

Stravibase VHS Datasheet



High Load
Capacity



Easy
Installation



Durability &
Performance



Replaceable
& Inspectable



Compatible with steel,
wood & concrete
constructions

Stravibase Very High Stress bearing, commonly called Stravibase VHS, consists of successive layers of high resilience elastomeric pads and steel plates. It is the optimal solution for limited surface areas meeting natural frequencies between 7 and 16Hz.

Stravibase VHS is designed to support important design loads and can be accommodated with structural failsafes (VHS_FS). Stravibase VHS can be supplied with or without formwork.



DESIGN REQUIREMENTS

For each project, the CDM Stravitec engineering service will help you find the optimum Stravibase VHS solution to achieve the acoustic performance required and the load bearing resistance needed to withstand the static and dynamic forces in your structure. For this reason, our team will require:

- Natural frequency requirements;
- The vertical and lateral load combinations (including dead loads and variable loads such as service live loads, wind loads, etc.);
- Occasional loads for stability checks;
- Contact surface area at each load point;
- Substructure and superstructure drawings (sections, plan views, etc.).

Note:

All CDM Stravitec elastomeric bearings are designed according to the EN1337-3 and BS6177 principles. EN 1337-3: Structural Bearings - Part 3: Elastomeric Bearings. BS6177: Guide to selection and use of elastomeric bearings for vibration isolation of buildings.



EXTRA FEATURES

Depending on the clients' needs and the intended use of the building, additional architectural and structural design considerations may be required by the project design team.

CDM Stravitec will support the design team with integrating all possible additional features to the Building Base Isolation solutions (failsafes, shear keys, etc.); with the objective of maintaining the integrity and durability of the solutions without compromising the acoustic performance of the bearings.



PHYSICAL & MECHANICAL PROPERTIES

2 to 7 successive layers of natural rubber (NR) and galvanized steel

Type	without failsafe (VHS)			with failsafe (VHS-FS)
	20	20	30	20
Thickness Elastomeric Layers [mm]	20	20	30	20
Commercial Name	VHS-100	VHS-150	VHS-150-L30	VHS-150-FS
Bearing Footprint [mm ²]	100 x 100	150 x 150	150 x 150	150 x 150
Design Load [kN]	90 - 120	150 - 260	100 - 205	100 - 220
Shore Hardness (ISO 48-4/ASTM D2240)	85° A	85° A	85° A	85° A
Color	Black/Grey			Black/Grey
Creep Rate at SLS [%] (ISO 8013/BS6177)	<1 % initial height/dec T. < 5 % initial deflection/dec T.			
Temperature Range	-10°C / +70°C			
Fire Resistance	NPD			R90



