VIBRAX® – Elastomeric bearings

VIBRAX®DAMP C
Vibration-isolating bearings

mageba
Applications and key data

General

VIBRAX®DAMP C is a profiled unreinforced deformation bearing with special properties in relation to structure-borne sound insulation and vibration isolation. VIBRAX®DAMP C is suitable in particular for providing bearing support to prefabricated structural components, such as:
- Stairs
- Landings
- Balcony slabs

The elastomeric bearing can facilitate or compensate longitudinal and transverse movements, and rotations. VIBRAX®DAMP C consists of a high-quality elastomer mix, has a long service life and is maintenance-free.

Structural positioning of the bearings

If an elastomeric bearing is vertically loaded, it becomes compressed and its sidewalls bulge outwards. The positioning of the bearing must allow this bulging, and ensure that the bulged bearing still rests completely within the reinforced area of the substructure (see Figure 1). At maximum loading, transverse deformation of \( r \leq 10 \text{ mm} \) can be expected.

Function

- Damping bearing for prefabricated concrete elements, combating the transmission of vibrations and structure-borne noise

Permissible pressure

- \( \leq 5 \text{ N/mm}^2 \)

Range of application

- 1 - 4 \text{ N/mm}^2

Damping performance

- \( \leq 27 \text{ dB at an excitation of 100 Hz} \)

Materials

- Natural rubber (NR)
- Density approx. 1,250 kg/m\(^3\)
- Hardness 41 ± 5 IRHD

Bearing shapes

- Any dimensions up to 1.20 m x 1.20 m

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1 Correct positioning of a bearing

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Design criteria

Compression curves
The load-deformation behaviour of the bearing is only marginally influenced by the roughness of the connecting surface. Very rough surfaces can allow larger deflections than smooth surfaces, because the material is pressed into the unevenness of the surface at high pressure.

Dynamic stiffness
depends on pressure

Natural frequency
depends on pressure

Damping performance
depending on pressure - for a disturbing frequency of 50 Hz and 100 Hz
Delivery, installation and tendering

**Delivery format**

VIBRAX®DAMP C is available as a 1200 x 1200 mm panel, with a thickness of 12 mm. In addition to full panels, tailored pieces, with pre-drilled holes according to customer specifications, can also be supplied on request.

**Assembly**

Before laying of VIBRAX®DAMP C, the surface on which it is to be laid must be checked for flatness. Any protrusions must be removed, and suitable grout should be used if necessary to create a flat surface. The bearing can then be laid, ensuring that profiled surface is turned down and the substrate is clean as well as grease-free. VIBRAX®DAMP C can be simply butt-joined without any further measures.

**Suggested text for tender requests**

Supply and installation of unreinforced sound insulation and deformation bearings, on flat, firm surface

- **Brand:** VIBRAX®DAMP C
- **Material:** Natural Rubber (NR)
- **Permissible pressure:** 10 N/mm²
- **Range of application as optimal sound insulation:** 1 to 4 N/mm²
- **Bearing thickness:** 12 mm
- **Dimensions (L x W):** ... mm x ... mm
- **Units:** Pieces.

**Supplier:**

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Surcharge for special designs (e.g. round bearings / with holes)
to Item ....
**Brand:** VIBRAX®DAMP C
According to drawing ...
tailored according to the customer’s wishes

**Project references**

Amiens, FR  |  Municipal library of Stuttgart, DE  |  Convention Center, HK  |  Shopping Centre, CH  |  Hurghada Airport, EG  |  Stade de Suisse, CH

**Product groups (building construction)**

Bearings  |  Vibration isolation  |  Expansion joints  |  Special products

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