Technical information for damping plates

Damping plates are simple and inexpensive standard elements made of cellular polytherurethane. Damping plates can be used to effectively protect machines, equipment and housings from shock and sustained loads. The damping plates are available in various thicknesses and in different dimensions. If required, they can be worked afterwards and cut to the dimension you require.

The following tables give an overview of the reference values and properties of the various damping plates.

Properties:	26150-100125165, 26150-100250165, 26150-200125165, 26150-200250165	26150-100125460, 26150-100250460, 26150-200125460, 26150-200250460	26150-1001251000, 26150-1002501000, 26150-2001251000, 26150-2002501000	Test procedure
Colour	red	green	burgundy	
Stat. continuous load [N/mm²] [1]	0,010	0,170	1,9	
Dyn. load range [N/mm²] [1]	0,016	0,260	2,8	
Peak loads [N/mm²] [1]	0,5	3,5	7,0	
Mechanical loss factor [1]	0,25	0,13	0,09	DIN 53513[3]
Stat. elastic modulus [N/mm²] [2]	0,048	0,931	20,4	DIN 53513[3]
Dyn. elastic modulus [N/mm²] [2]	0,144	2,27	78,2	DIN 53513[3]
Stat. shear modulus [N/mm²] [2]	0,04	0,29	1,75	DIN 53513[3]
Dyn. shear modulus [N/mm²] [2]	0,09	0,73	6,00	DIN 53513[3]
Compression hardness for 10% deformation [N/mm²] [2]	0,011	0,170	1,840	
Compression set [%]	<5	< 5	<8	DIN ISO 1856
Tear resistance [N/mm²]	>0,35	>1,25	>5,00	DIN 53513-6-4
Elongation at break [%]	>400	>400	>400	DIN 53513-6-4
Continued tear resistance [N/mm]	>0,6	>2,5	>6,0	DIN ISO 34-1/A
Rebound elasticity [%]	50	50	40	DIN EN ISO 8307
Spec. electrical resistance [Ω·cm]	>10^{12}	>10^{11}	>10^{11}	DIN IEC 93
Thermal conductivity [W/(m*K)]	0,05	0,08	0,11	DIN 52612-1
Operating temperature [°C]	-30 to +70			
Temperature peaks [°C]	+120			
Fire performance	Class E / EN 13501-1			EN ISO 11925-1

[1] Values apply to form factor q=3.
[2] Measured at the upper limit of the static application range.
[3] Test procedure in accordance with the respective standard.
All information is based on our current state of knowledge. They are subject to normal manufacturing tolerances and do not imply guaranteed properties. Subject to technical modifications.

Definition of terms:

Spring characteristic:

The spring characteristic represents the deflection [mm] of the damping plate under various surface pressures [N/mm²].

Modulus of elasticity:

The modulus of elasticity is a material constant which indicates to what extent the material can resist deformation.

Example: steel is a very rigid material, so its modulus of elasticity is high, unlike rubber which is soft and therefore has a low modulus of elasticity.

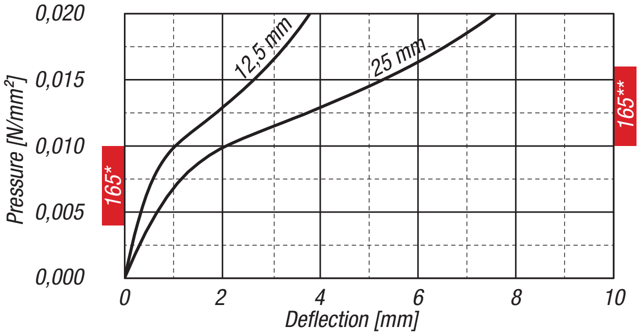
Natural frequency:

Each body vibrates at its own natural frequency, which depends on its mass and shape.

Natural frequency = frequency of the damping plate.

