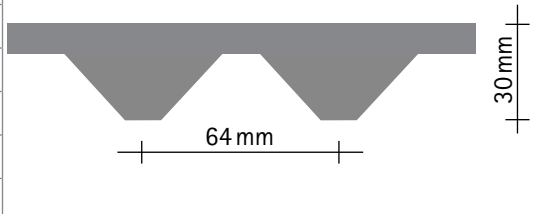


Cibatur®

Elastomeric bearing for vibration isolation

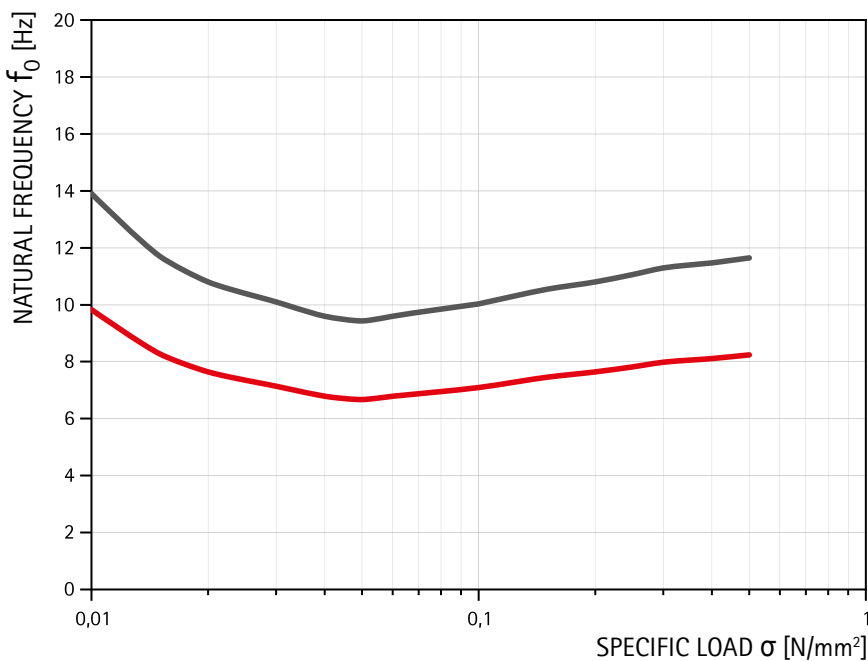
Product information

DIMENSIONS AND WEIGHTS	
Length	120 m
Width	1536 mm
Total thickness	30 mm
Thickness of the top layer	10 mm
Weight	16 kg / m ²
Rolled goods	other rolls sizes or cut to size are available on request



FEATURES	
Materials	NR, CR
Storage	Outdoor
Building approval	No. Z-16.32-495
Permanent load	≤ 0.5 N/mm ²
Permanent load + dynamic load	0.7 N/mm ²
Load peaks (occasional and short-term)	≤ 1.2 N/mm ²
Thermal stability	-40°C + 70°C
Flammability	B2 acc. to DIN 4102 (normal combustible)
Water absorption	< 2%

Natural frequency



NATURAL FREQUENCY CURVE

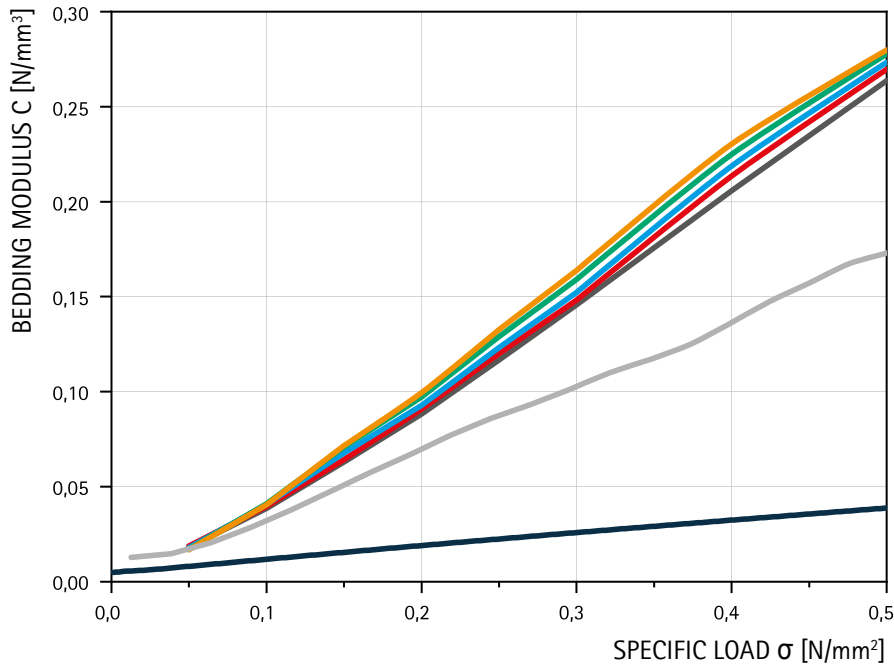
The diagram opposite shows the natural frequency of a single-mass oscillator with Cibatur® as a spring element. If Cibatur® is used in two layers, the stiffness of the bearing is approximately halved and the natural frequency drops significantly.

