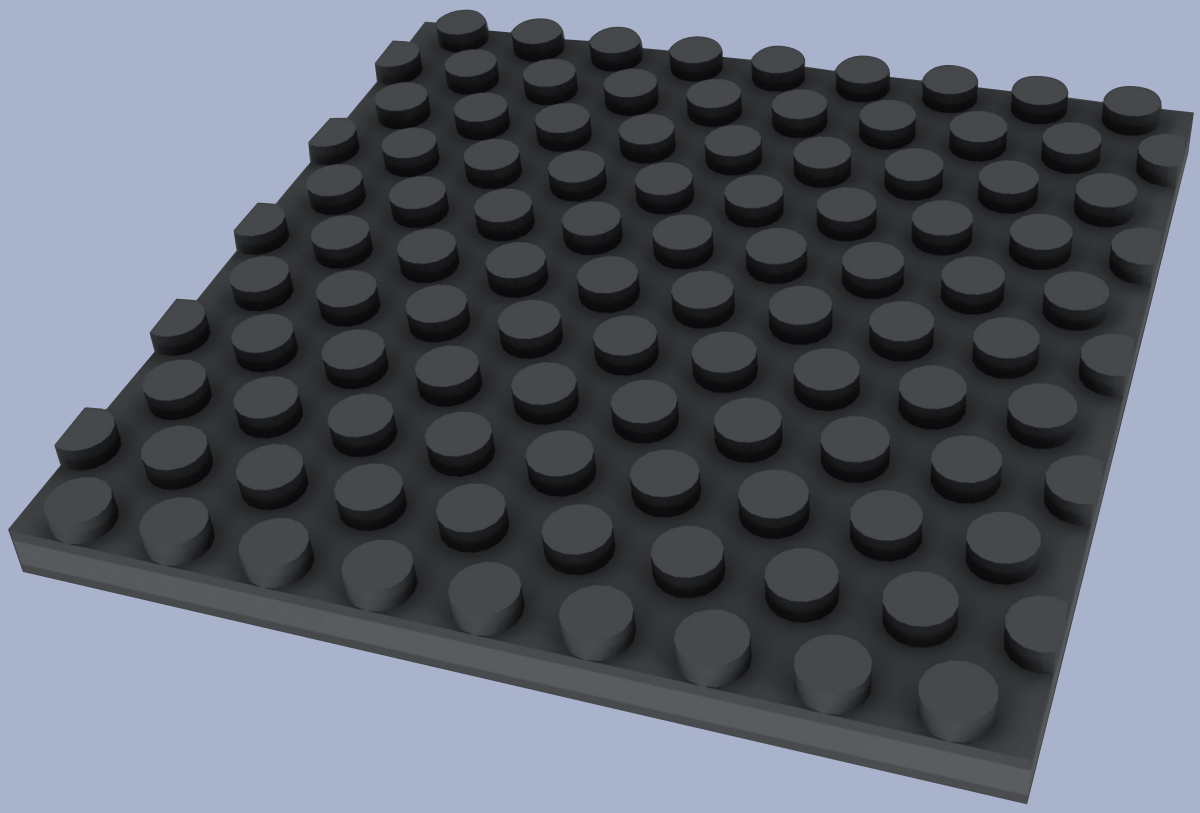
CALENBERG INGENIEURE

CIPREMONT®



Vibration isolation and structure-borne noise insulation for building and machine supports up to 4 N/mm²

