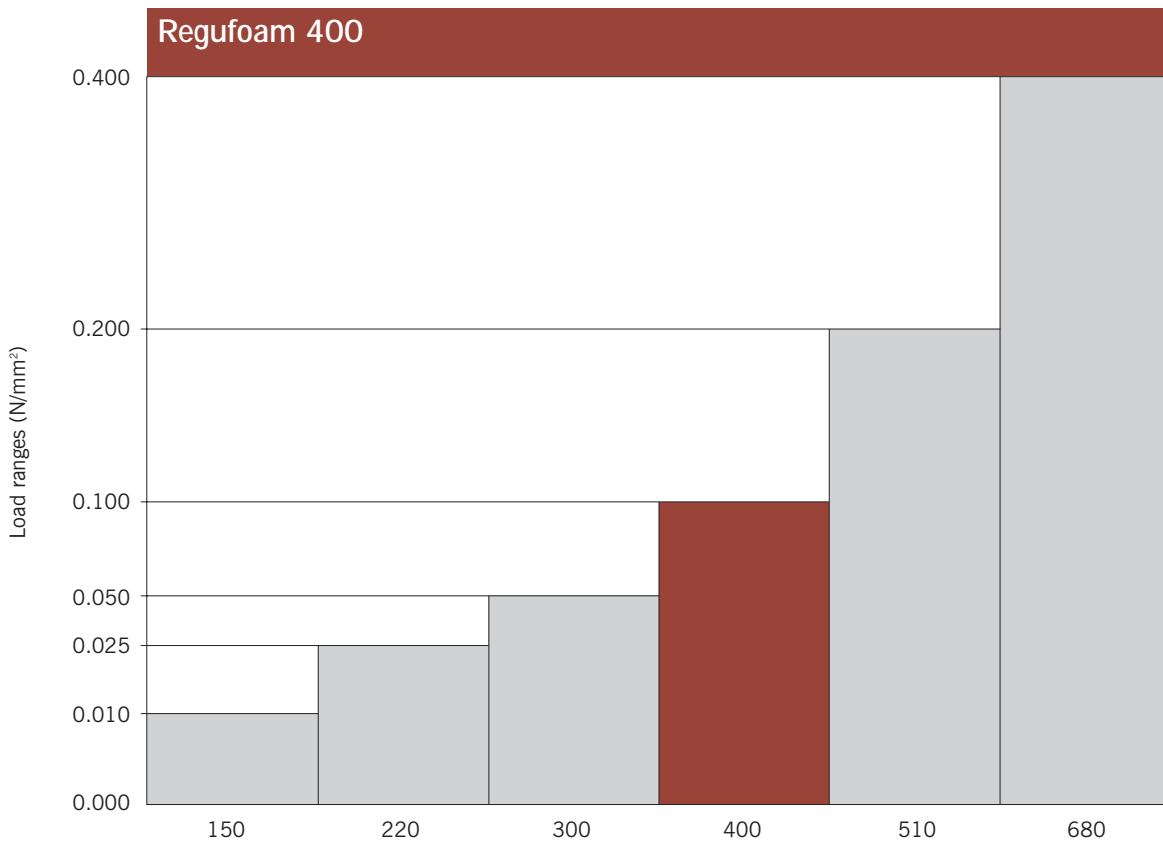
Colour: turquoise



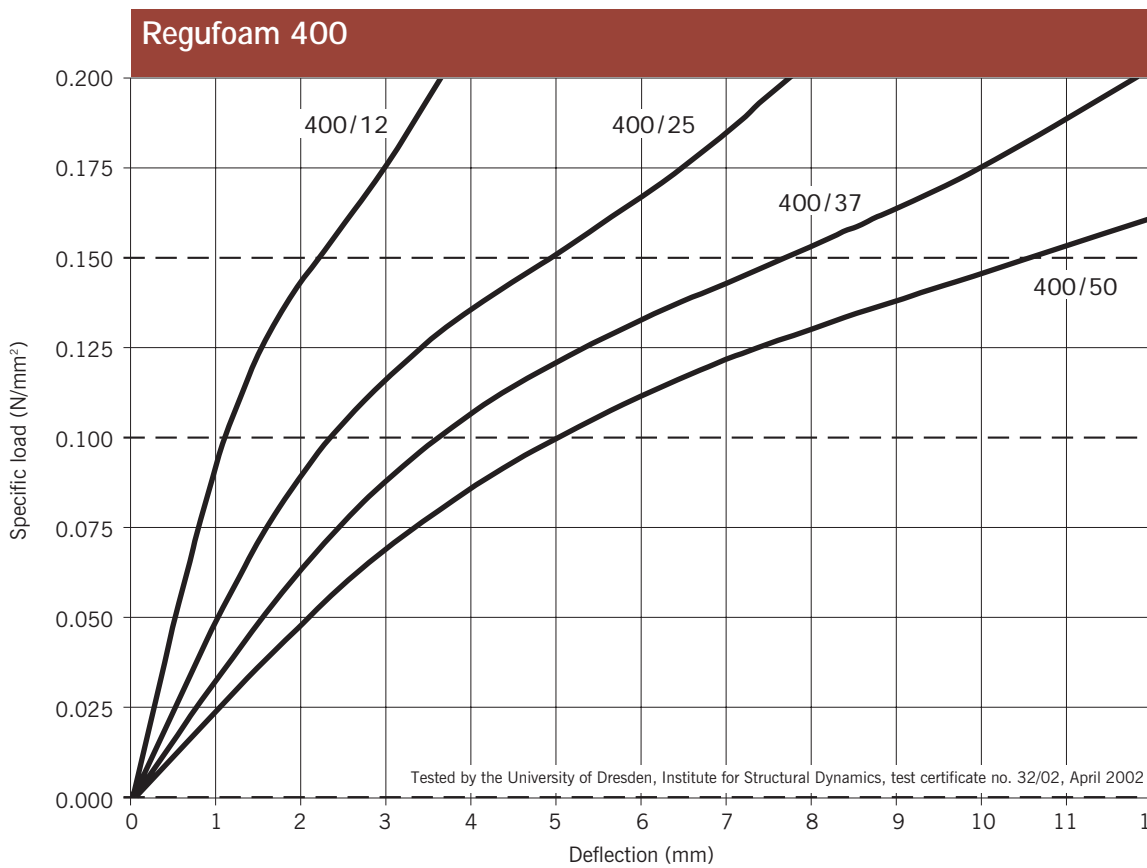
Density	DIN 53420	ca. 300	kg/m <sup>3</sup>	
Beddingsmodule	DIN 18134	0.025	N/mm <sup>3</sup>	measured at a maximum continuous load of 0.05 N/mm <sup>2</sup> and a material thickness of 25 mm
Compression Set	DIN 53572	2.20	%	measured 30 minutes after decompression with 50% deformation/23 °C after 70 hrs.
Tensile Strength	DIN 53571	0.78	N/mm <sup>2</sup>	Minimum
Elongation at break	DIN 53571	240	%	Minimum
Tear-Resistance	DIN 53515	4.85	N/mm	Minimum
Mechanical Loss Factor	DIN 53513	0.14	-	
Inflammability	DIN 4102	B 2	-	Normal inflammable
Static Modulus of Elasticity	Similar to EN 826	0.14-0.75	N/mm <sup>2</sup>	Tangential modulus see fig. 4
Dynamic Modulus of Elasticity	DIN 53513	0.60-1.30	N/mm <sup>2</sup>	depending on load and frequency, see fig. 4

The information on this data sheet is based on the current state of our knowledge and experience and is subject to changes and production-related variations without notice.

