

Heavy Lifts

Silent Floors

Noise, shock, and vibration isolation for gyms and fitness facilities

Reduce structure-borne noise at the source with engineered gym floor solutions. Vibrattec systems absorb vibrations from impacts — creating quiet, comfortable environments for athletes and everyone nearby.



VIBRATEC

Quietly Improving Your Environment

Gym Solutions from Vibratec

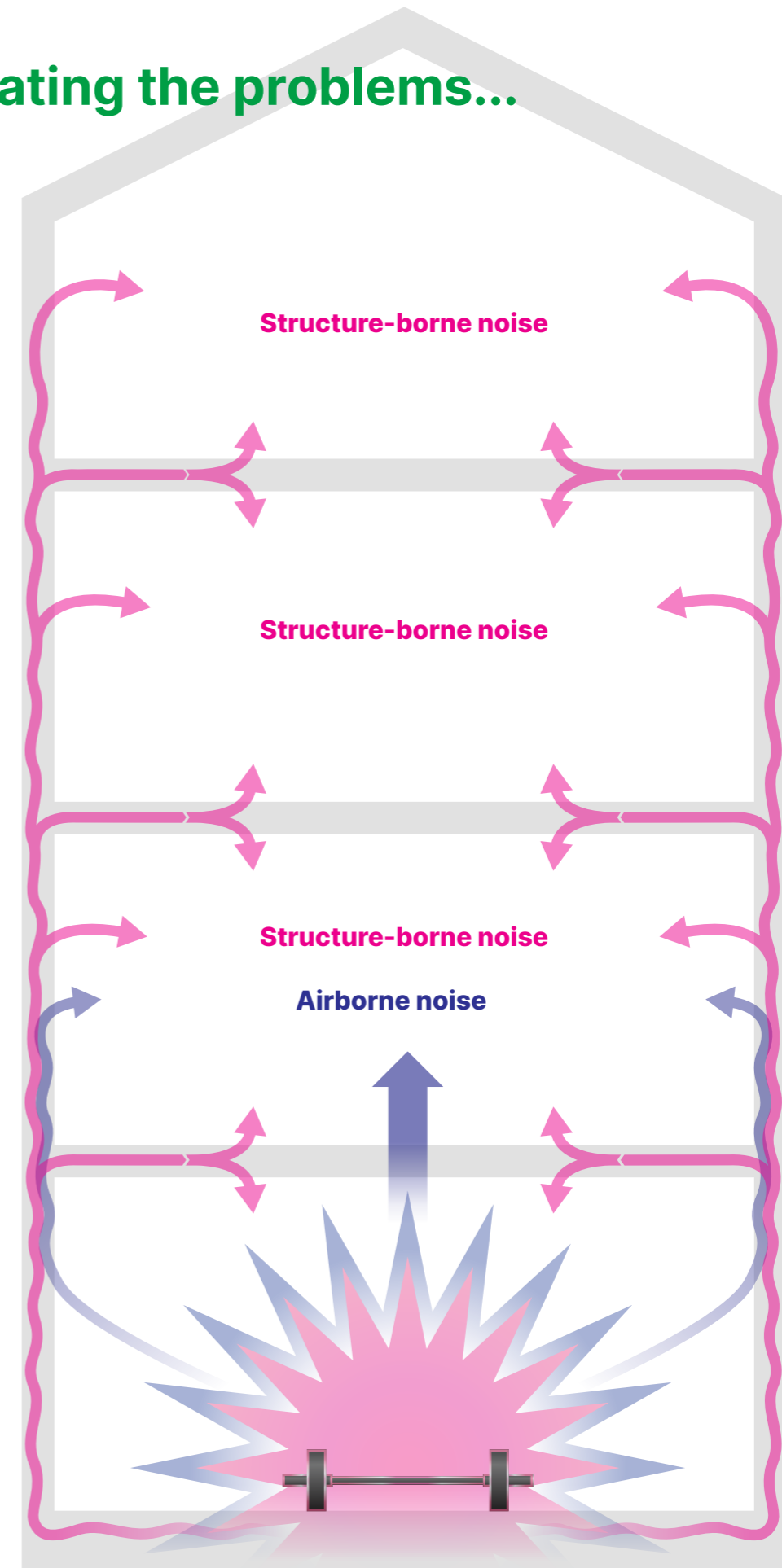
Customized floors for gyms and fitness centres are becoming increasingly important, as urban development leads to shorter distances between residential areas, transportation, shopping and physical activities.

