02

Vibration-Isolating Plates

SLAB

Universal Damping Plates

For application on foundations for plants and machines, compressors, in pump stations, generators, for insulations, measuring tables, buildings, etc.

CEL

Low-Frequency Damping Plates

For use in foundations, buildings, transport routes, bridges, stairs, test benches, pump stations, generators, compressors, machines, etc.

PAD

Rugged Fibre and Elastomer Plates

For isolating and protecting foundations, e.g. of presses, plants, machines, as well as for use in pump stations, crane runways, bridges and heavy-duty applications

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Vibration-isolation made to measure

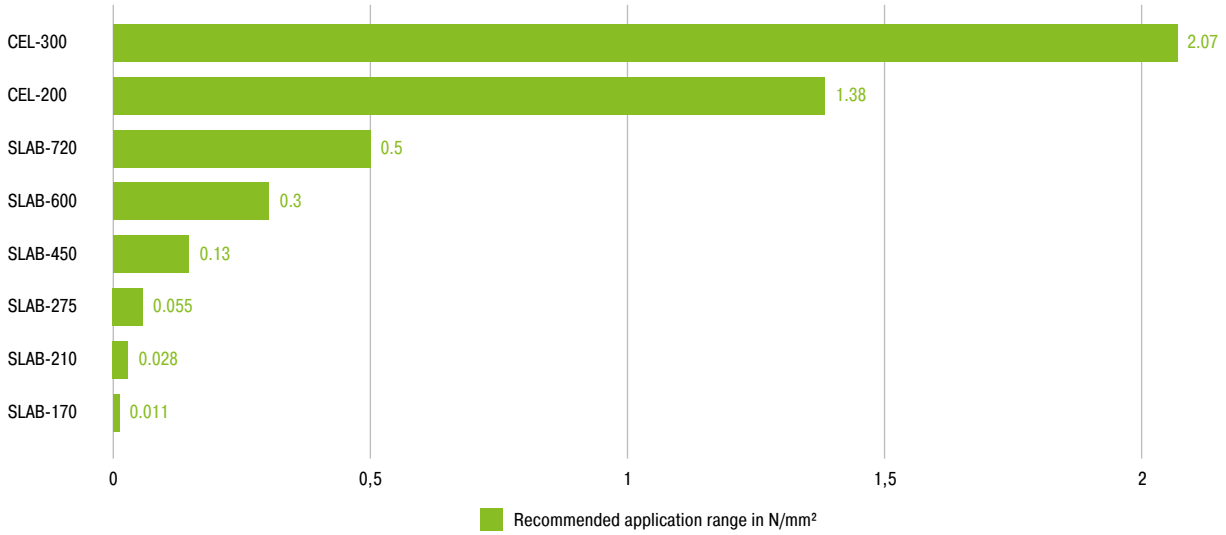
Variable, flexible, custom-made

Vibration-isolating ACE plates are used whenever an adjusted isolation of vibrations and structure-borne noise is required.

The right damping solution for standard applications can be simply found by using the selection diagrams (following pages). The right material type can be identified independently of the load via the desired damping in relation to the excitation frequency. The ideal plate size can be quickly calculated on the basis of the load area.

A rough preselection of suitable plate materials can be made by consulting the permissible surface pressures of different plate materials.

Application range according to surface pressure



The SLAB and CEL plates can either be ordered in their standard size or cut according to customer request. We require the desired specifications and quantities for calculating the required parts.

The custom-cutting of the plates allow the realisation of almost any shape and solution. In addition, various plates can be layered, glued and combined with reinforcing plates (steel) or sliding layers (PTFE).

The PAD product group is made from fibre-reinforced plate material used for very high loads of up to 13.8 N/mm².

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SLAB
Universal Damping Plates

SLAB damping plates of model series SL-170 to SL-720 are universally applicable elastic PUR materials which are manufactured according to a patented formula and can be used for a large number of applications.