# Load Ranges

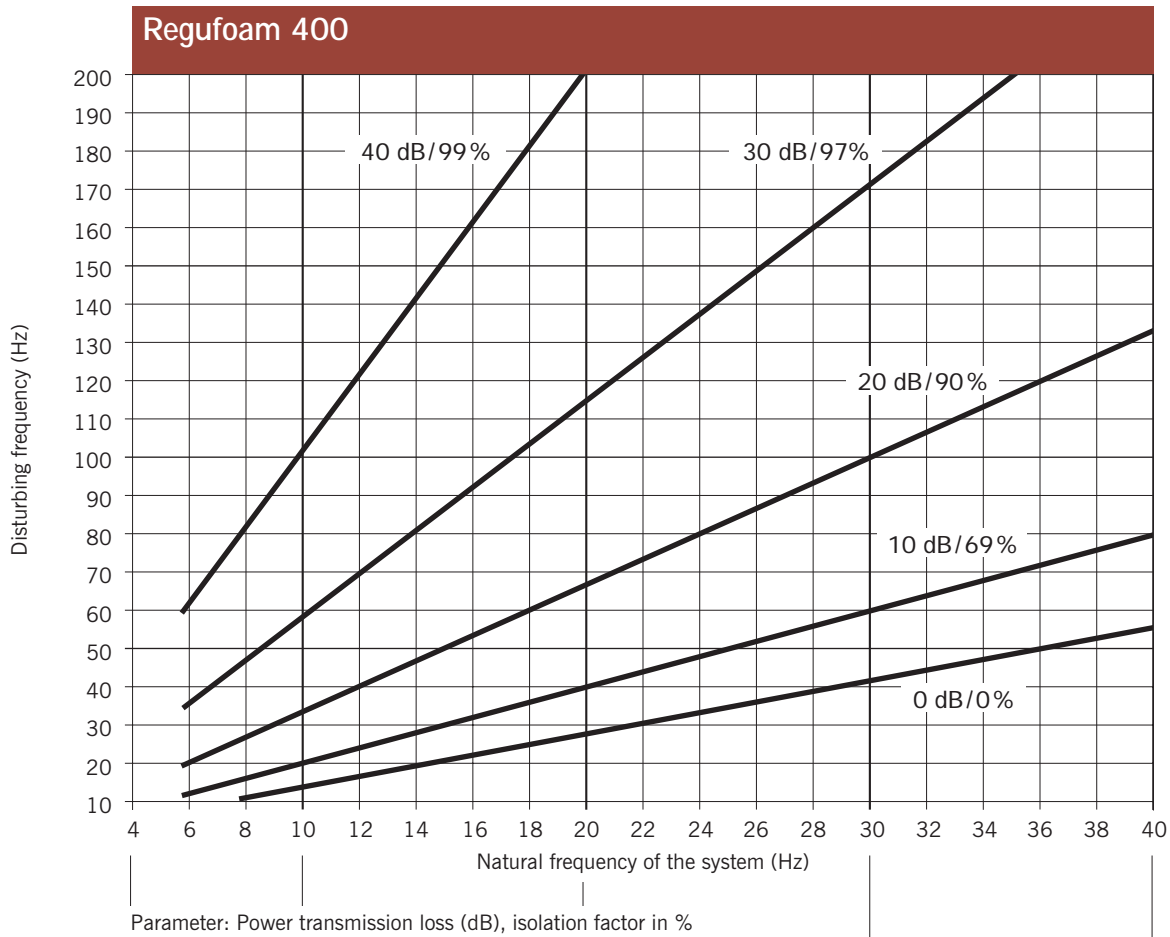


# 1 Load Deflection

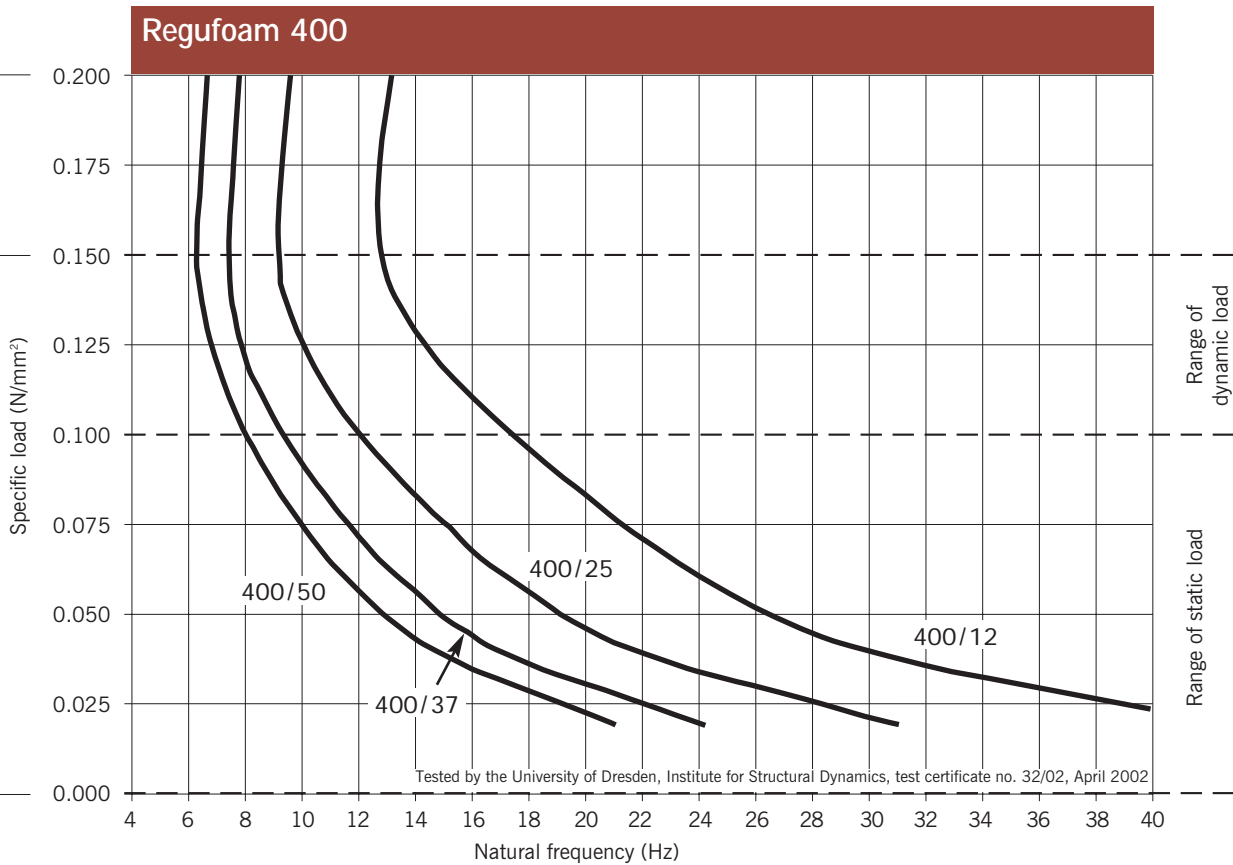


Samples: 300 mm x 300 mm, 3<sup>rd</sup> load cycle, between flat plates  
 load rate: 0.2 MPa/min, ambient temperature

## 2 Vibration Insulation

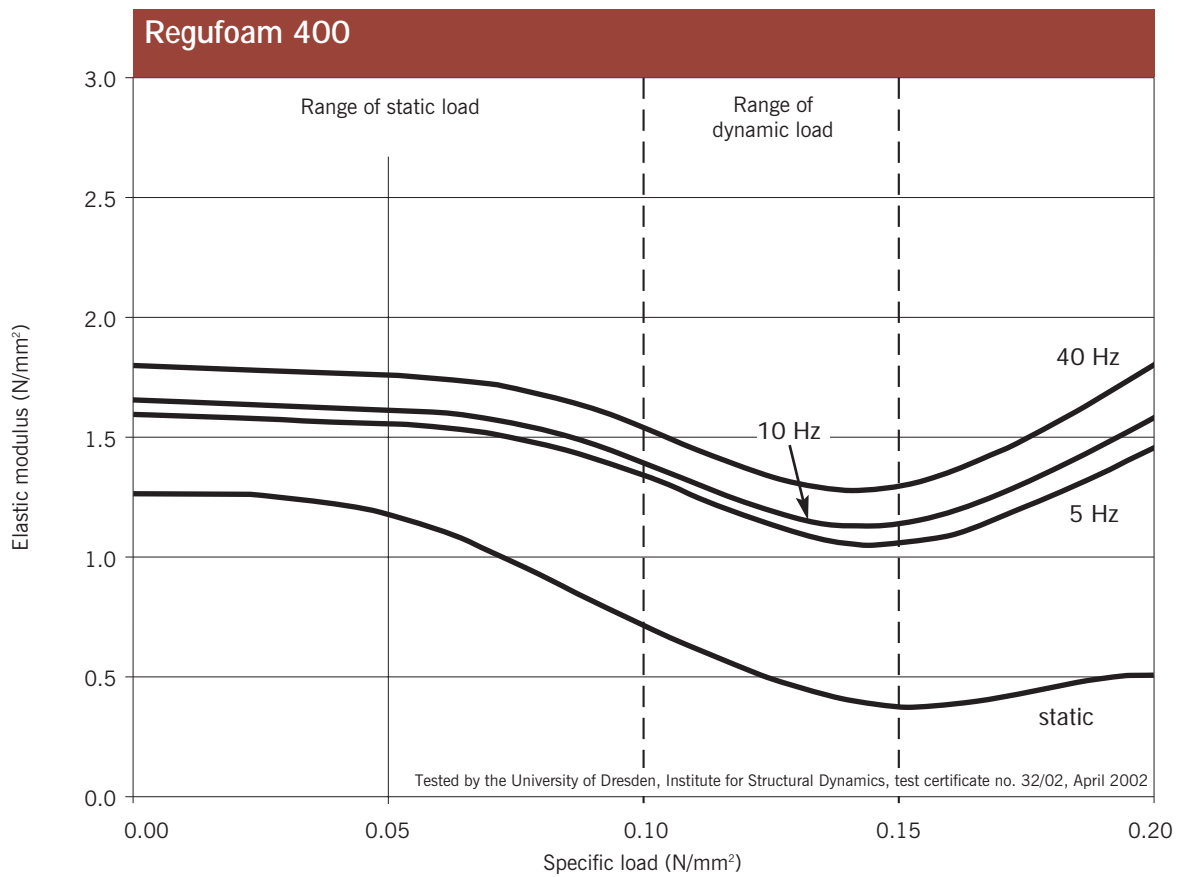


## 3 Natural Frequency



The diagram refers to a structure consisting of a rigid base and an elastic layer of Regufoam® 400.