Properties (26150-100125165, 26150-100250165, 26150-200125165, 26150-200250165)

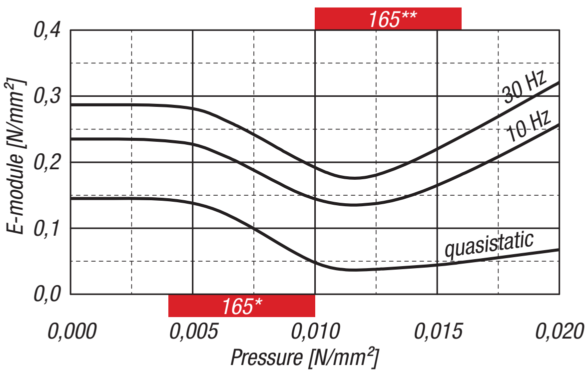
Spring characteristic



* Static application range
** Dynamic application range

In each case, load 3 was recorded, testing at room temperature between flat steel plates.
Test speed v = 1% of thickness/s
Form factor q = 3

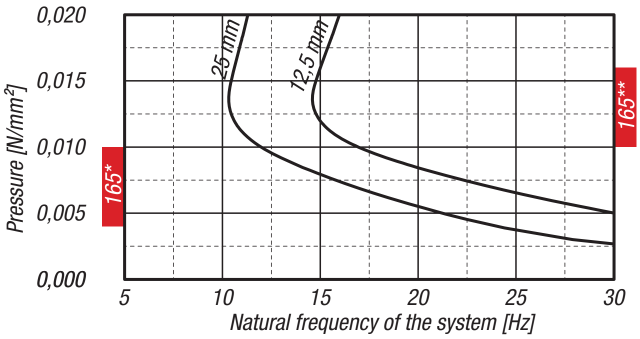
Modulus of elasticity



* Static application range
** Dynamic application range

Dynamic test: harmonic excitation with an amplitude of ± 0.22 mm at 10 Hz and ± 0.08 mm at 30 Hz
Quasistatic modulus of elasticity: tangent modulus taken from the spring characteristic
Measurement as described in DIN 53513
Form factor q = 3

Natural frequency



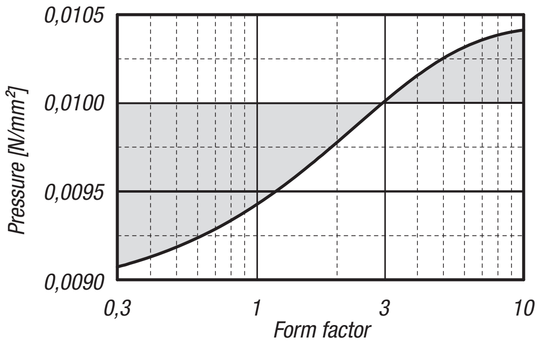
* Static application range
** Dynamic application range

Natural frequency of the system, consisting of a compact mass and an elastic mounting on a rigid base.
Form factor q = 3

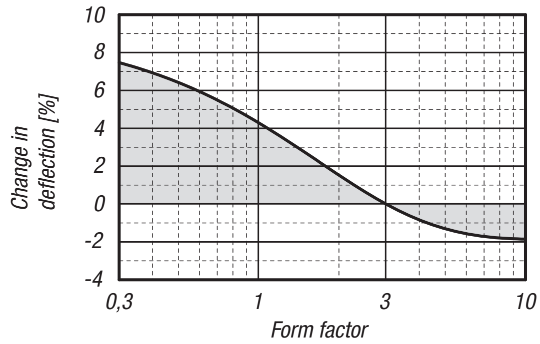
Adjustment values for various form factors (26150-100125165, 26150-100250165, 26150-200125165, 26150-200250165)