The plates with standard sizes of 170 kg/m³ to 720 kg/m³ serve as starting materials for the vibration isolation of different applications in industry and construction. The static and dynamic product properties are used as the basis for the selection of the most suitable damping solution.

The material determination (see selection diagram) is used to make the preselection of the correct damping material, after which, in a second, easy step, the suitable dimensions of the support are determined. SLABs are delivered as pre-fabricated standard plates or can be freely cut from the raw material (roll and plate material).

Standard SLABs are supplied in material thickness of 12.5 mm and 25 mm. On request, the sizes of delivered plates can be cut freely from the standard 800 x 1,500 mm stock. Sample plates with dimensions 220 x 150 mm and the respective thicknesses are available for test purposes and small applications, with maximum machinable dimensions up to 5,000 x 1,500.

Properties
- Can be cut to many different shapes (water jet cutting)
- Can be combined to any desired isolation packages
- On-site vibration measurement and selection
- Special dimensioning software, no additional costs for designing
- Highly damping PUR
- Operating temperature range -30 °C to +70 °C

Areas of application
- Foundations of plants and machines
- Compressors
- Pump stations and generators
- Pipeline isolation
- Test benches, measuring tables and their foundations
- Buildings
- Staircase bearing surfaces

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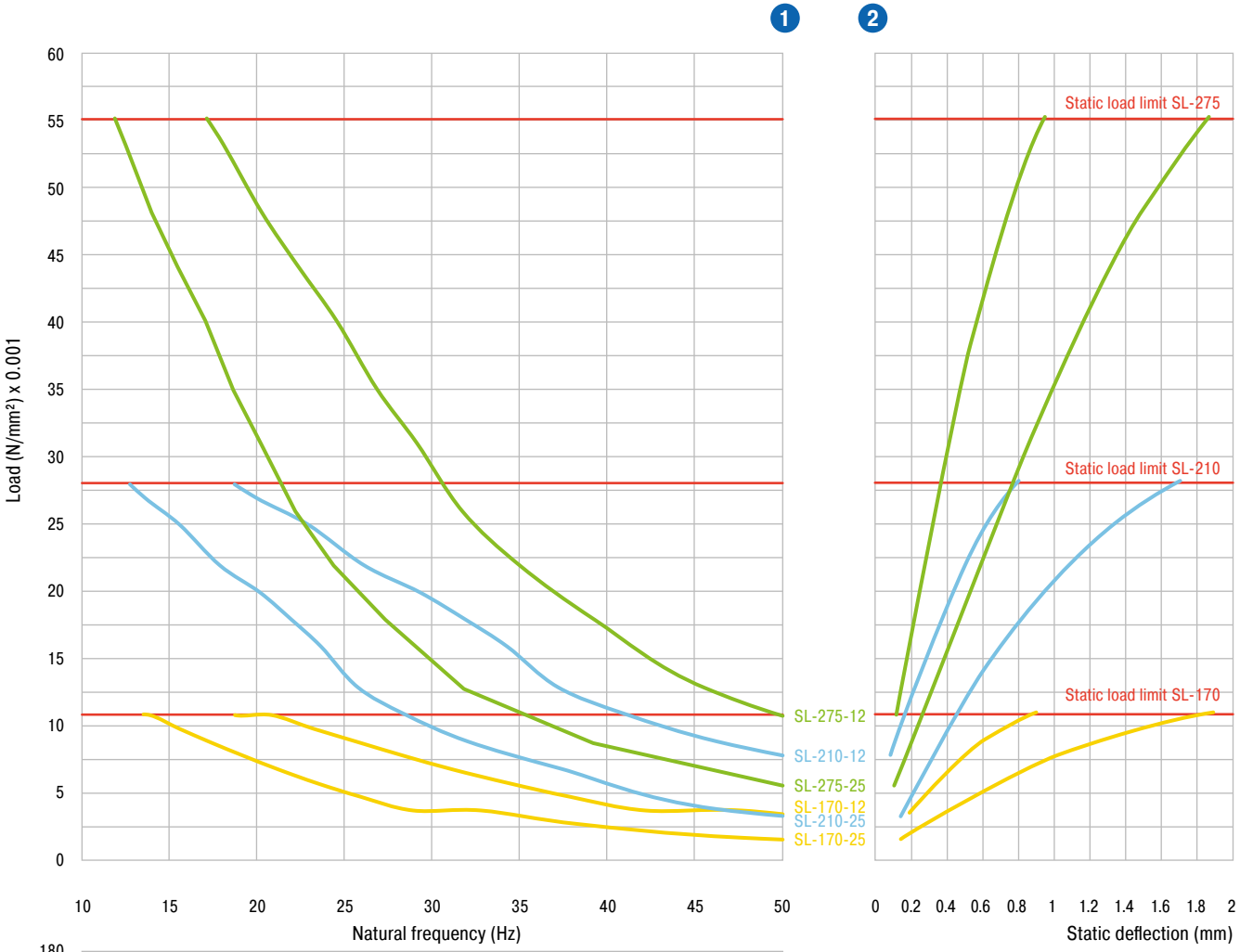
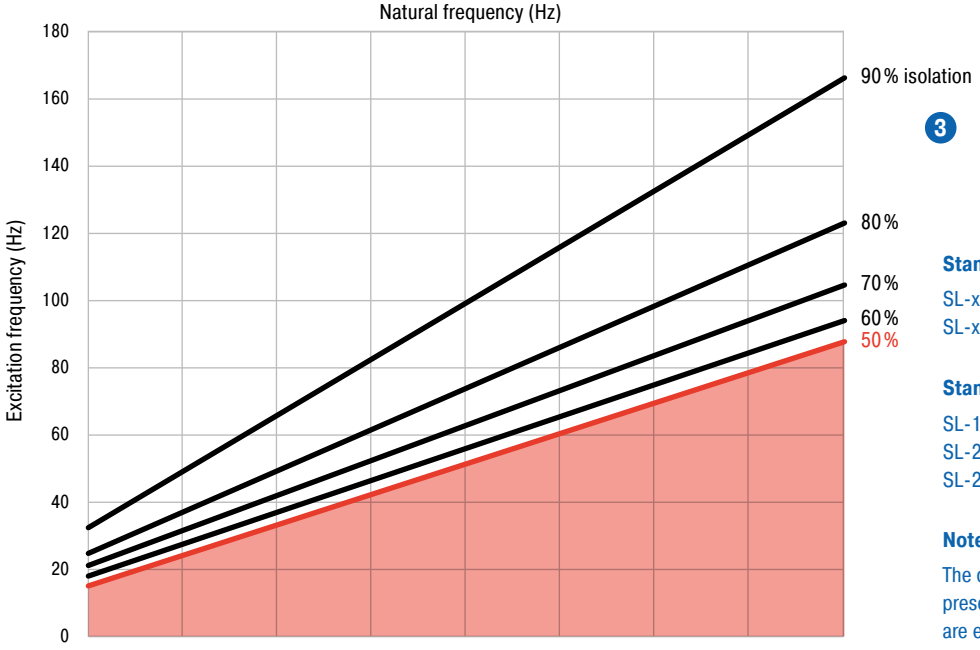
SL-170 / SL-210 / SL-275





Standard thicknesses

SL-xxx-12: 12.5 mm
SL-xxx-25: 25 mm

Standard colours

SL-170: Yellow
SL-210: Blue
SL-275: Green

Notes

The diagrams represent a simplified form of the preselection. Liability and compensation claims are excluded.