planmäßig elastisch lagern

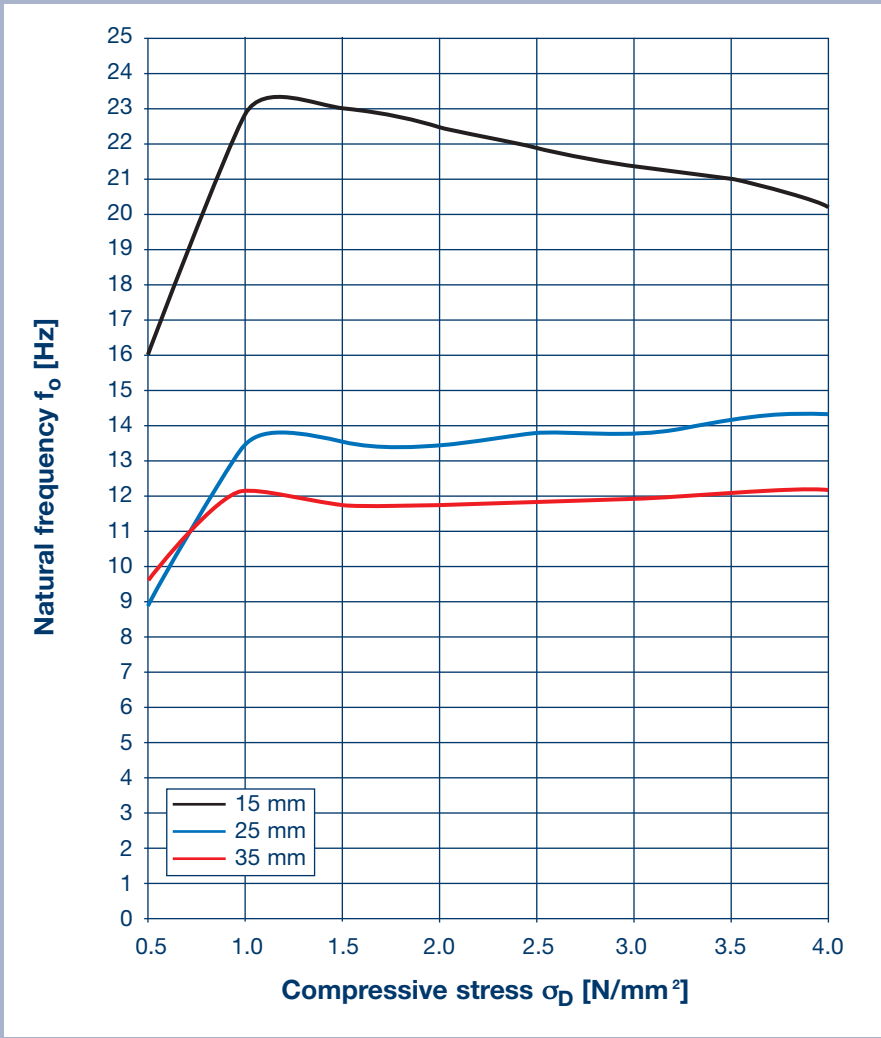
Natural Frequency

Contents

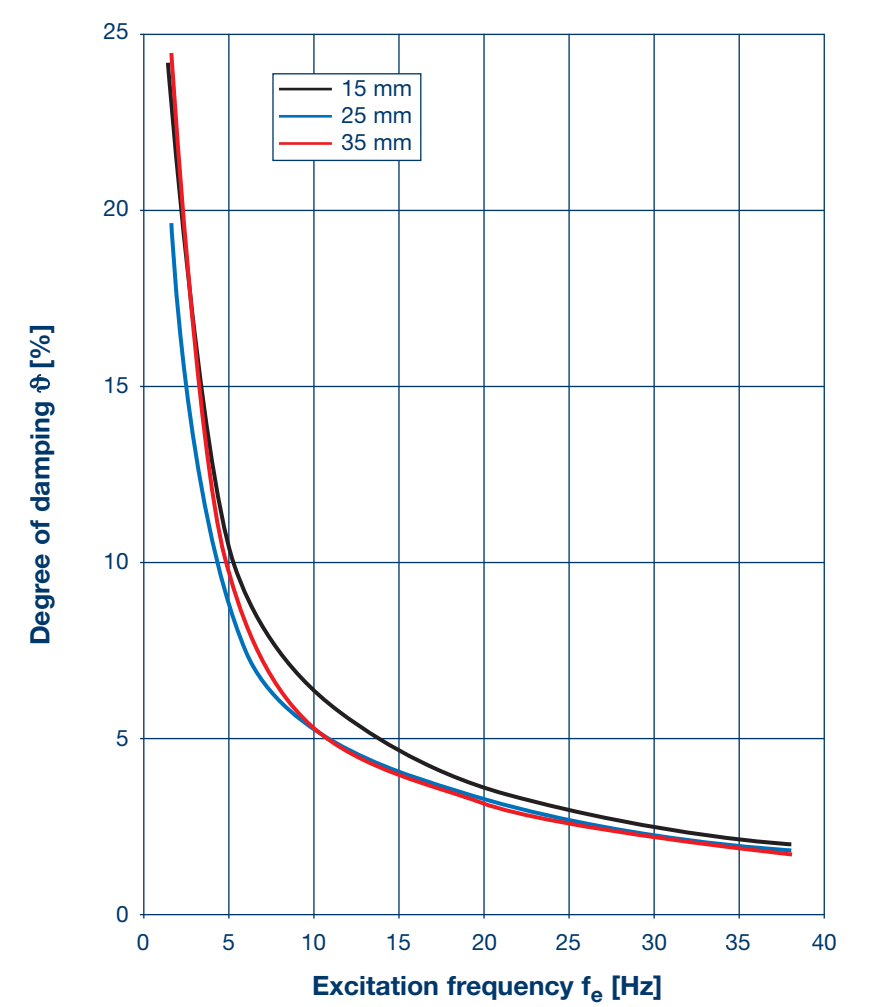
General

The tests were carried out at speed of vibration amplitudes of 1 and 2 mm/s in between plane steel plates coated with emery cloth having K60 grading. However, for the speed of vibration amplitude of 2 mm/s the results deviate on average by a maximum of 10 % from the values shown.

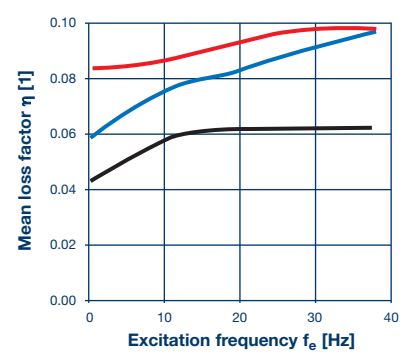
All data shown in the graphs were determined for a bearing size of 120 mm x 120 mm. At constant compressive stress the shape factor and hence the bearing dimensions have no influence on the dynamic stiffness and thereby on the natural frequency of the elastically supported system.



At vibration speed amplitude of 1 mm/s



At vibration speed amplitude of 1 mm/s



Product Description

Calenberg Cipremont® consists of a plate with cylindrical springs; a 15mm thick plate has springs only on one side, thicker plates on both sides. It consists of NR, is temperature resistant from –30° up to +70° and does not absorb water.

Degree of Damping

The degree of damping ϑ (given as a percentage and previously referred to as Lehr damping factor) is a measure for the decrease in amplitude of a free decay process.

It generally applies: the larger ϑ, the smaller is the maximum resonance magnification.