Buildings that house both a gym and accommodation are becoming more common, especially in more densely populated cities. It is inevitable that vibrations and noise from the gym facilities affect the surrounding area.

The correct solution

However, it is possible to have accommodation and training facility as neighbours with the right acoustic solution in the training facility.

Illustrating the problems...



Tests & Mock-Ups



Mockup test platform: FitnessX



Mockup test platform: SATS

Vibratec has a number of solutions to reduce the transmission of vibrations and structure-borne sound through the floor structure.

Engineering services from Vibratec

When developing solutions or selecting a product, Vibratec can offer a range of engineering services in calculation, design, construction, on site testing and documentation. Floor systems can have different results based on the building structure or joists. It's important to know the stiffness and resonance frequencies of the supporting structure.

Smaller platforms for test setups

To find the best solution for our client we use a smaller, more mobile and thus moveable mockup platform for testing with treadmills, weight plates and for example kettlebells. The test is carried out on location to ensure that the final configuration is adapted to the specific structural and operational conditions of the building.

Case study

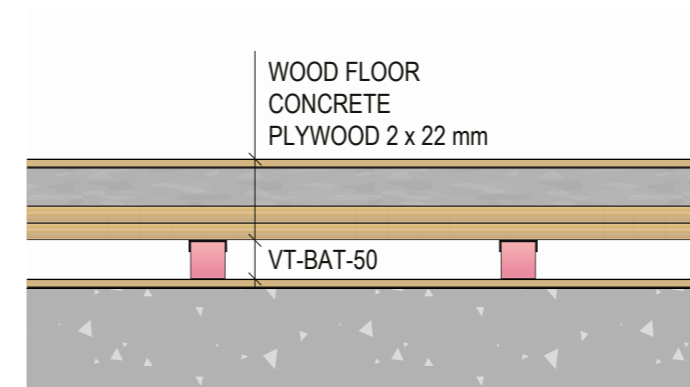
FitnessX Gym – Reduction of Structure-Borne Noise in an Urban Environment

FitnessX Gym is located in a modern mixed-use building surrounded by residential apartments, offices and retail premises. Following installation of treadmills directly on the concrete slab, complaints were received regarding audible structure-borne noise transmitted to the apartments above.

The issue was related to vibration generated by the treadmills being transferred through the structure and radiated as noise in adjacent occupancies.