Pressure 0.01 N/mm², form factor q = 3

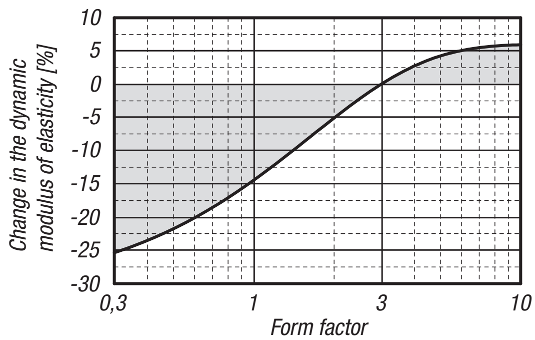
Limit value for static continuous load



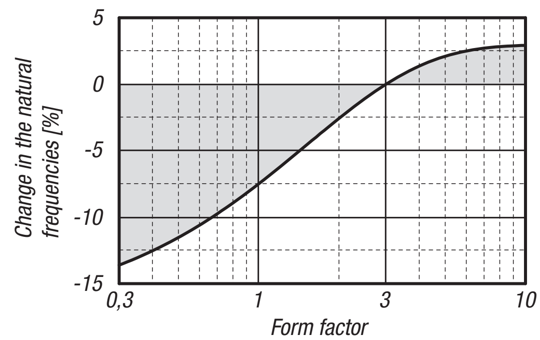
Deflection



Dynamic modulus of elasticity at 10 Hz

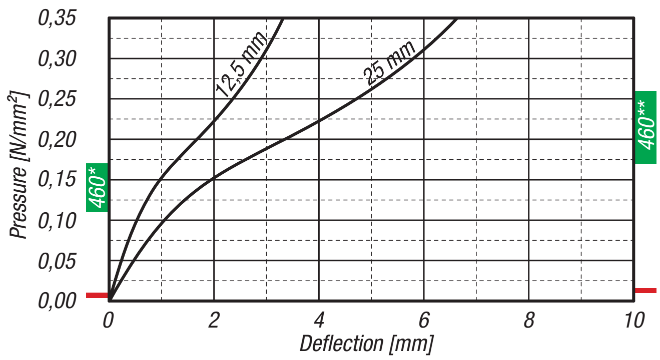


Natural frequency



Properties (26150-100125460, 26150-100250460, 26150-200125460, 26150-200250460)

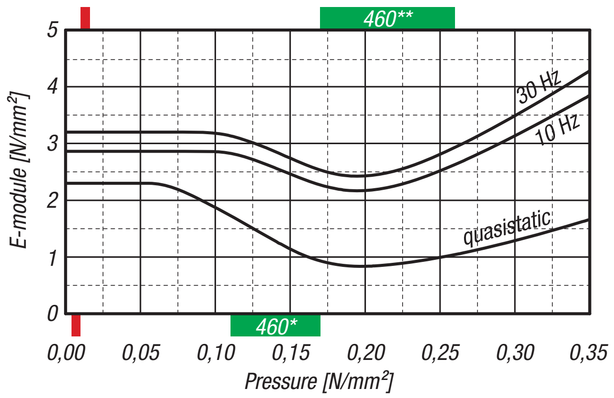
Spring characteristic



* Static application range
** Dynamic application range

In each case, load 3 was recorded, testing at room temperature between flat steel plates.
Test speed v = 1% of thickness/s
Form factor q = 3

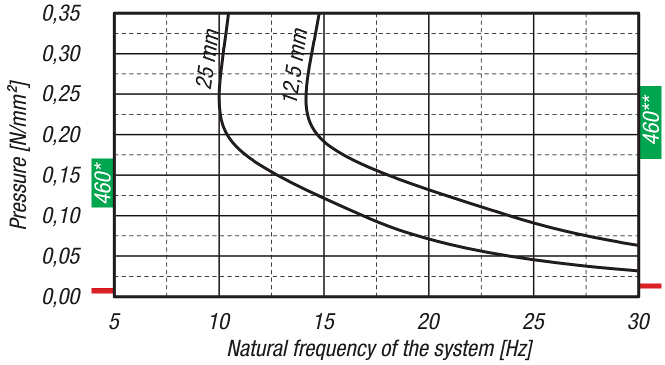
Modulus of elasticity



* Static application range
** Dynamic application range

Dynamic test: harmonic excitation with an amplitude of ± 0.22 mm at 10 Hz and ± 0.08 mm at 30 Hz
Quasistatic modulus of elasticity: tangent modulus taken from the spring characteristic
Measurement as described in DIN 53513
Form factor q = 3

Natural frequency



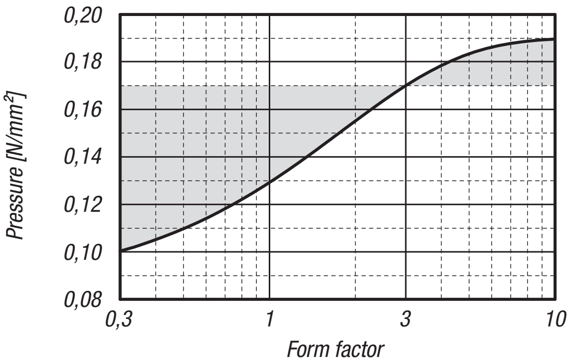
* Static application range
** Dynamic application range