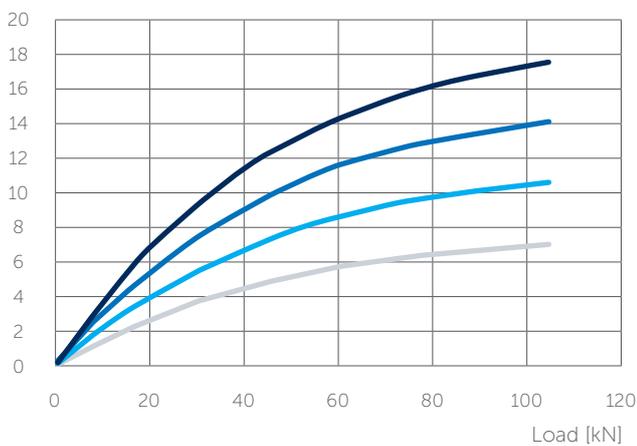
ACOUSTICAL RESULTS

Stravibase VHS-100

● 2 layers ● 3 layers ● 4 layers ● 5 layers

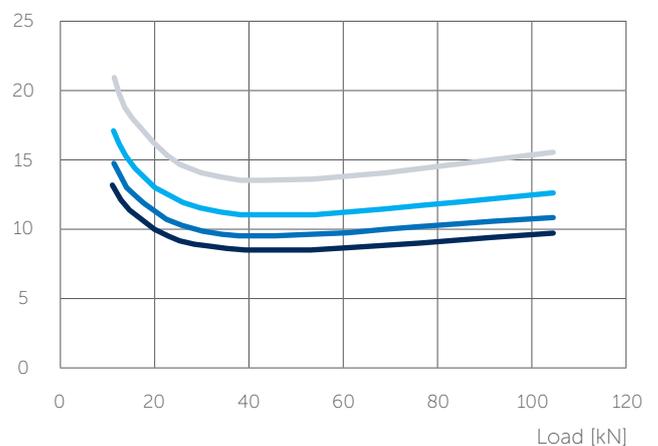
Deflection

[mm]



Natural Frequency

[Hz]

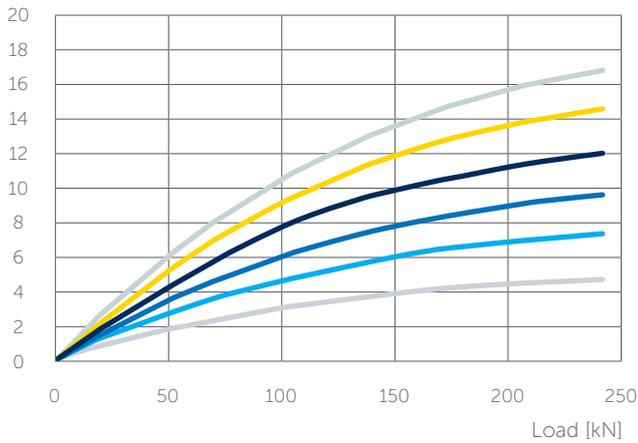


Stravibase VHS-150

● 2 layers ● 3 layers ● 4 layers ● 5 layers ● 6 layers ● 7 layers

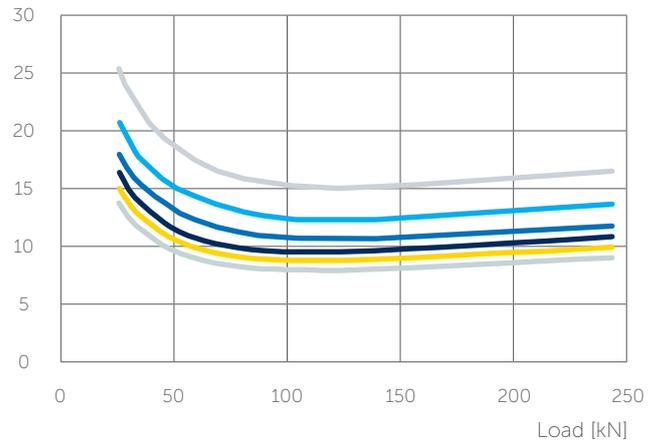
Deflection

[mm]



Natural Frequency

[Hz]