Vibratec Solution

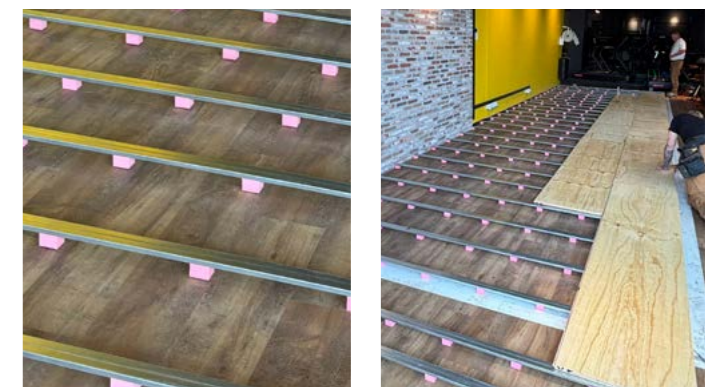
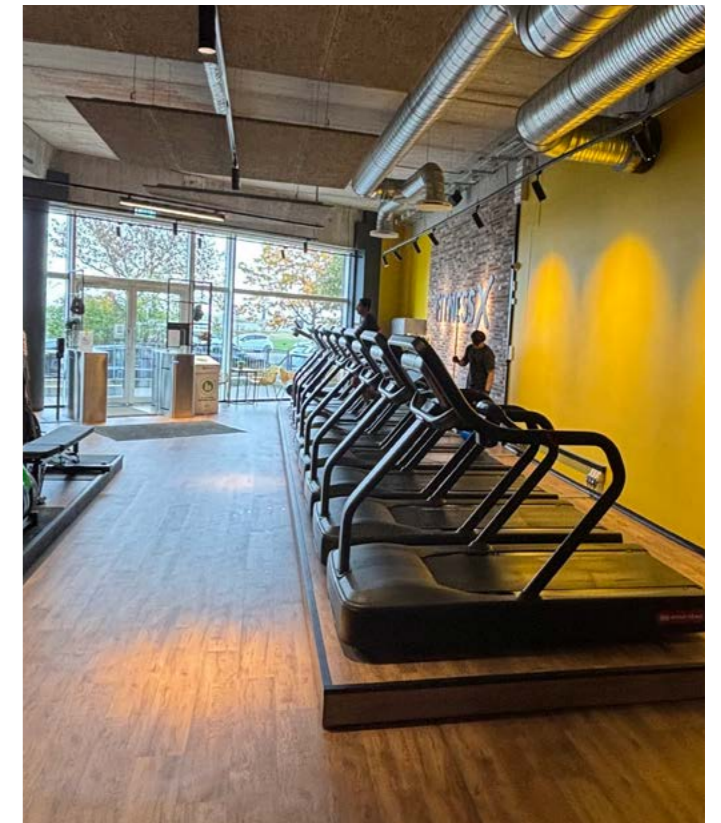
To eliminate the problem, Vibratec proposed the well-tested and documented floating floor system VT-BAT — a solution developed for applications requiring high insertion loss of structure-borne noise.



THE FLOOR CONSTRUCTION CONSISTS OF:

- The elastically supported VT-BAT system with discrete Regufoam isolators, carefully selected and dimensioned according to static and dynamic load conditions
- Two layers of plywood
- A cast concrete topping layer
- The client's standard wooden finish floor

The isolators were positioned and dimensioned to ensure effective vibration isolation while maintaining structural stability and proper load distribution.



Result

The installation proved highly successful. Noise complaints from residents ceased, and vibration levels in the gym reception area were significantly reduced.

Users also reported improved running comfort and increased stability when using the treadmills, resulting in a more stable and comfortable running experience.

Engineered Design = Functionality

This project demonstrates how a correctly engineered floating floor system can effectively reduce structure-borne noise in mixed-use buildings and enable coexistence between gym activities and surrounding occupancies.

Our Gym Concept

Vibratecs offers gym solutions specifically engineered to minimize structure-borne noise and vibrations caused by intense exercise activities such as weight training, aerobics, spinning and loud music.

Our high-performance systems are designed to create a quieter and more comfortable environment for both gym users and neighboring spaces.

By focusing on innovative vibration isolation technology, Vibratecs ensures optimal noise reduction without compromising the workout experience and comfort.

With expertise in delivering tailored solutions, we provide reliable and effective noise and vibration control for modern fitness spaces.

Vibration isolation – floating floor system

This is the core acoustic element of the solution.

- The isolation layer mechanically decouples the gym floor from the structure, interrupting vibration transmission.
- It acts as a spring element in a mass–spring–mass system, shifting resonance below the dominant excitation frequencies from gym activity.
- Correct stiffness selection based on floor slab properties is critical:
 - Too stiff → poor low-frequency isolation
 - Too soft → excessive deflection and instability

This layer controls structure-borne noise transmission, especially from dropped weights, jumping and dynamic loads.