## 4 Modulus of Elasticity

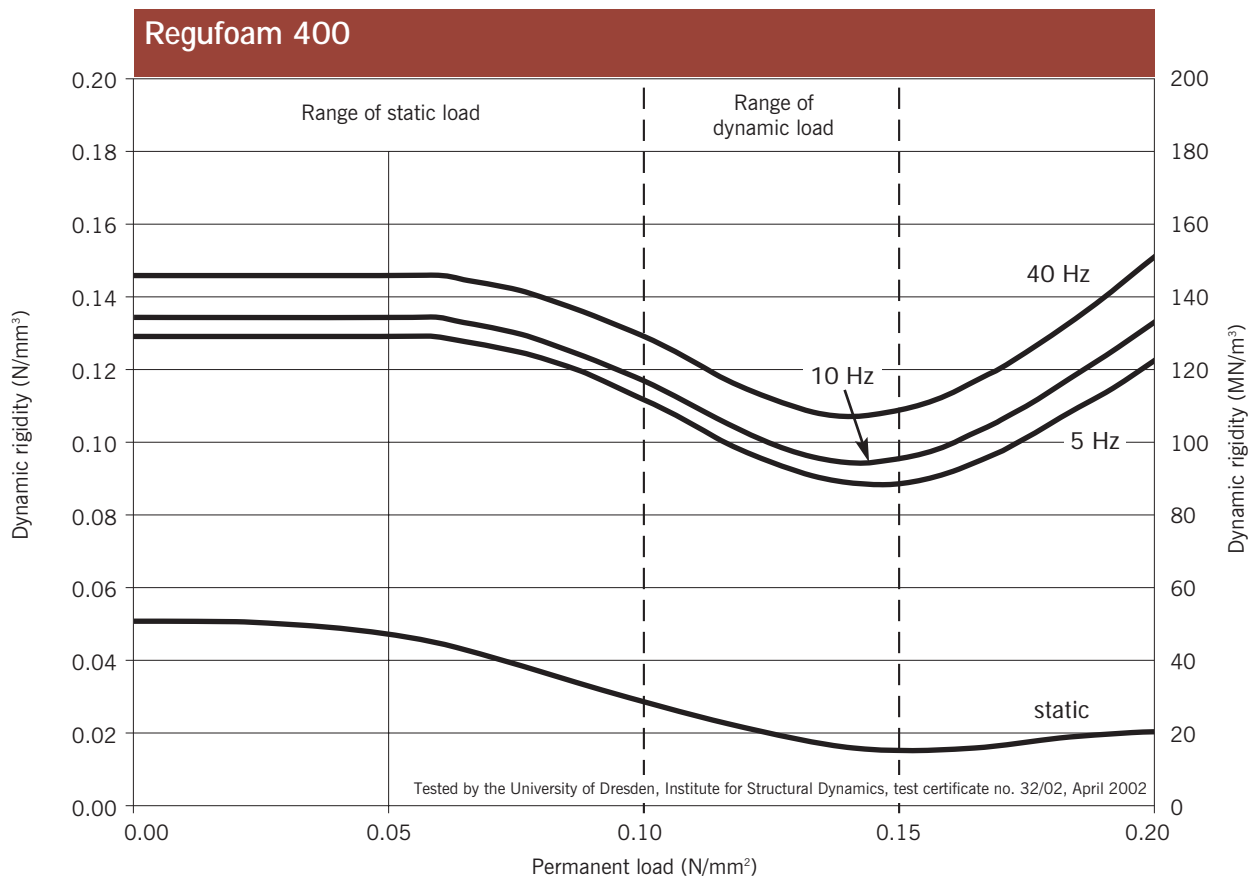


Static modulus of elasticity: Tangential modulus from the deflection curves

Dynamic modulus: samples 250 mm x 250 mm x 25 mm

Sinusoidal excitation, amplitude +/- 0.25 mm

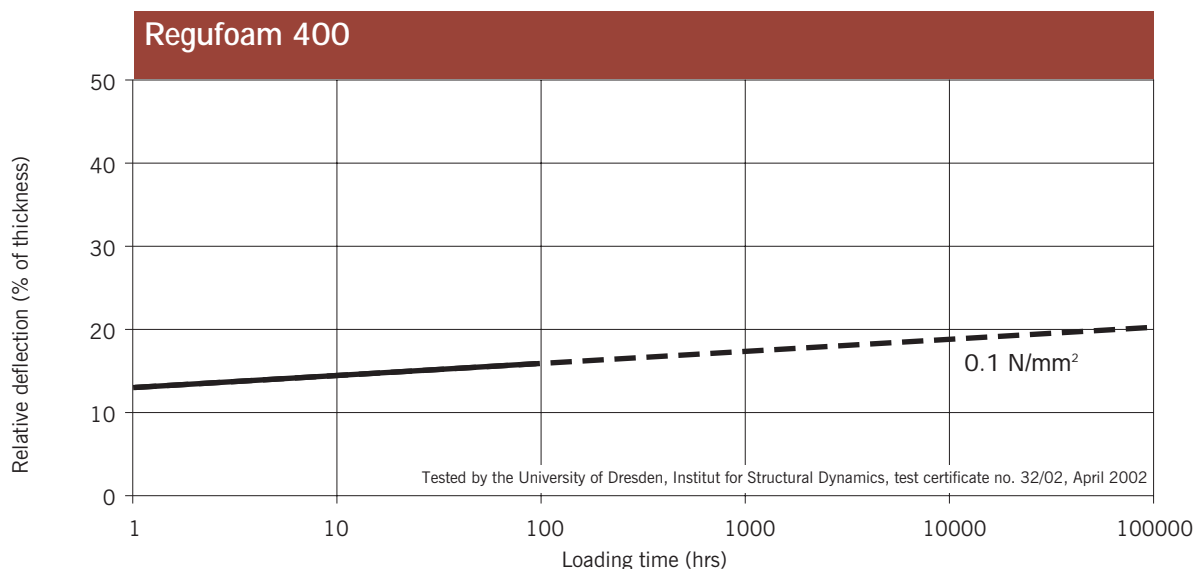
## 5 Dynamic Rigidity



Samples: 300 mm x 300 mm x 25 mm

DIN 53513

## 6 Long-term Creep Test



## Technical Data

Permanent static load range:  
0 to 0.10 N/mm<sup>2</sup>

Permanent and variable loads/  
operating load range:  
0 to 0.15 N/mm<sup>2</sup>