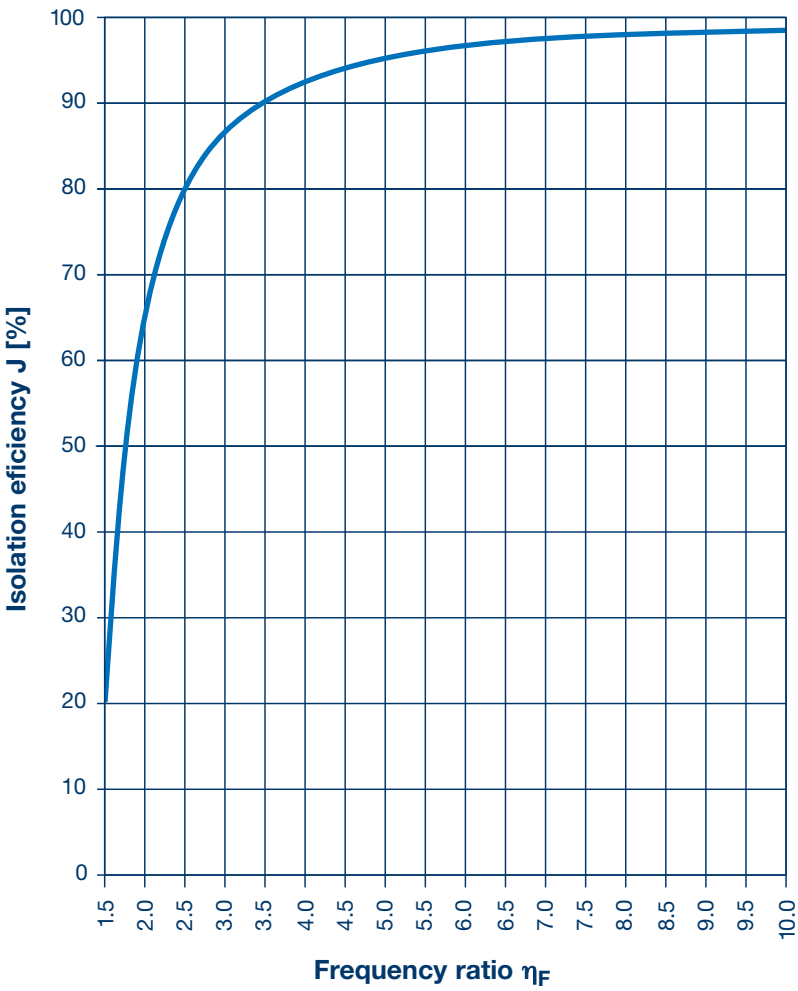
Degree of Damping

Isolation Efficiency

Field of Application

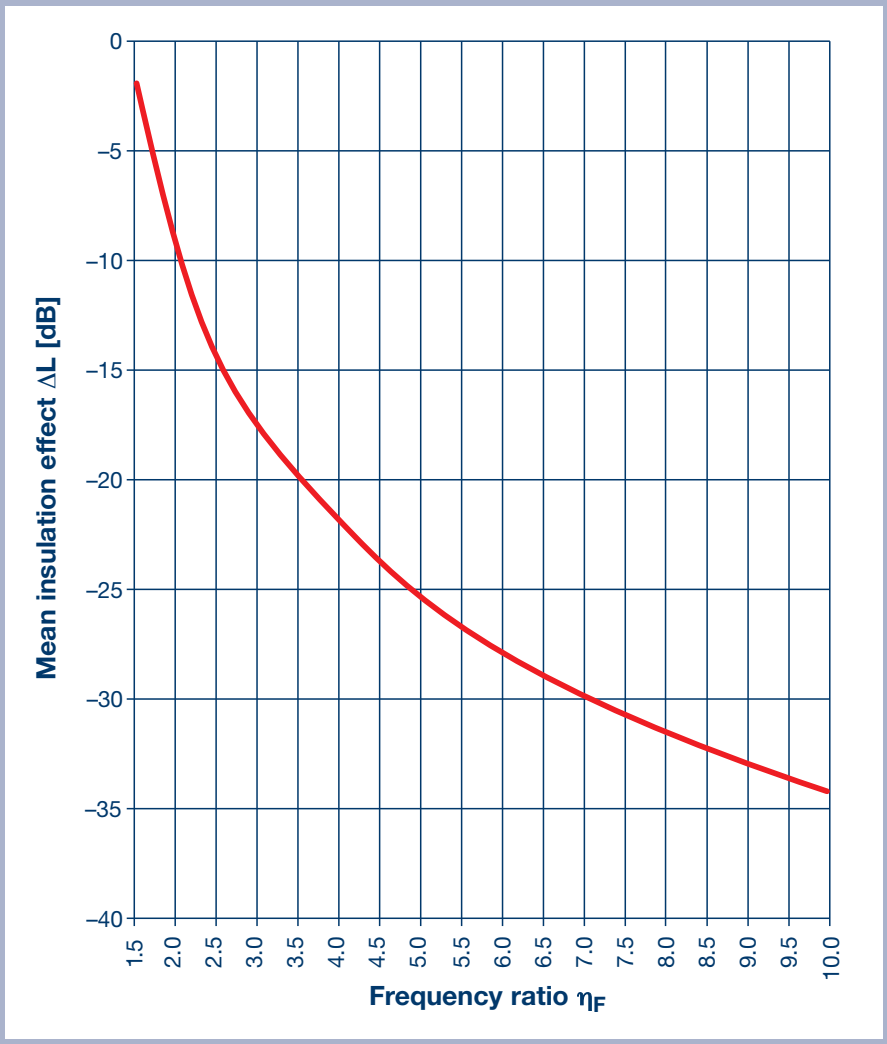
Compressive stress: 0,5 – 4,0 N/mm²

Calenberg Cipremont® can be used whenever highly stressed structural members have to be separated from each other for the protection against vibration and structure-borne noise.
Depending on the type of loading the support is either a strip or point support.