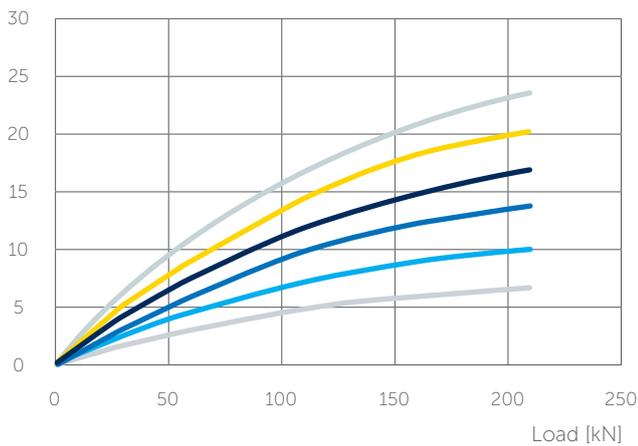


Stravibase VHS-150-FS

● 2 layers ● 3 layers ● 4 layers ● 5 layers ● 6 layers ● 7 layers

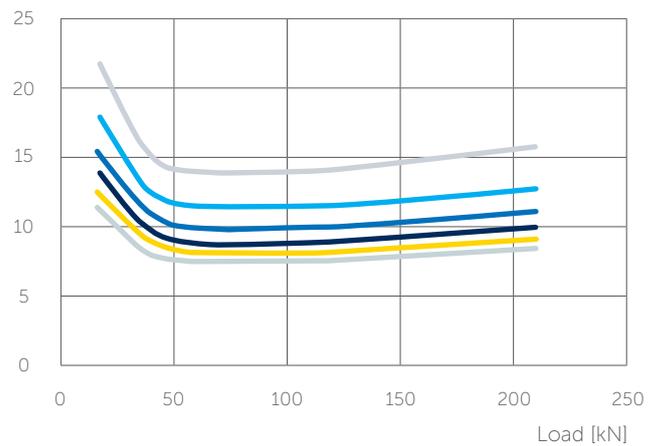
Deflection

[mm]



Natural Frequency

[Hz]

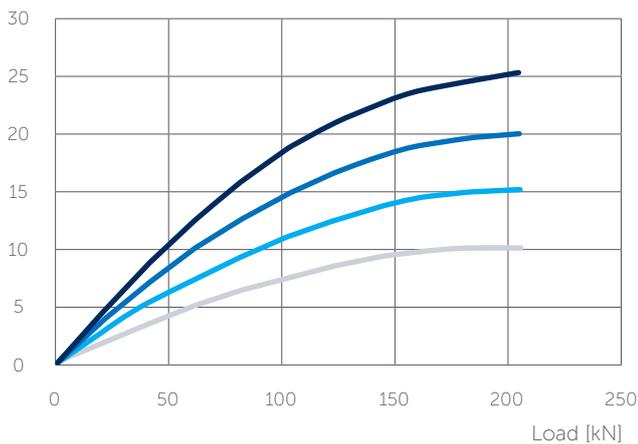


Stravibase VHS-150-L30

● 2 layers ● 3 layers ● 4 layers ● 5 layers

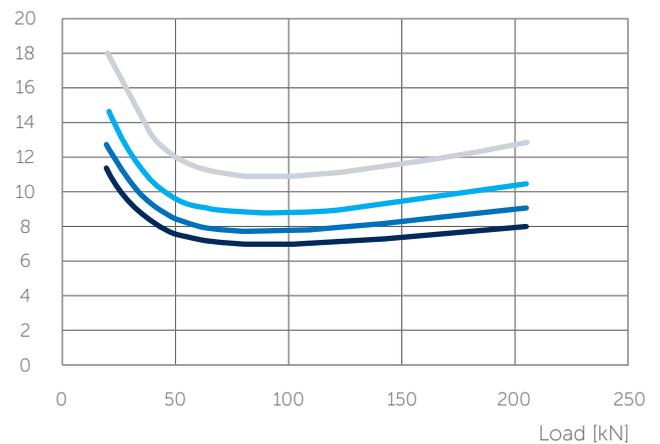
Deflection

[mm]



Natural Frequency

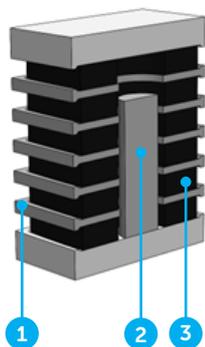
[Hz]





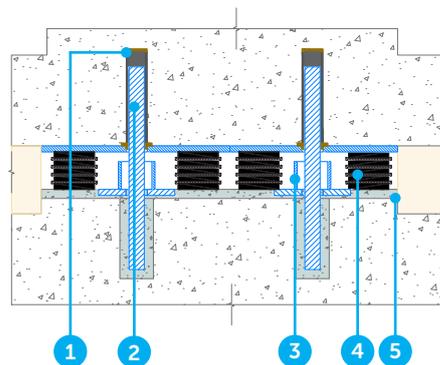
TYPICAL ASSEMBLIES

Stravibase VHS with integrated failsafe (VHS-FS)



1. Steel plate
2. Integrated failsafe
3. Elastomeric bearing

Stravibase VHS with shear dowels & failsafes



1. Sleeve
2. Shear dowel
3. Failsafe
4. Stravibase VHS
5. Grout



For patent information, please visit
<https://cdm-stravitec.com/en-uk/patents>

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