Rare and short-term loads/load peaks:  
up to 3.0 N/mm<sup>2</sup>

Material basis:  
cellular Polyurethan (PUR)  
mixed cellstructure

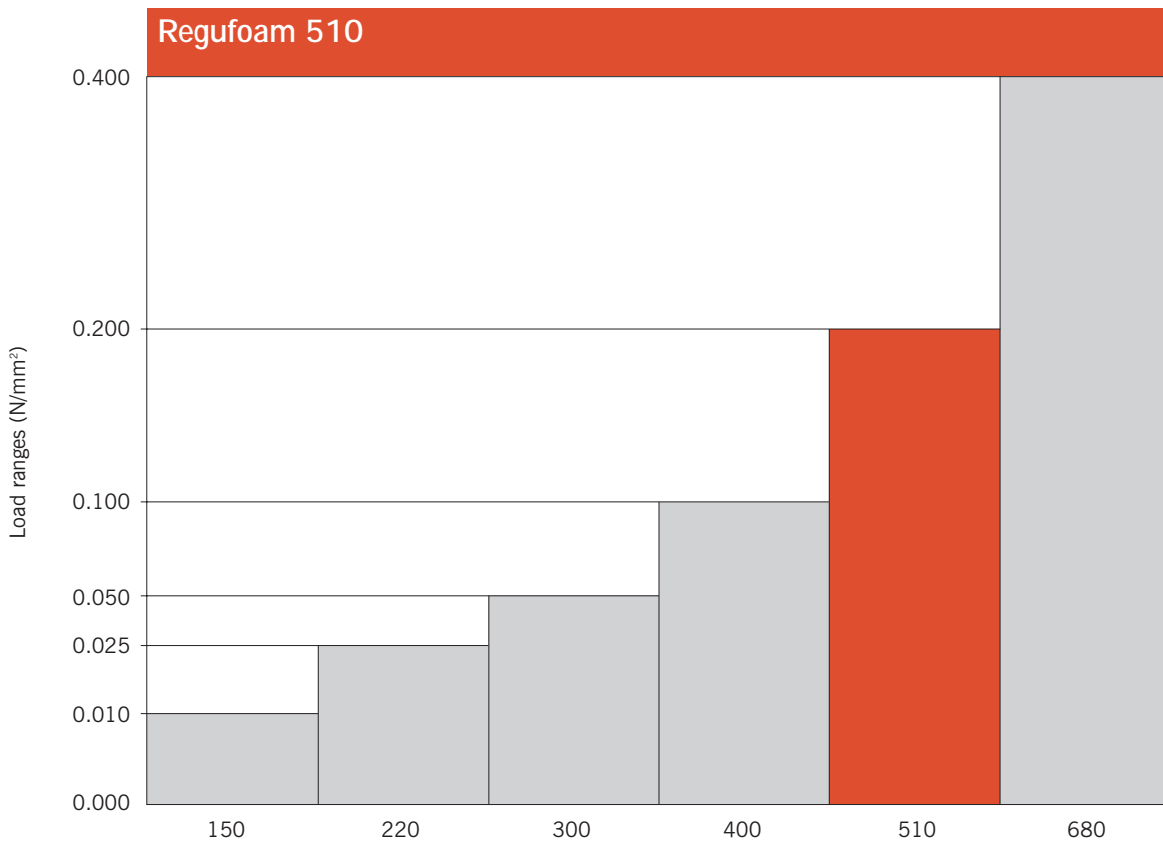
Colour: brick-red



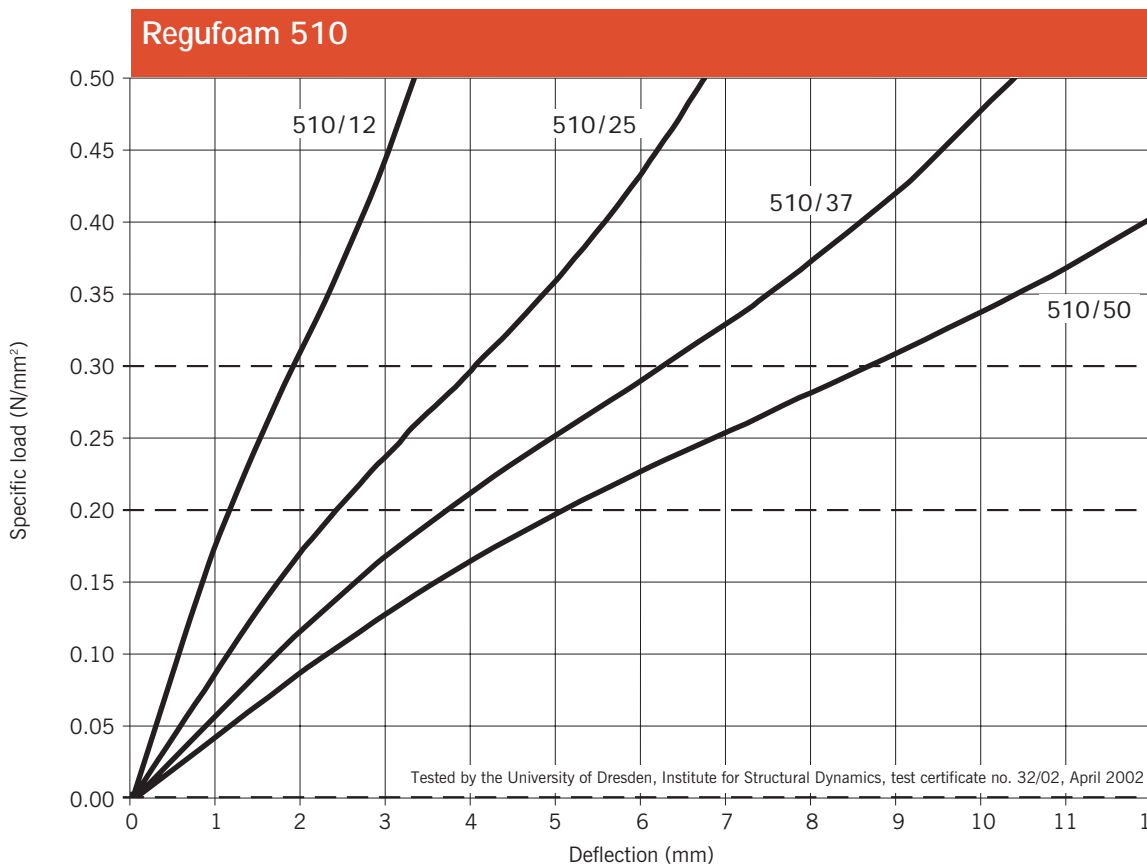
Density	DIN 53420	ca. 400	kg/m <sup>3</sup>	
Beddingsmodule	DIN 18134	0.037	N/mm <sup>3</sup>	measured at a maximum continuous load of 0.10 N/mm <sup>2</sup> and a material thickness of 25 mm
Compression Set	DIN 53572	2.40	%	measured 30 minutes after decompression with 50% deformation/23 °C after 70 hrs.
Tensile Strength	DIN 53571	1.30	N/mm <sup>2</sup>	Minimum
Elongation at break	DIN 53571	290	%	Minimum
Tear-Resistance	DIN 53515	7.38	N/mm	Minimum
Mechanical Loss Factor	DIN 53513	0.10	-	
Inflammability	DIN 4102	B 2	-	Normal inflammable
Static Modulus of Elasticity	Similar to EN 826	0.39-1.27	N/mm <sup>2</sup>	Tangential modulus see fig. 4
Dynamic Modulus of Elasticity	DIN 53513	1.07-1.80	N/mm <sup>2</sup>	depending on load frequency, see fig. 4

The information on this data sheet is based on the current state of our knowledge and experience and is subject to changes and production-related variations without notice.

# Load Ranges



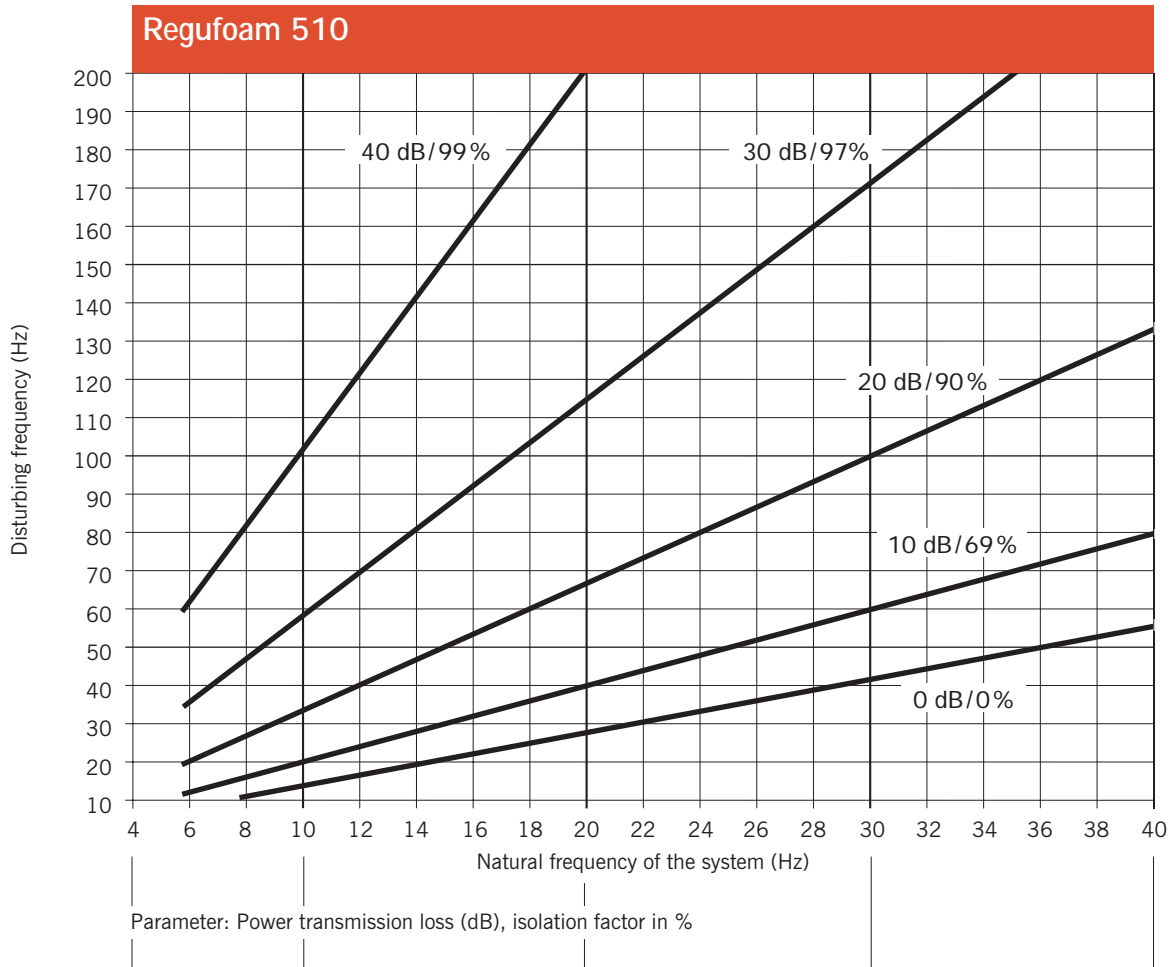
# 1 Load Deflection



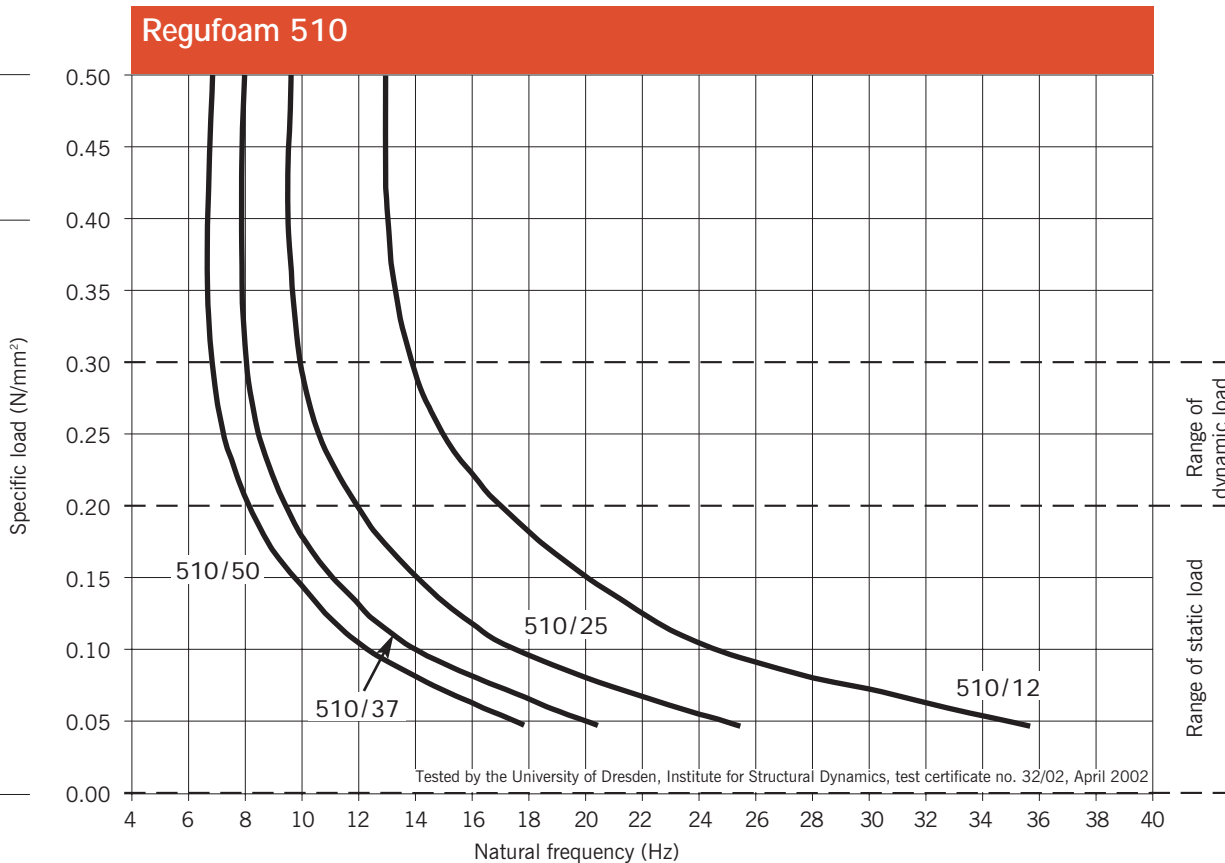
Tested by the University of Dresden, Institute for Structural Dynamics, test certificate no. 32/02, April 2002