— Single layer
— Double-layer

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Bedding modulus subject to specific load, Cibatur® single layer

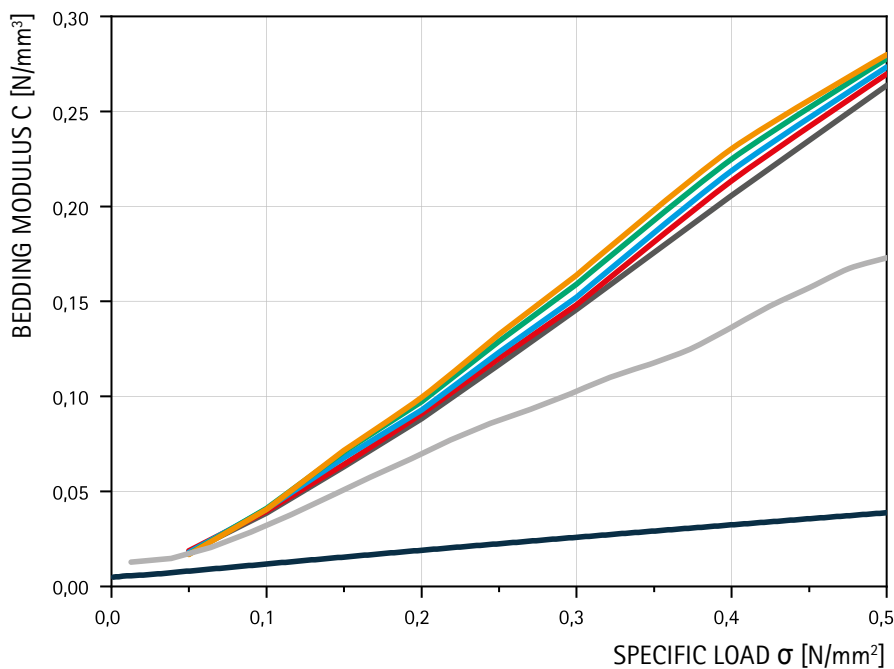


BEDDING MODULUS CURVE

In the adjacent diagrams, the static tangent module and secant module are shown for single and double-layer Cibatur® in addition to the dynamic bedding modulus.

- C_{dyn} , $f = 2.5$ Hz
- C_{dyn} , $f = 5$ Hz
- C_{dyn} , $f = 10$ Hz
- C_{dyn} , $f = 20$ Hz
- C_{dyn} , $f = 40$ Hz
- Stat. tangent modulus
- Stat. secant modulus