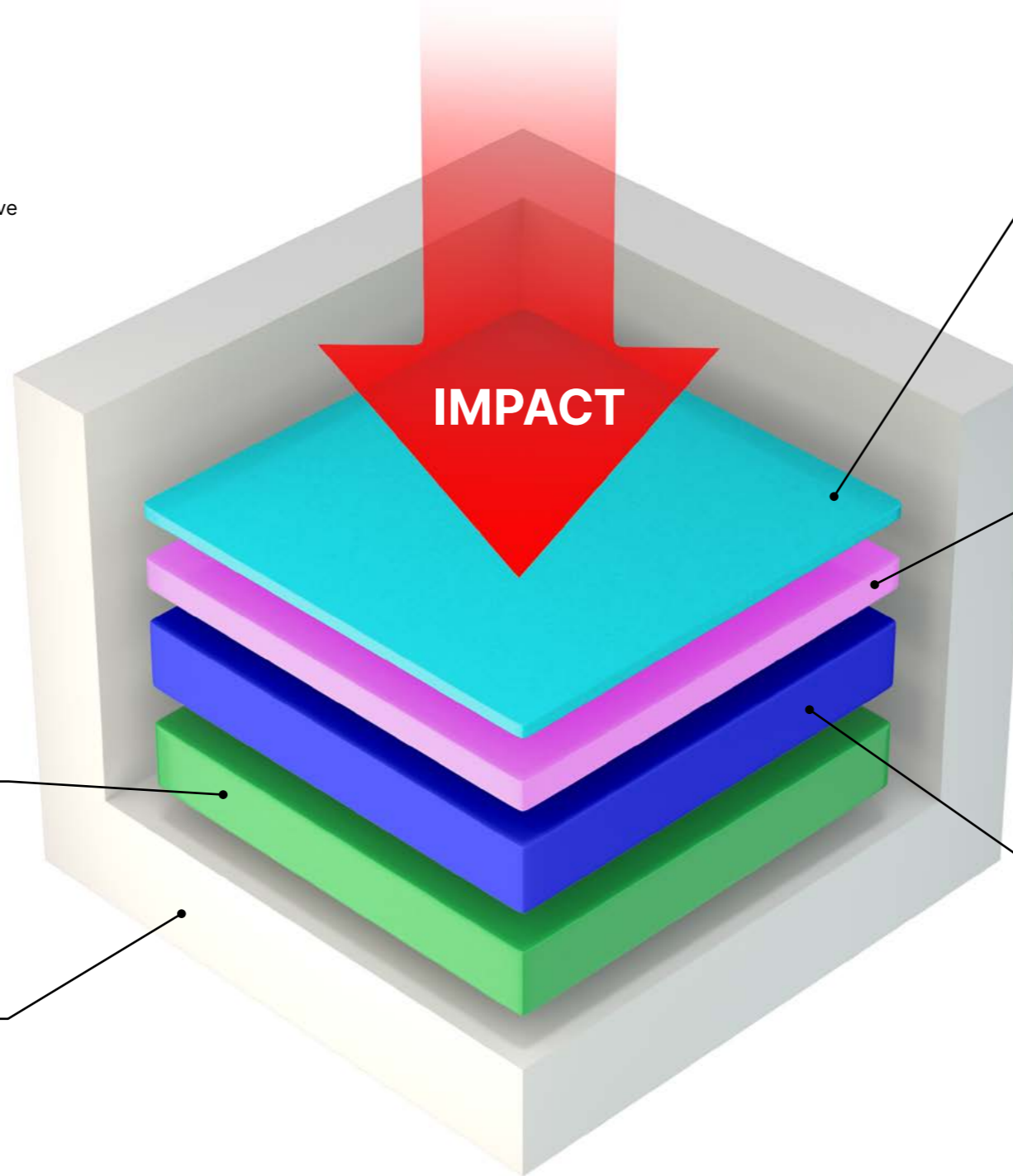
It is important to have knowledge about the foundations stiffness and resonance frequencies to calculate the correct properties of this floor layer.

Foundation (structural floor)

The structural floor forms the reference base for the entire system.

- A high mass and high stiffness foundation limits global slab movement and reduces low-frequency transmission.
- Deflection, resonances, and structural continuity all influence how impact energy spreads through the building.
- While the foundation itself does not provide sufficient isolation, it sets the boundary conditions for the floating floor above.

A stiff slab allows the isolation system to perform predictably and avoids unwanted coupling at low frequencies.



Floor covering

The top layer adapts the system to gym use.

- Provides wear resistance, slip control and hygiene.
- Contributes minor additional impact damping.
- Must be compatible with dynamic loads, rolling equipment, and cleaning requirements.

The floor covering is not an acoustic solution on its own, but it completes the system functionally and mechanically.

Impact reduction layer

This layer addresses local impact behavior at the surface.