Samples: 300 mm x 300 mm, 3<sup>rd</sup> load cycle, between flat plates  
 load rate: 0.5 MPa/min, ambient temperature

## 2 Vibration Insulation

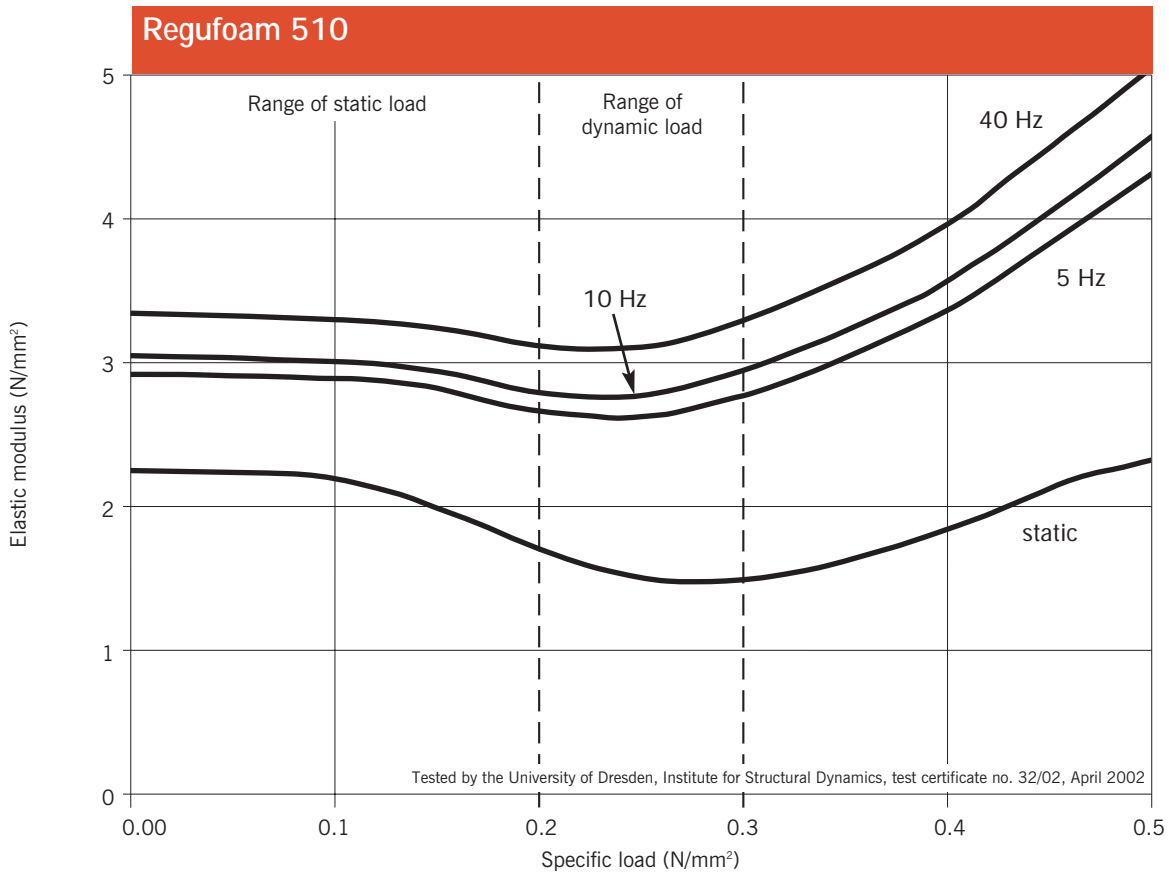


## 3 Natural Frequency



The diagram refers to a structure consisting of a rigid base and an elastic layer of Regufoam® 510.