Natural frequency of the system, consisting of a compact mass and an elastic mounting on a rigid base.
Form factor q = 3

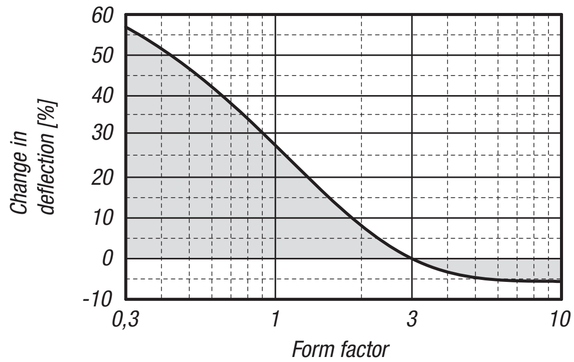
Adjustment values for various form factors (26150-100125460, 26150-100250460, 26150-200125460, 26150-200250460)

Pressure 0.17 N/mm², form factor q = 3

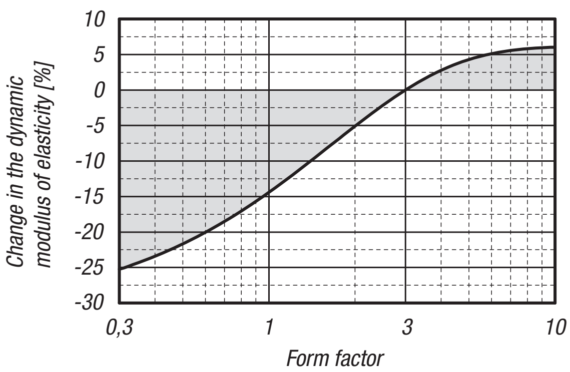
Limit value for static continuous load



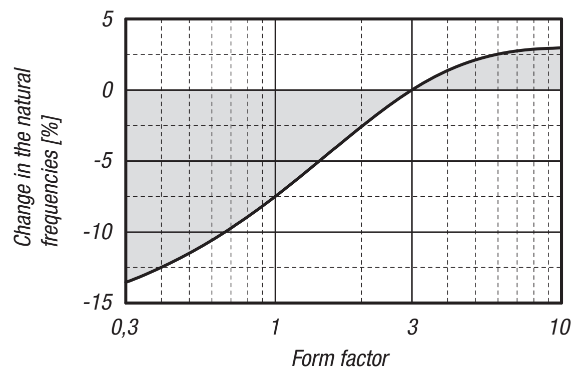
Deflection



Dynamic modulus of elasticity at 10 Hz

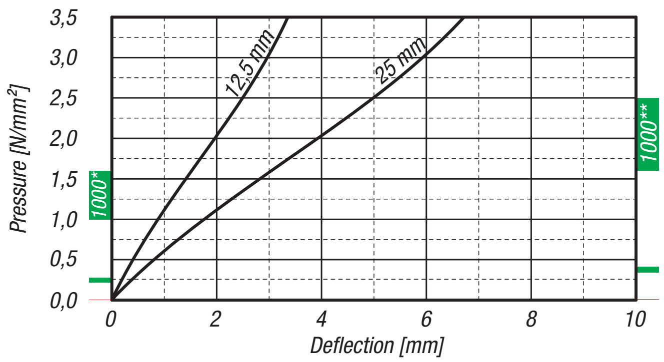


Natural frequency



Properties (26150-1001251000, 26150-1002501000, 26150-2001251000, 26150-2002501000)

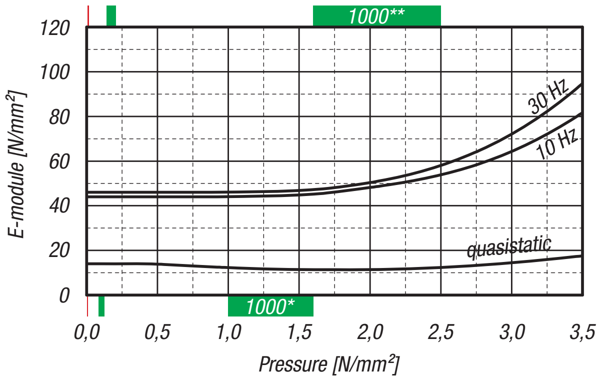
Spring characteristic



* Static application range
** Dynamic application range

In each case, load 3 was recorded, testing at room temperature between flat steel plates.
Test speed v = 1% of thickness/s
Form factor q = 1.25