- Absorbs high-frequency impact energy before it enters the floating floor system.
- Reduces peak contact forces from dropped weights and footfalls.
- Protects the structural integrity of the mass layer and improves user comfort.

This layer reduces impact severity, while the floating floor controls vibration transmission — both are necessary.

Mass layer

The mass layer works in combination with the isolation layer.

- Added mass lowers the system's natural frequency, improving isolation at low frequencies.
- It helps distribute point loads from equipment and impact events.
- Increased inertia reduces peak accelerations transmitted to the isolators.
- Adding several mass layers connected with a viscoelastic damping compound will increase the structural damping of the mass layer.

Without sufficient mass, even a good isolation layer cannot reduce heavy impacts effectively.

Exercising IMPACTS Differently

A gym is not a uniform noise source.

Different training areas generate different types of dynamic loads, varying in magnitude, frequency content and repetition. These loads excite the building structure in different ways and therefore require zone-specific vibration control strategies.

Without proper floor design, vibrations generated in one area can propagate through slabs and structural elements, causing disturbance far beyond the gym itself.

Why zoning matters

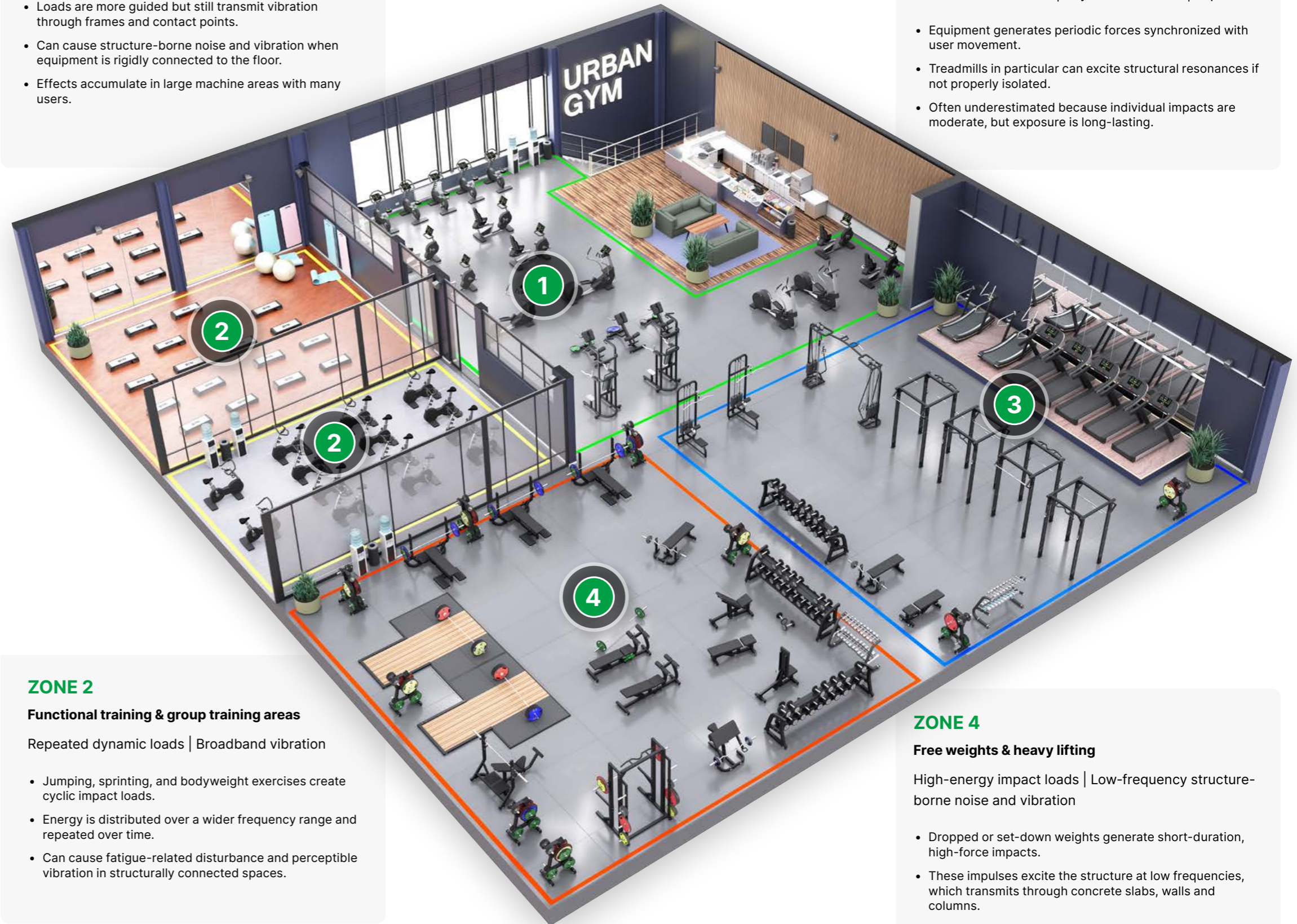
The highest vibration levels in a gym are typically generated by localized activities, but their effects are building-wide.