## 4 Modulus of Elasticity

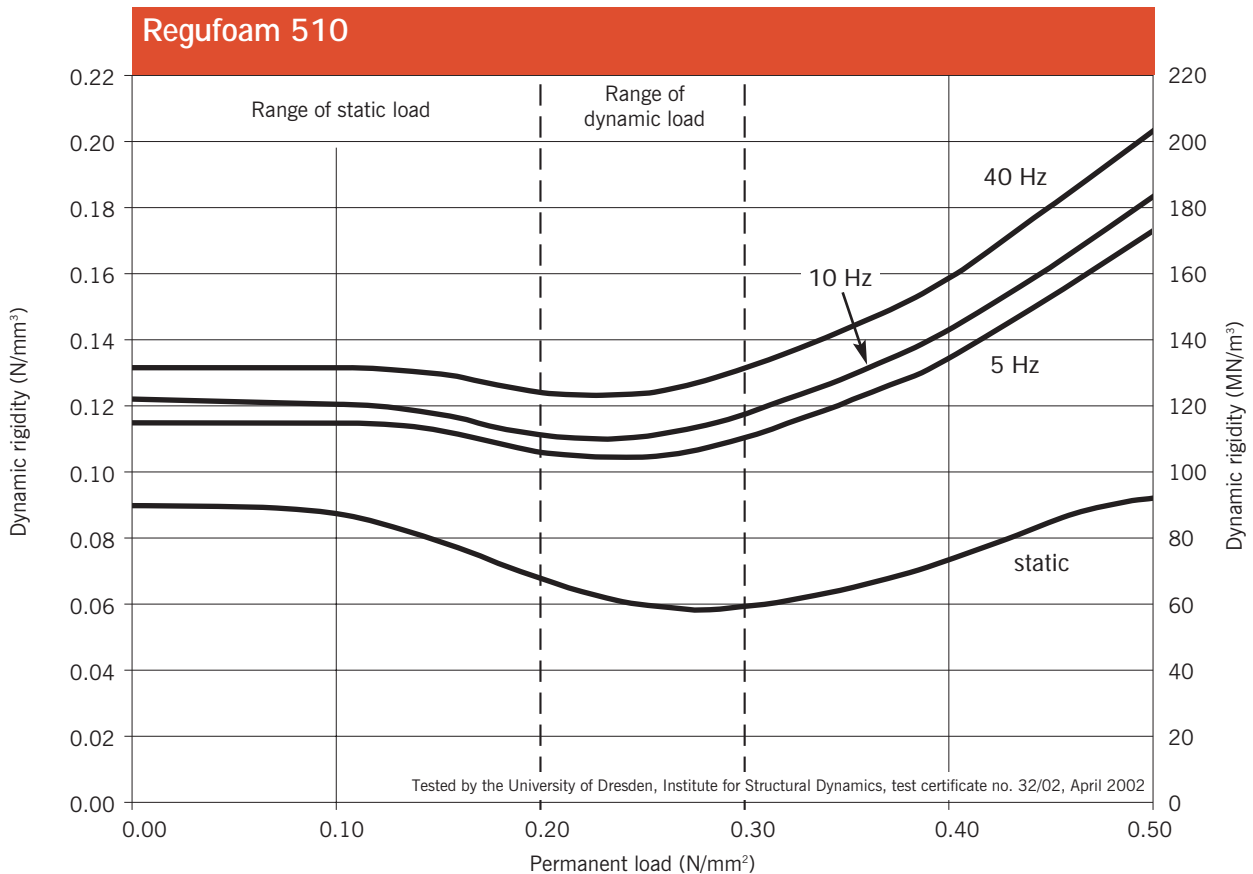


Static modulus of elasticity: Tangential modulus from the deflection curves

Dynamic modulus: samples 300 mm x 300 mm x 25 mm

Sinusoidal excitation, amplitude +/- 0.25 mm

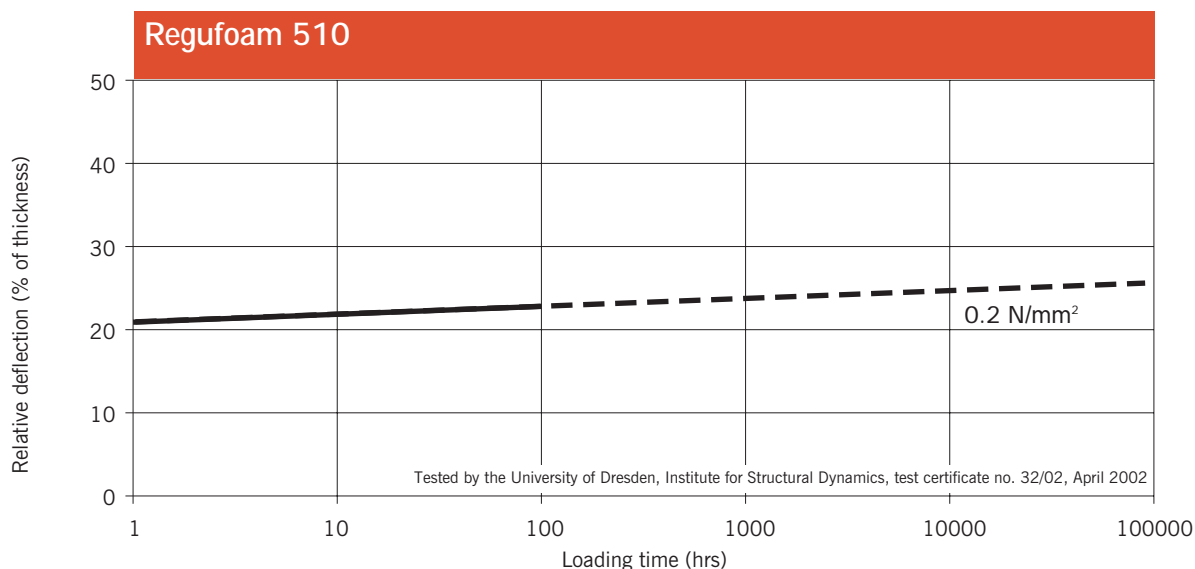
## 5 Dynamic Rigidity



Samples: 300 mm x 300 mm x 25 mm

DIN 53513

## 6 Long-term Creep Test



## Technical Data

Permanent static load range:  
0 to 0.2 N/mm<sup>2</sup>

Permanent and variable loads/  
operating load range:  
0 to 0.3 N/mm<sup>2</sup>

Rare and short-term loads/load peaks:  
up to 4.0 N/mm<sup>2</sup>

Material basis:  
cellular Polyurethan (PUR)  
mixed cellstructure

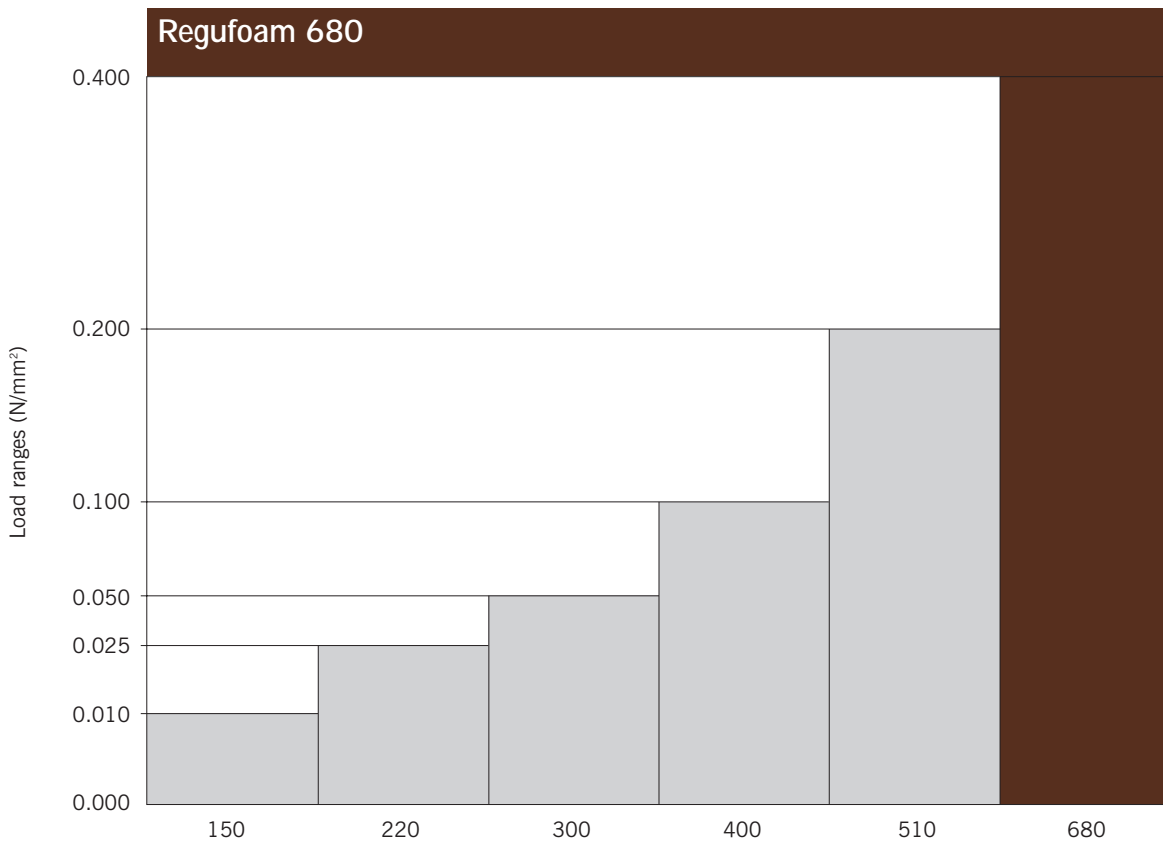
Colour: orange



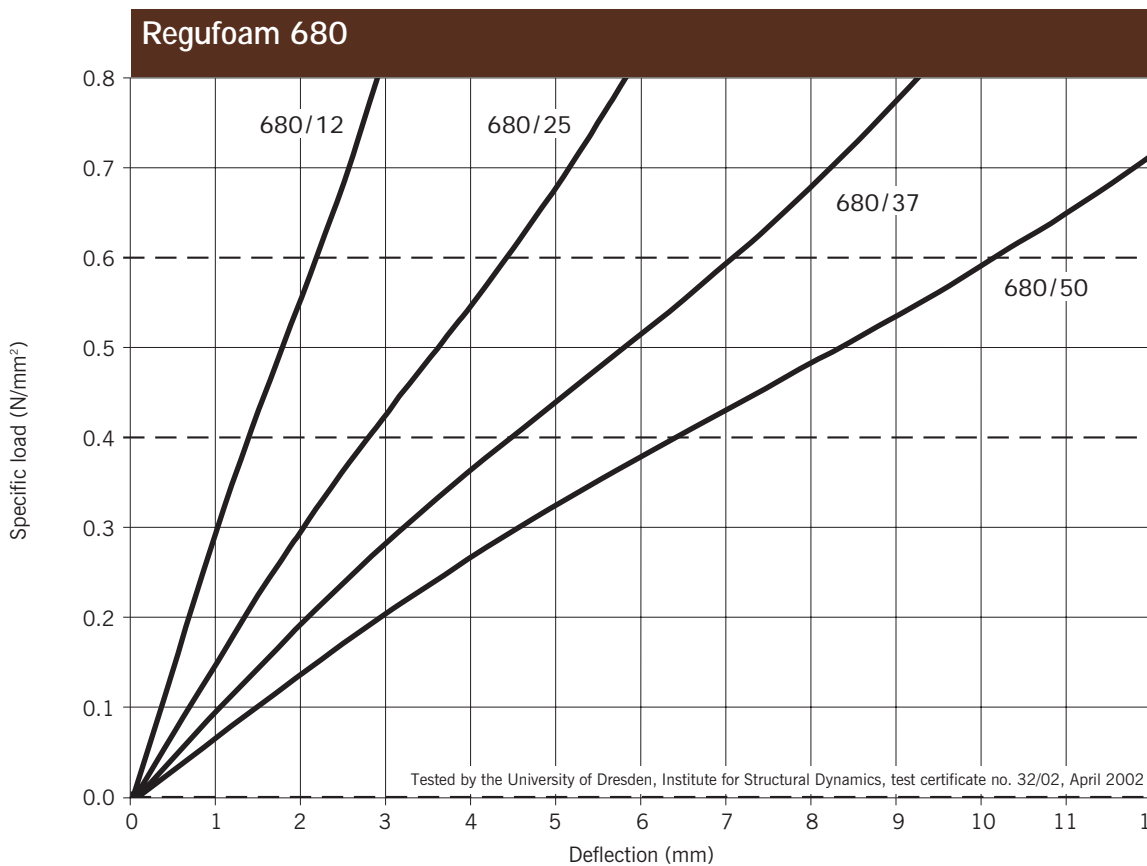
Density	DIN 53420	ca. 510	kg/m <sup>3</sup>	
Beddingsmodule	DIN 18134	0.072	N/mm <sup>3</sup>	measured at a maximum continuous load of 0.20 N/mm <sup>2</sup> and a material thickness of 25 mm
Compression Set	DIN 53572	2.80	%	measured 30 minutes after decompression with 50% deformation/23 °C after 70 hrs.
Tensile Strength	DIN 53571	1.50	N/mm <sup>2</sup>	Minimum
Elongation at break	DIN 53571	260	%	Minimum
Tear-Resistance	DIN 53515	8.28	N/mm	Minimum
Mechanical Loss Factor	DIN 53513	0.10	-	
Inflammability	DIN 4102	B 2	-	Normal inflammable
Static Modulus of Elasticity	Similar to EN 826	1.49-2.25	N/mm <sup>2</sup>	Tangential modulus see fig. 4
Dynamic Modulus of Elasticity	DIN 53513	2.63-3.35	N/mm <sup>2</sup>	depending on load and frequency, see fig. 4

The information on this data sheet is based on the current state of our knowledge and experience and is subject to changes and production-related variations without notice.