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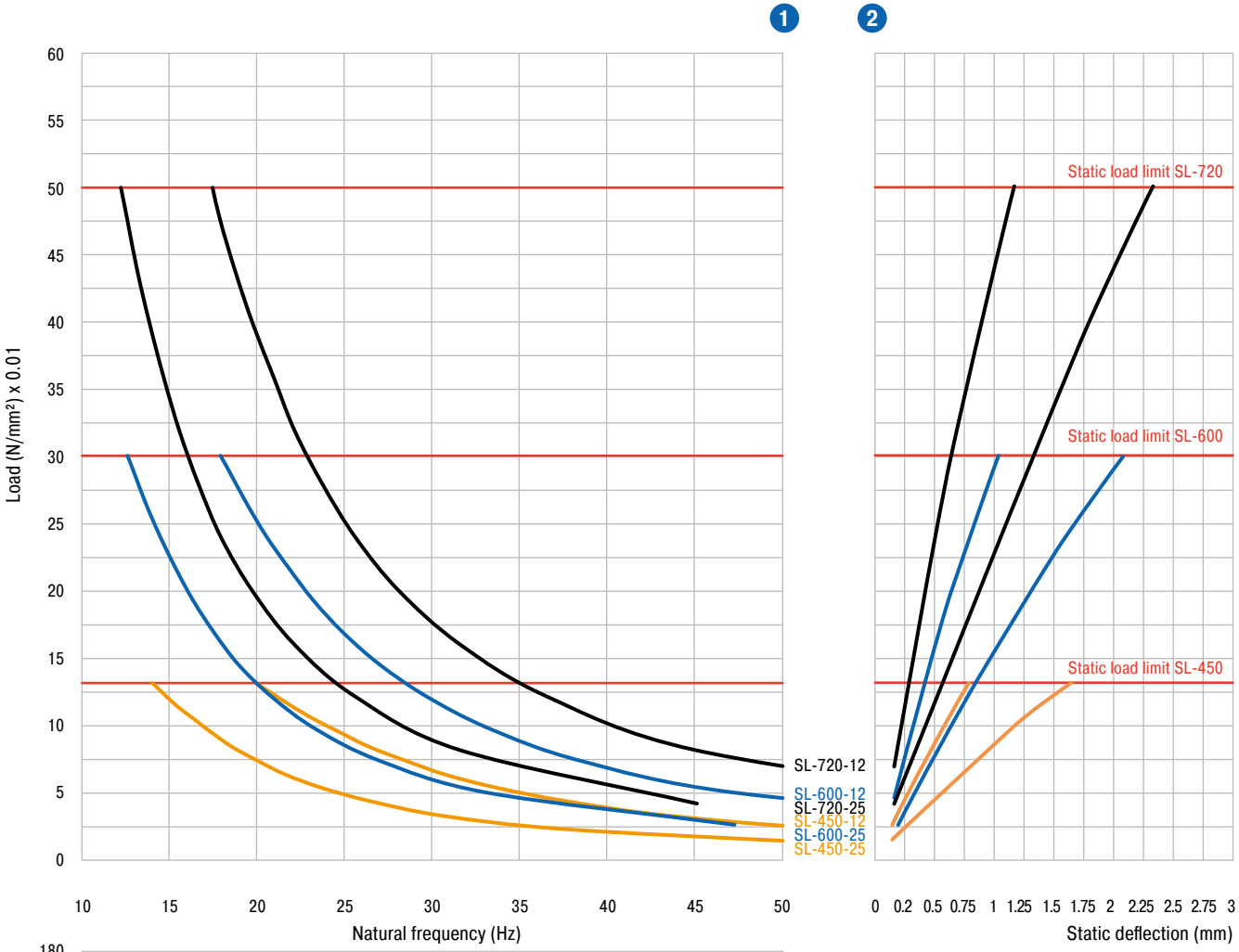
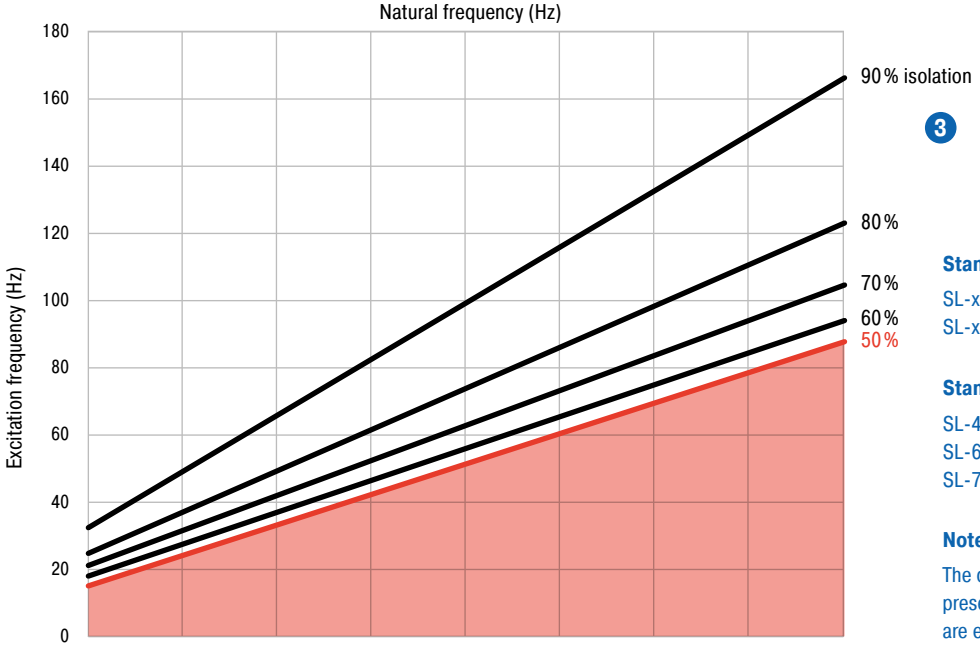
SL-450 / SL-600 / SL-720