Designing the floor system according to activity type and load characteristics allows vibration isolation to be optimized where it is most needed – improving acoustic comfort, protecting the structure and avoiding costly retrofits.

ZONE 1

Controlled but heavy dynamic loads

- Loads are more guided but still transmit vibration through frames and contact points.
- Can cause structure-borne noise and vibration when equipment is rigidly connected to the floor.
- Effects accumulate in large machine areas with many users.



ZONE 2

Functional training & group training areas

Repeated dynamic loads | Broadband vibration

- Jumping, sprinting, and bodyweight exercises create cyclic impact loads.
- Energy is distributed over a wider frequency range and repeated over time.
- Can cause fatigue-related disturbance and perceptible vibration in structurally connected spaces.

ZONE 3

Cardio equipment, weight & functional training

Continuous excitation | Rhythmic vibration | Impacts

- Equipment generates periodic forces synchronized with user movement.
- Treadmills in particular can excite structural resonances if not properly isolated.
- Often underestimated because individual impacts are moderate, but exposure is long-lasting.

ZONE 4

Free weights & heavy lifting

High-energy impact loads | Low-frequency structure-borne noise and vibration

- Dropped or set-down weights generate short-duration, high-force impacts.
- These impulses excite the structure at low frequencies, which transmits through concrete slabs, walls and columns.
- Often the most critical source of complaints in mixed-use buildings.

Construction Examples

The following pages present representative floor constructions adapted to the load conditions defined in the zoning overview.

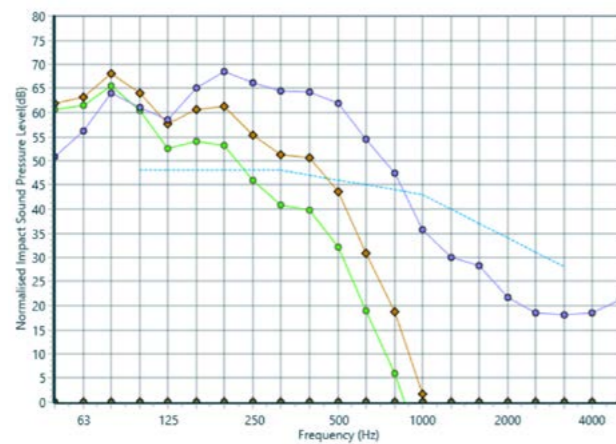
The examples illustrate typical system principles developed to manage vibration, impact forces and dynamic loading in gym environments. They show how different combinations of mass, elasticity and damping can be configured to meet varying performance demands.

Selection of the appropriate system is not based on product choice alone. It requires an understanding of load characteristics, structural behaviour and how different isolation principles perform under real conditions.

Testing, technical evaluation, and practical installation experience form the basis for selecting and dimensioning the right solution for each project.

The systems presented here should therefore be regarded as reference principles. Final configuration must always be adapted to the specific structural and operational conditions of the building.