# Load Ranges

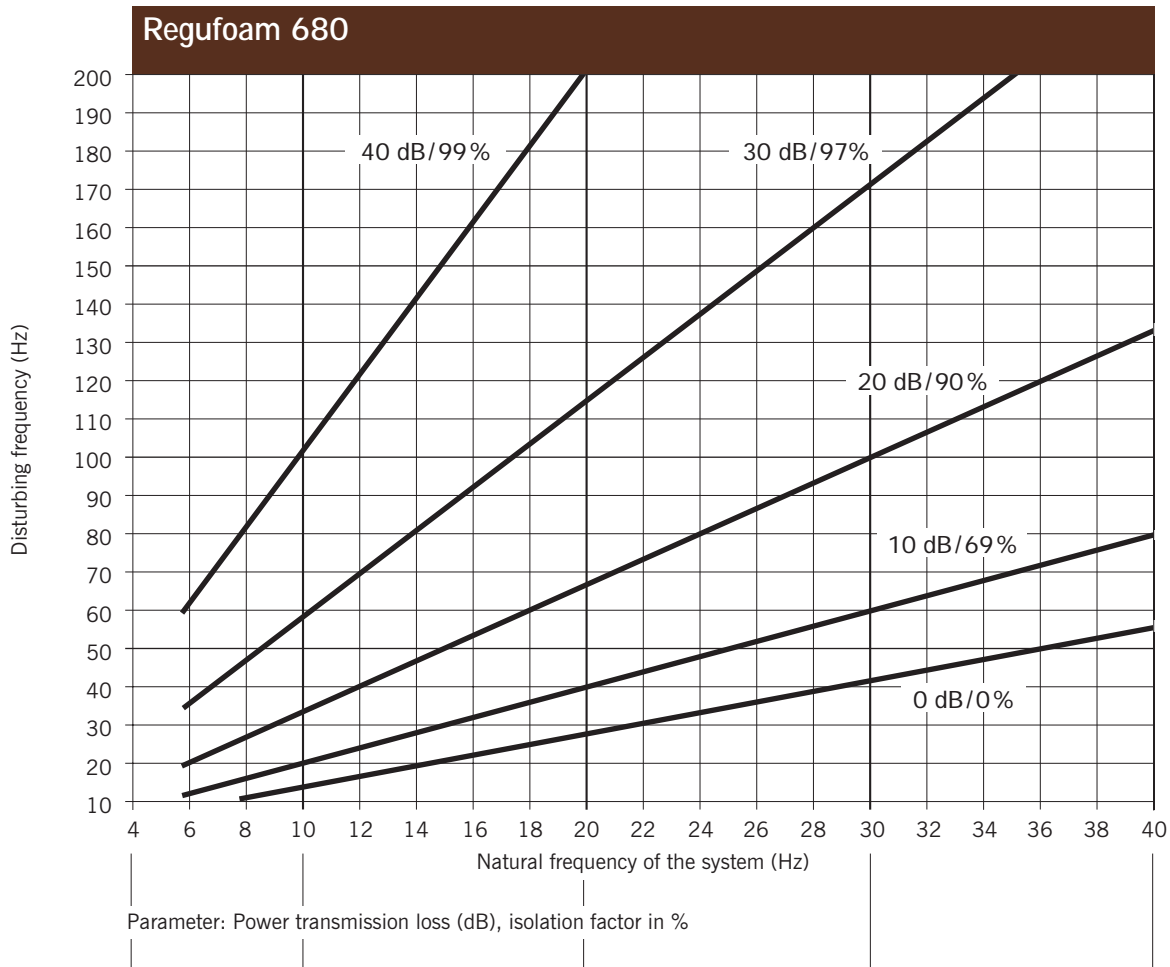


# 1 Load Deflection

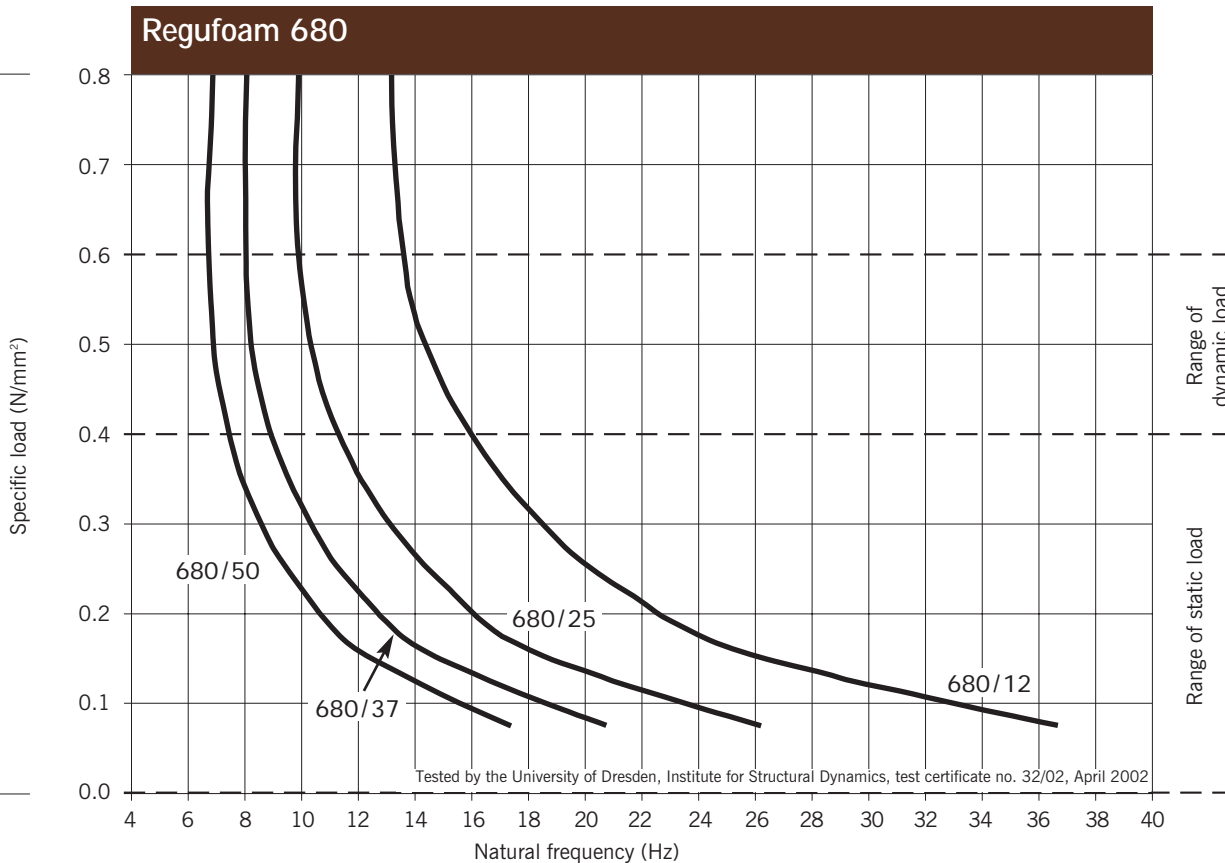


Samples: 250 mm x 250 mm, 3<sup>rd</sup> load cycle, between flat plates  
 load rate: 0.8 MPa/min, ambient temperature