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Standard thicknesses

SL-xxx-12: 12.5 mm
SL-xxx-25: 25 mm

Standard colours

SL-450: Orange
SL-600: Dark blue
SL-720: Black

Notes

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CEL
Low-Frequency Damping Plates

CEL damping plates are produced from a special nitrile rubber which damps at low-frequencies.

The damping plates can be custom-cut and glued together to form multiple layers depending on the application. The tried-and-tested CEL damping plates are used in the field of machine and plant engineering. Here the plates take charge of isolating the floor or foundation to the plant or machine. Damaging vibrations are prevented, increasing production or measuring quality.

Properties

- Can be combined to form any desired isolation packages or glued together
- On-site vibration measurement and selection
- Special dimensioning software, no additional costs for designing
- Operating temperature range -20 °C to +65 °C

Areas of application

- Foundations of plants and machines
- Compressors
- Pump stations and generators
- Pipeline isolation
- Test benches, measuring tables and their foundations
- Buildings
- Transport routes, bridges
- Staircase bearing surfaces

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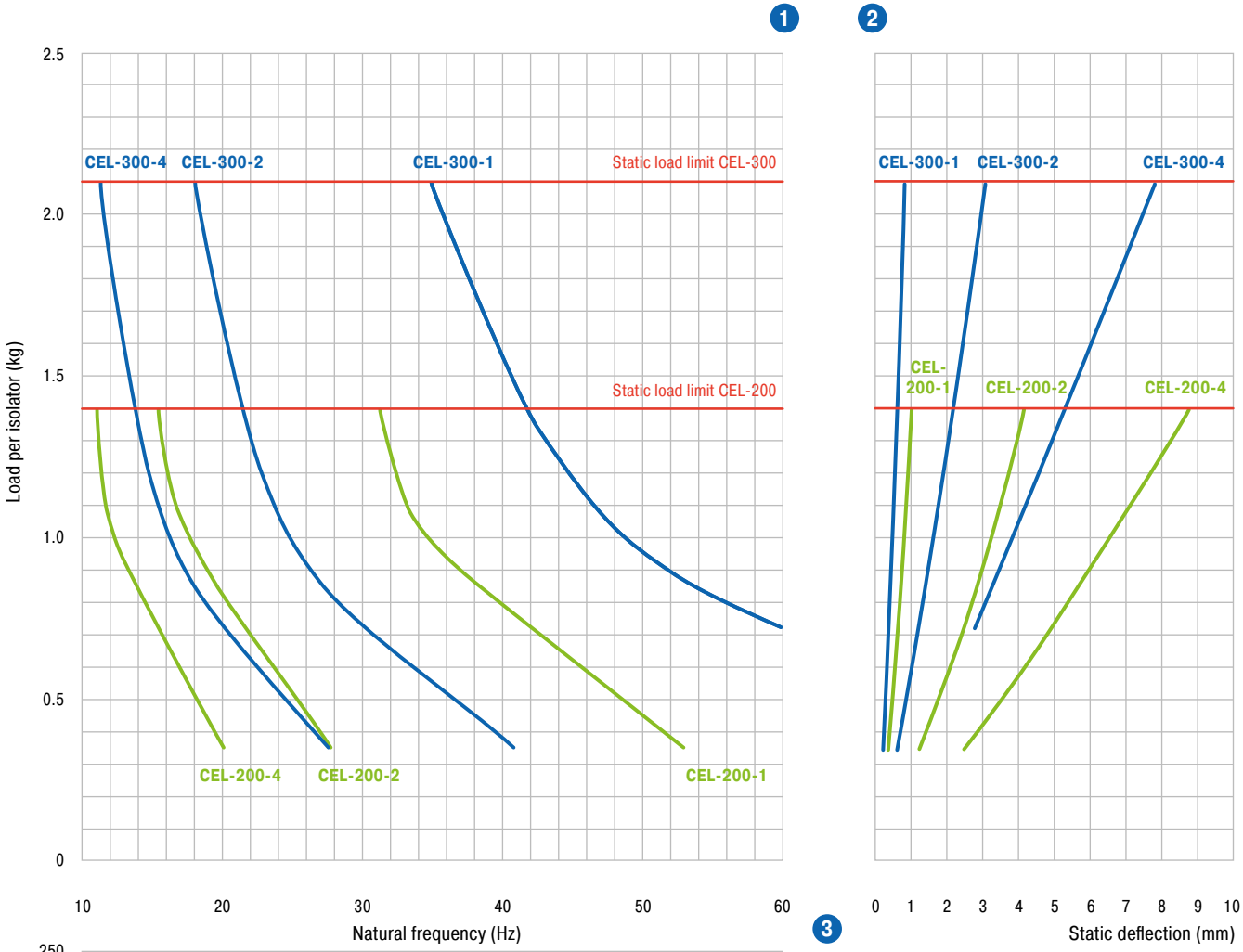
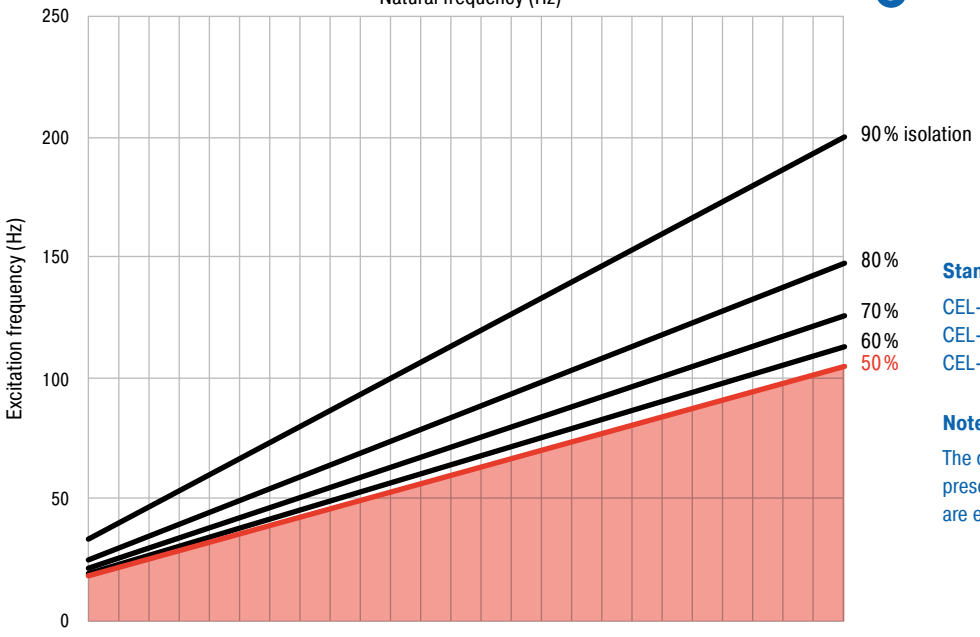
CEL-200 / CEL-300