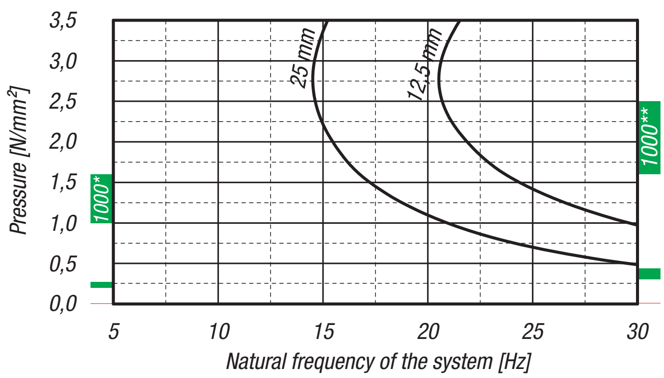
Modulus of elasticity



* Static application range
** Dynamic application range

Dynamic test: harmonic excitation with an amplitude of ± 0.22 mm at 10 Hz and ± 0.08 mm at 30 Hz
Quasistatic elastic modulus: tangent modulus taken from the spring characteristic
Measurement as described in DIN 53513
Form factor q = 1.25

Natural frequency



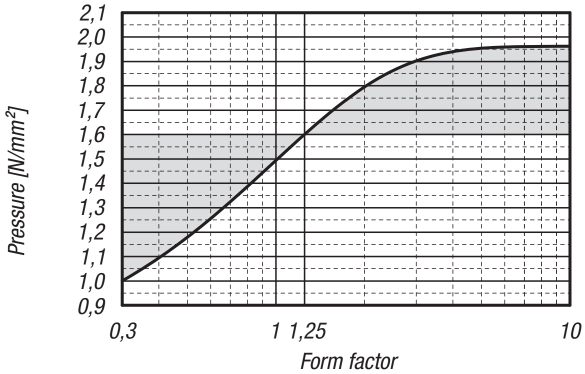
* Static application range
** Dynamic application range

Natural frequency of the system, consisting of a compact mass and an elastic mounting on a rigid base.
Form factor q = 1.25

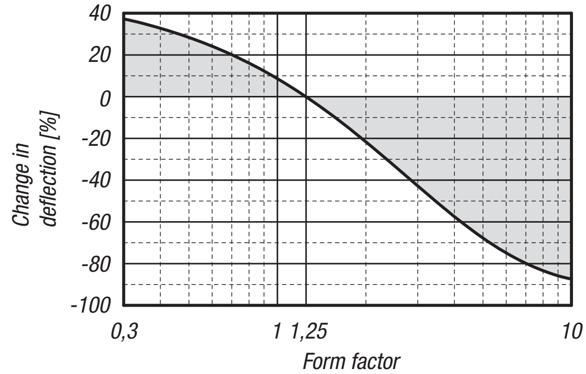
Adjustment values for various form factors (26150-1001251000, 26150-1002501000, 26150-2001251000, 26150-2002501000)

Pressure 1.6 N/mm², form factor q = 1.25

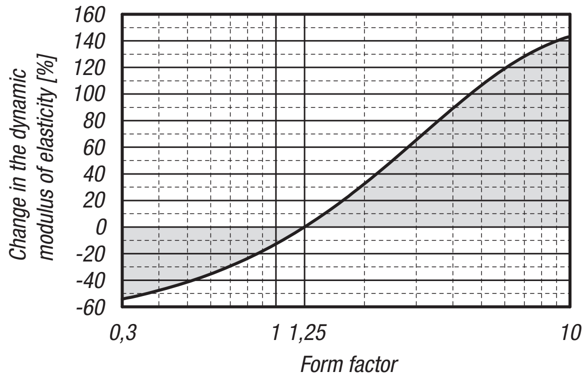
Limit value for static continuous load



Deflection



Dynamic modulus of elasticity at 10 Hz



Natural frequency