At vibration speed amplitude of 1 mm/s

Note:
The ratio of excitation frequency f_e to natural frequency f_o is designated as η_F.



At vibration speed amplitude of 1 mm/s

Dimensions and weights	
Length max. [mm]	800
Width max. [mm]	780
Bearing thickness [mm]	**Weight [kg/m²]**
15	14,5
25	22,5
35	32,8

Text in Tender Document

Calenberg Cipremont®, elastomeric bearing with cylindrical studs on one or on both sides, water repellent, temperature resistant from –30°C up to +70°C.

Length: ..... mm

Width: ..... mm

Thickness: ..... mm

Amount: ..... items

Price: ..... €/item

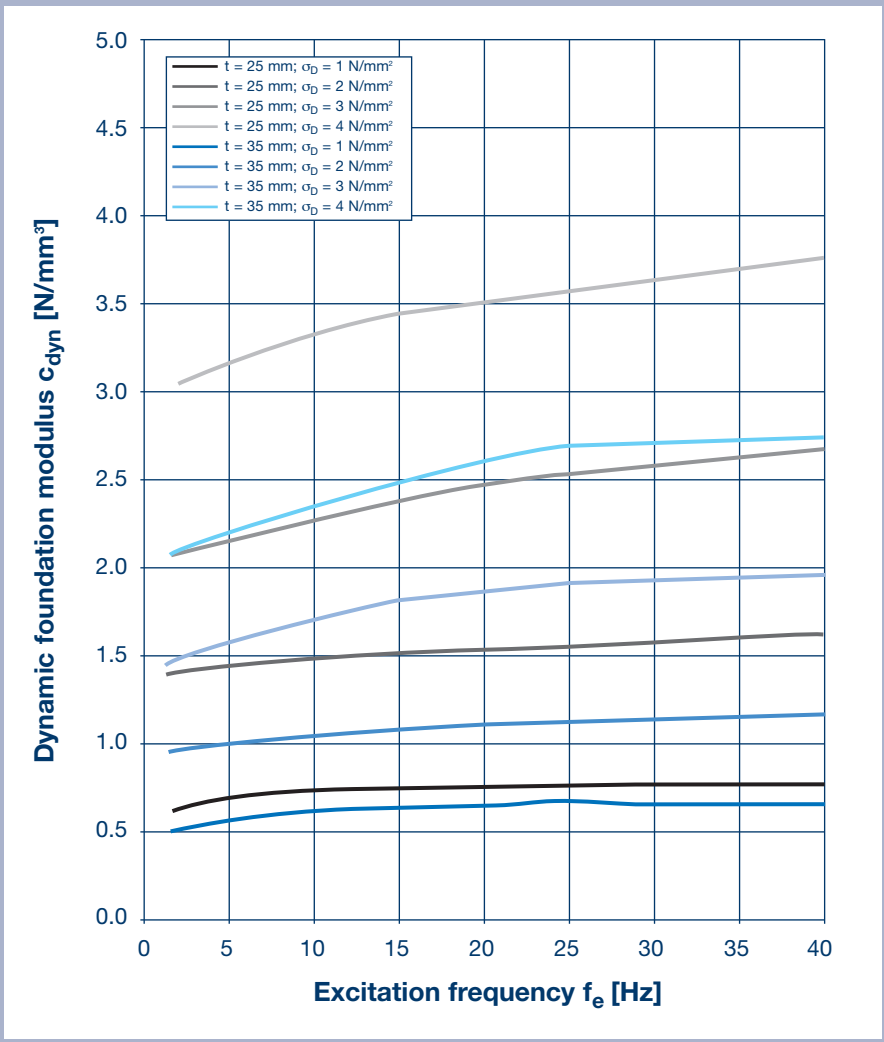
Supplier:
Calenberg Ingenieure GmbH
Am Knübel 2–4
D-31020 Salzhemmendorf
Phone +49 (0) 51 53 / 94 00-0
Fax +49 (0) 51 53 / 94 00-49