## 2 Vibration Insulation

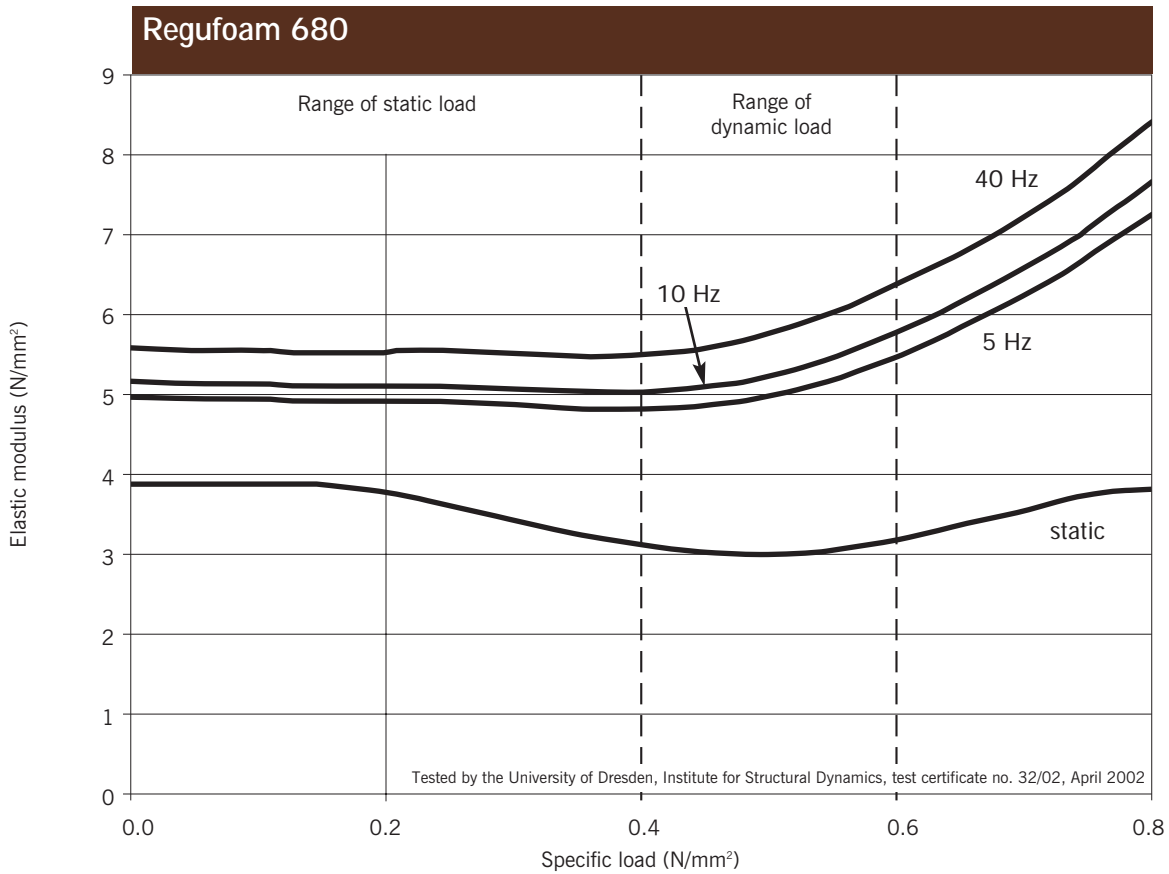


## 3 Natural Frequency



The diagram refers to a structure consisting of a rigid base and an elastic layer of Regufoam® 680.

## 4 Modulus of Elasticity

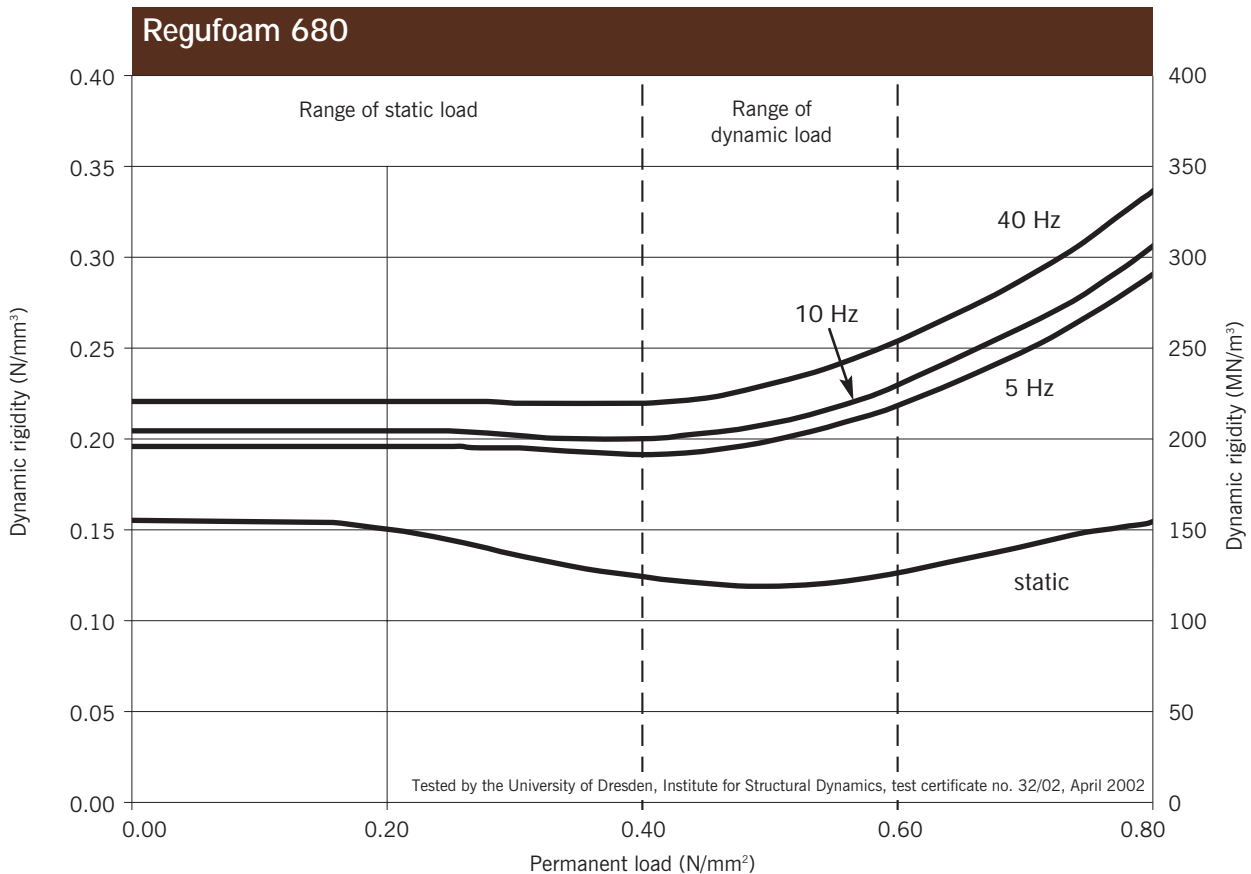


Static modulus of elasticity: Tangential modulus from the deflection curves

Dynamic modulus: samples 250 mm x 250 mm x 25 mm

Sinusoidal excitation, amplitude +/- 0.25 mm

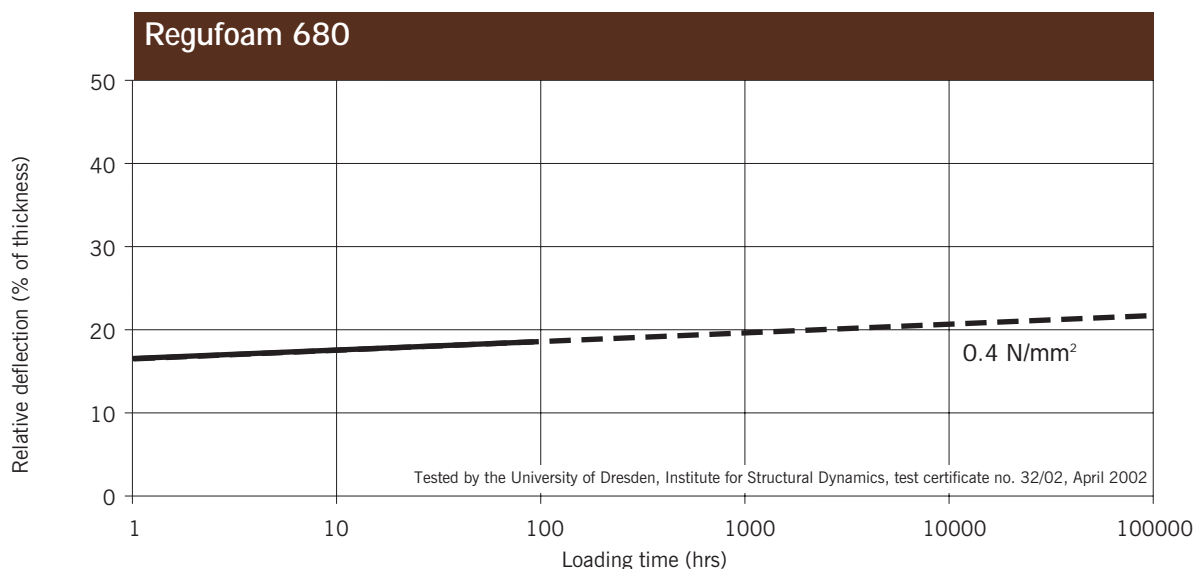
## 5 Dynamic Rigidity



Samples: 250 mm x 250 mm x 25 mm

DIN 53513

## 6 Long-term Creep Test



## Technical Data

Permanent static load range:  
0 to 0.4 N/mm<sup>2</sup>

Permanent and variable loads/  
operating load range:  
0 to 0.6 N/mm<sup>2</sup>

Rare and short-term loads/load peaks:  
up to 5.0 N/mm<sup>2</sup>

Material basis:  
cellular Polyurethan (PUR)  
mixed cellstructure

Colour: brown



Density	DIN 53420	ca. 680	kg/m <sup>3</sup>	
Beddingsmodule	DIN 18134	0.327	N/mm <sup>3</sup>	measured at a maximum continuous load of 0.40 N/mm <sup>2</sup> and a material thickness of 25 mm
Compression Set	DIN 53572	2.90	%	measured 30 minutes after decompression with 50% deformation/23 °C after 70 hrs.
Tensile Strength	DIN 53571	2.47	N/mm <sup>2</sup>	Minimum
Elongation at break	DIN 53571	310	%	Minimum
Tear-Resistance	DIN 53515	14.4	N/mm	Minimum
Mechanical Loss Factor	DIN 53513	0.08	-	
Inflammability	DIN 4102	B 2	-	Normal inflammable
Static Modulus of Elasticity	Similar to EN 826	3.0-3.9	N/mm <sup>2</sup>	Tangential modulus see fig. 4
Dynamic Modulus of Elasticity	DIN 53513	4.80-5.60	N/mm <sup>2</sup>	depending on load and frequency, see fig. 4

The information on this data sheet is based on the current state of our knowledge and experience and is subject to changes and production-related variations without notice.