Standard thicknesses

CEL-xxx-1: 12.7 mm
CEL-xxx-2: 25.4 mm
CEL-xxx-4: 50.8 mm

Notes

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PAD

Rugged Fibre and Elastomer Plates

The PAD fibre and Elastomer Plates combine the positive properties of isolating elastomer bearing surfaces with the reinforcing effect of fibre inlays.

The PADs are rugged damping plate for use in heavy-duty applications, e.g. under crane runways, in steel construction, pipeline construction and the coal, iron and steel industry. Due to their physical properties, the PAD plates provide outstanding damping against shocks and impacts and isolate vibrations and structure-borne noise.

Depending on the shape and selected dimensions, PADs can withstand compressive loads of up to 69 N/mm². In general, the maximum surface pressure is 13.8 N/mm².

Properties

- Rugged
- Can be custom-cut
- Low creep tendency
- Thickness: 1,185 kg/m³
- Operating temperature range -55 °C to +95 °C

Areas of application

- Foundations of presses, plants and machines
- Impact plates
- Pipelines
- Conveying systems
- Pump stations and generators
- Crane runways
- Bridges
- Heavy-duty applications

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Due to the layered structure, the material exhibits excellent compressibility. This allows spring deflections to be reached without material flow (custom-fit installation complying with defined dimensions possible). The excellent material properties are also apparent in the very good creep behaviour under load. For example, under continuous static load, the material only exhibits a creep tendency of approx. 5%.

Depending on the application, the PADs can be custom-cut to meet customer specifications and be used as supports, discs and sleeves with an isolating/ damping effect.

Selection and calculation

As with a conventional shock absorption application, the selection of a suitable material thickness and material dimensions is based on the consideration of the kinetic energy in the system in relation to the desired damping value. The hysteresis curve for the respective material is then taken as the basis for selecting the correct material dimensions, such as the length, width and height of the damper.

To measure the kinetic energy, we suggest you to try our shock absorption calculation software which we offer on our website free of charge. No need even to register, you can easily enter the required values here and obtain a suitable solution recommendation.

Our in-house and field application technicians are happy to assist you with this as with other issues.

Note

PADs consist of organic material subject to batch-based fluctuations

PADs meet the following military specifications: MIL-C-882 and MIL-E-5272A.

The PADs are resistant to most oils, water vapour, water, mould and brine. Their operating temperature range is between -55 °C and +95 °C.

The hardness of PADs is 90 ±5 shore A.

The standard plates are available in different thicknesses, graduated between 1.6 and 25.4 mm. Other thicknesses are available by combining the standard thicknesses via gluing. A combination with steel plates or PTFE plates as equal layers is also available on request.

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