Insulation Effect

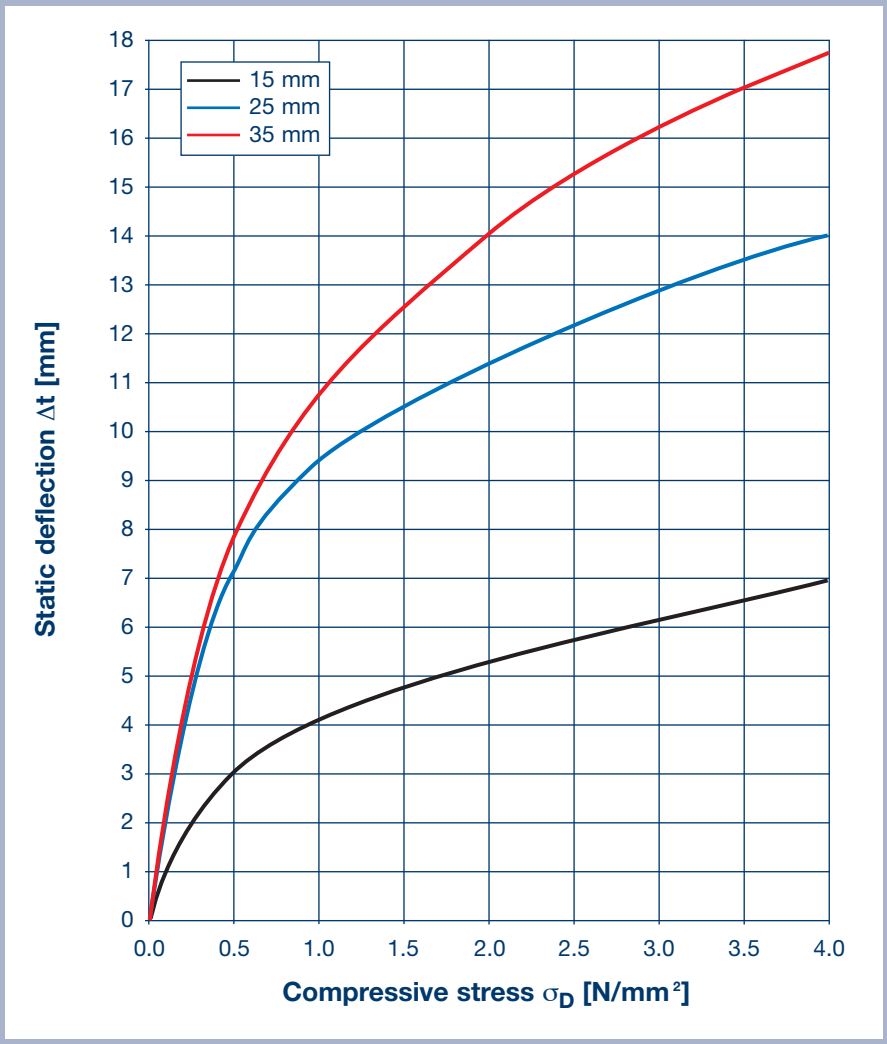
Dynamic Foundation Modulus

Installation Details

Calenberg Cipremont® is placed as a point or strip support. If placed under in-situ concrete, the gaps between the bearings are to be filled with soft material (e. g. rock wool) and the whole bearing joint has to be covered with a steel plate or any other non-flexural material. A non-rigid connection of the structural members to be separated has to be guaranteed so as to assure the isolation effect of the elastomeric bearing.



At vibration speed amplitude of 1 mm/s



Characteristics Design Values

The transmission of high to low frequency vibration is reduced by Calenberg Cipremont® bearing. Low vertical natural frequencies are obtained for the whole compressive stress range of 0,5 up to 4 N/mm².
In the graph on page 2 the vertical natural frequencies f_o are given for different member thicknesses t. The dynamic foundation modulus is shown on page 6.