Bedding modulus subject to specific load, Cibatur® double-layer



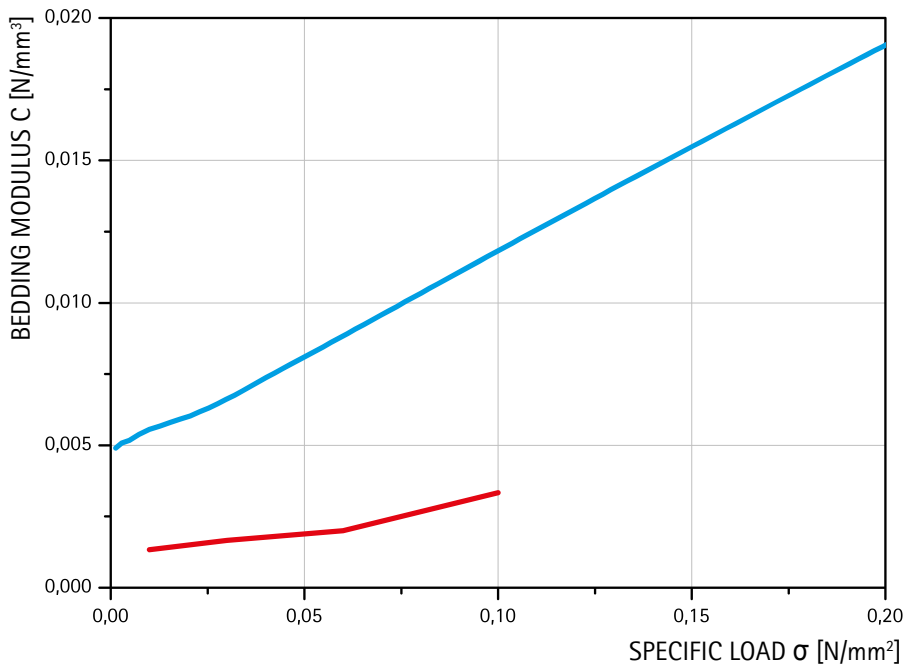
BEDDING MODULUS CURVE

- C_{dyn} , $f = 2.5$ Hz, single layer
- C_{dyn} , $f = 5$ Hz
- C_{dyn} , $f = 10$ Hz
- C_{dyn} , $f = 20$ Hz
- C_{dyn} , $f = 40$ Hz
- Stat. tangent modulus
- Stat. secant modulus

Cibatur®

Elastomeric bearing for vibration isolation

Vertical and horizontal stiffness

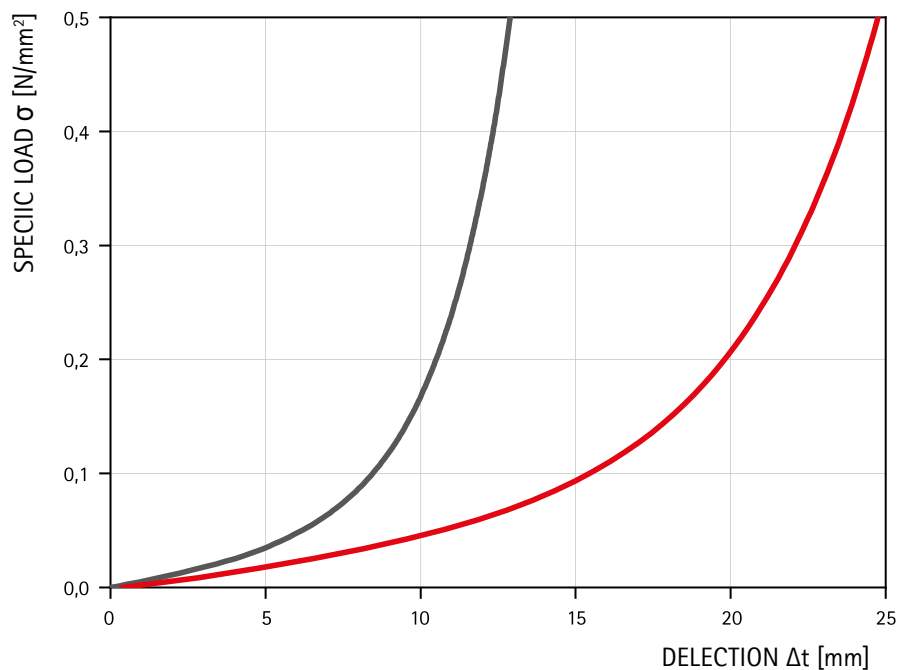


STIFFNESS CURVE

The diagram shows the vertical and horizontal secant modulus of a layer of Cibatur® are plotted against the pressure. You can see that the shear modulus is much lower than the bedding modulus.

- vertical bedding modulus as static secant modulus
- horizontal bedding modulus as static secant modulus

Compression



LOAD DEFLECTION CURVE

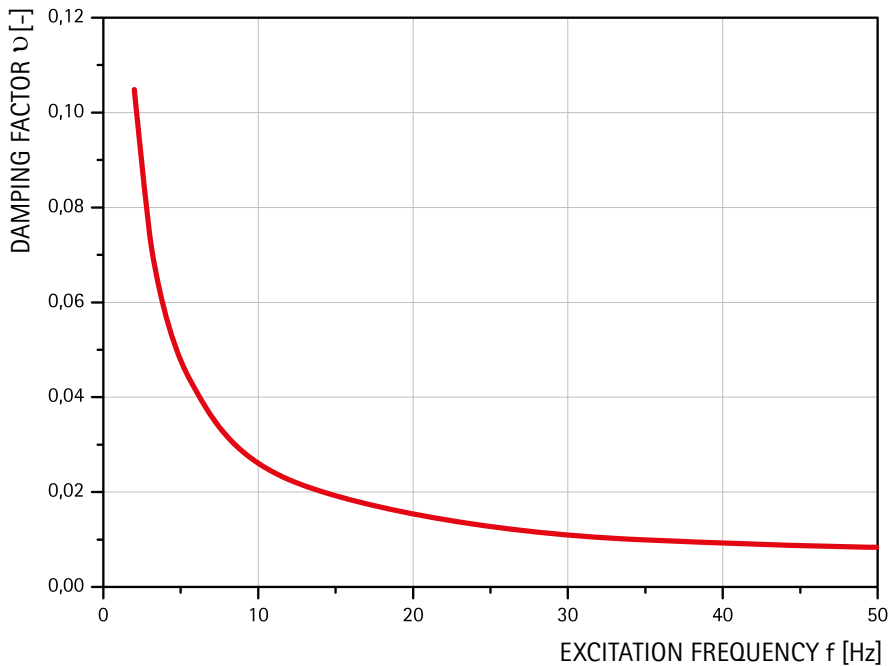
Uniaxial pressure against vertical deformation for single and double-layer Cibatur®.

- Single layer
- Double-layer

Cibatur®

Elastomeric bearing for vibration isolation

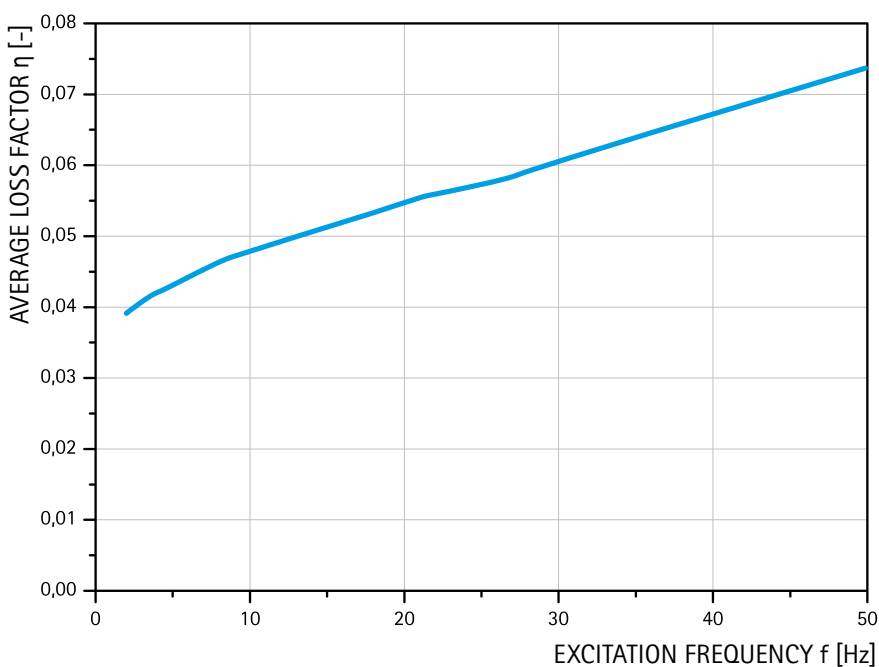
Damping factor



DAMPING FACTOR CURVE

The damping factor ϑ (frequently given as a percentage, previously referred to as Lehr damping factor $D = \vartheta$) is a measurement of the decrease in amplitude of a free decay process.

Loss factor



LOSS FACTOR CURVE

Loss factor depending on specific load.