Note:
For design purposes the equivalent mass-spring-system with one degree of freedom (translation) can in many cases be used as a first approximation.

Fire behaviour

For all applications of elastomeric bearings which have to comply with fire protection requirements, the fire safety assessment no. 3799/7357-AR- of the Technical University of Braunschweig applies. It specifies minimum dimensions and other measures in accordance with the specifications of DIN 4102-2, Fire behaviour of construction materials and components, 1977-09.

Static Deflection

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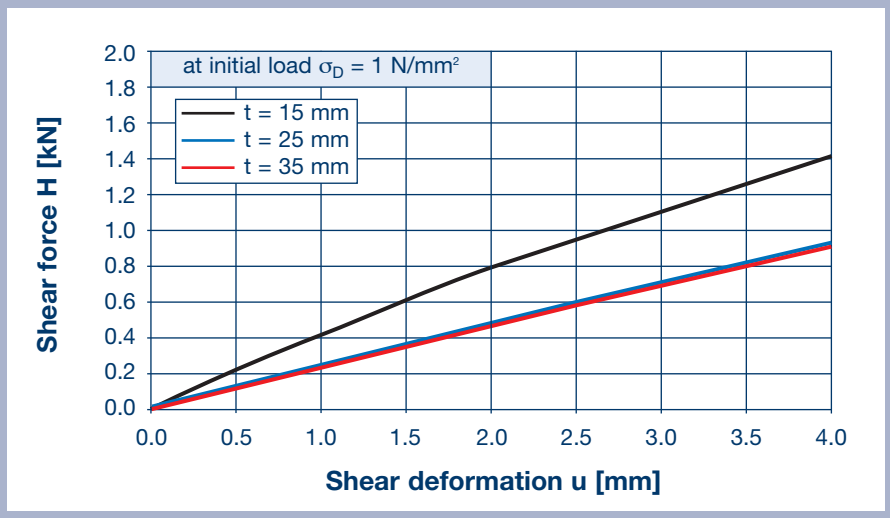
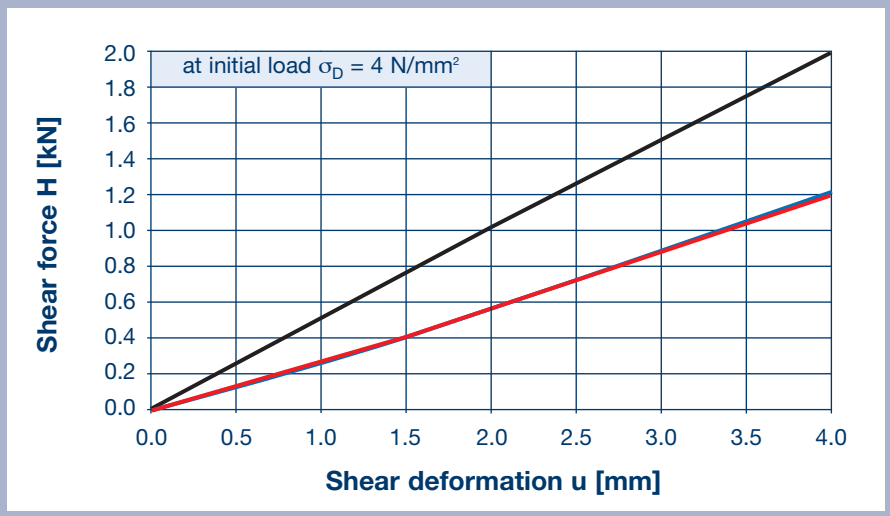
Test Certificates

Test Certificates, Proof of Suitability

- General building authority test certificate no. 853.0072 of the Institute for Material Science of Hanover; February 2003
- Fire safety assessment no. 3799/ 7357-AR; assessment of Calenberg elastomeric bearings regarding classification into the fire resistance class F 90 or F 120 according to DIN 4102 part 2 (issued 9/1977); accredited Testing Authority for Civil Engineering at the Institute for Construction Materials, Reinforced Concrete Construction and Fire Protection, Technical University Braunschweig; March 2005
- Determining the static and dynamic material behaviour of elastic bearings Cipremont® NR.
  Test report 03/09
  Technical University Dresden, 2009





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