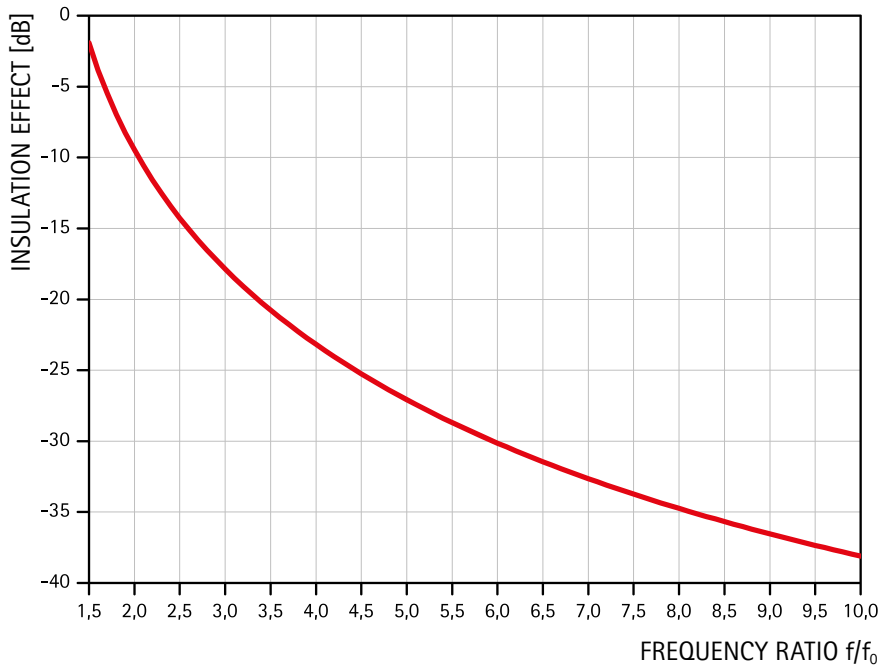
For a free oscillation, the two are related as follows:
Loss factor $\eta = 2 D = 2 \vartheta$

In general, the higher ϑ , the smaller are both the maximum increase of the amplitude in the case of resonance and the insulation effect for excitation frequencies higher than 1,4 times the natural frequency.

Cibatur®

Elastomeric bearing for vibration isolation

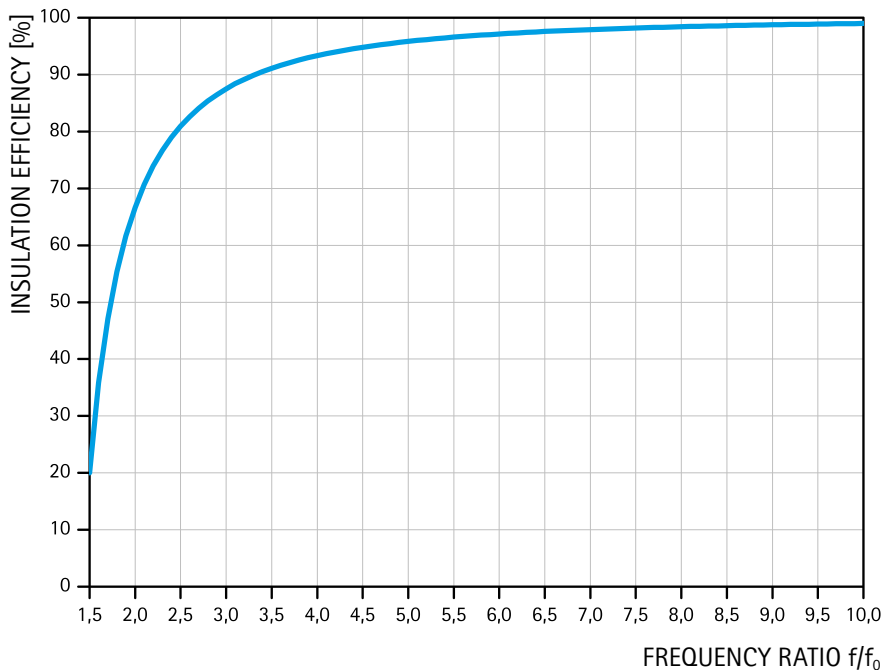
Insulation Effect



INSULATION EFFECT CURVE

Insulation effect and insulation efficiency (below) of a Cibatur® bedded single-mass oscillator.

Insulation efficiency



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