Full mat solution vs discrete pads solution



Blue (baseline): $L_{n,w} = 59$ dB
 140mm concrete
 8mm REGUPOL Everroll Classic

Brown: $L_{n,w} = 52$ dB
 140mm concrete
 Elastic pads cc 300mm
 2x22mm particleboard
 50 mm concrete screed
 8mm REGUPOL Everroll Classic

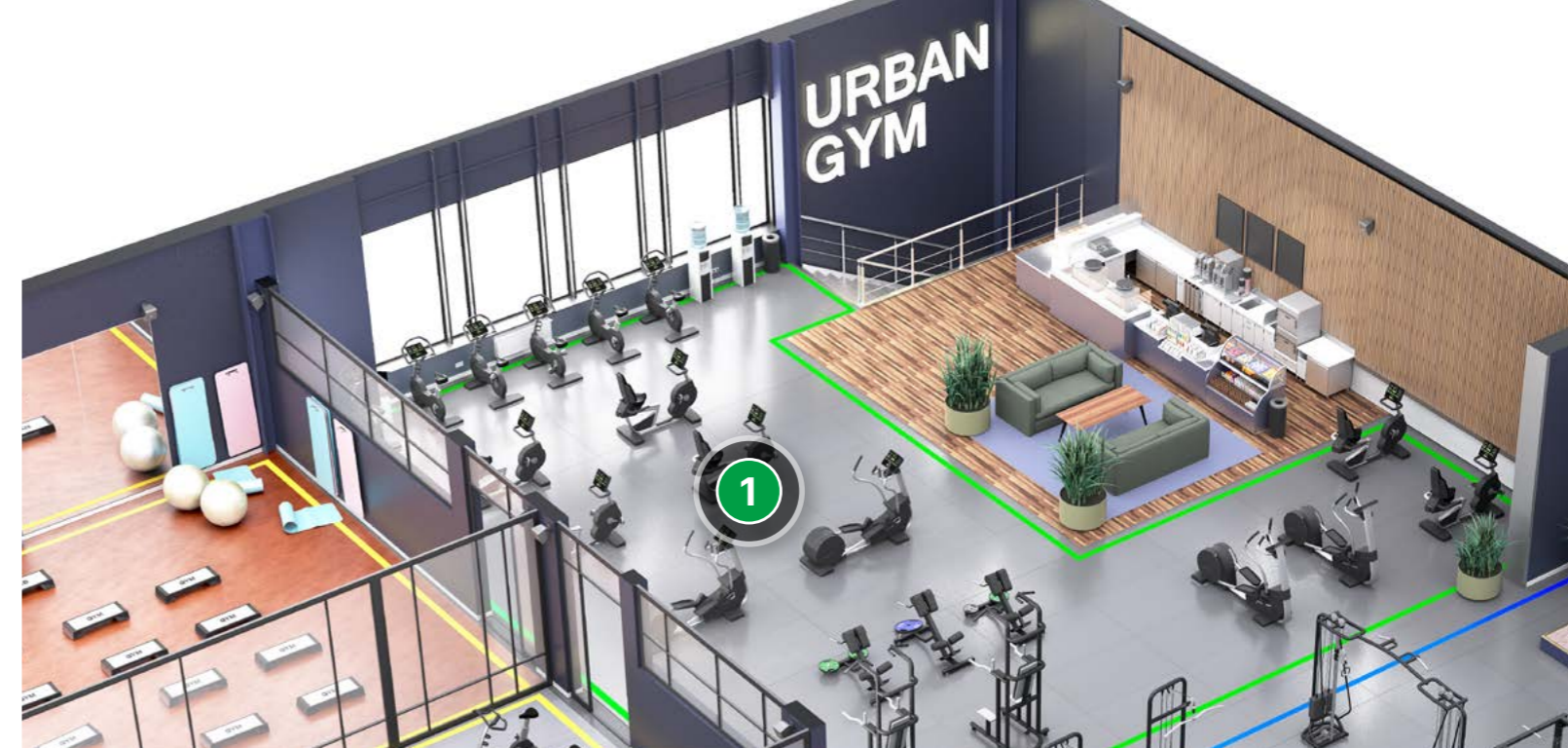
Green: $L_{n,w} = 46$ dB
 140mm concrete
 Elastic pads cc 600mm
 2x22mm particleboard
 50 mm concrete screed
 8mm REGUPOL Everroll Classic

*When measuring impact sound pressure, a low $L_{n,w}$ value is better

The curves in the diagram show the normalised impact sound pressure levels for three different cases: Blue, Brown and Green.

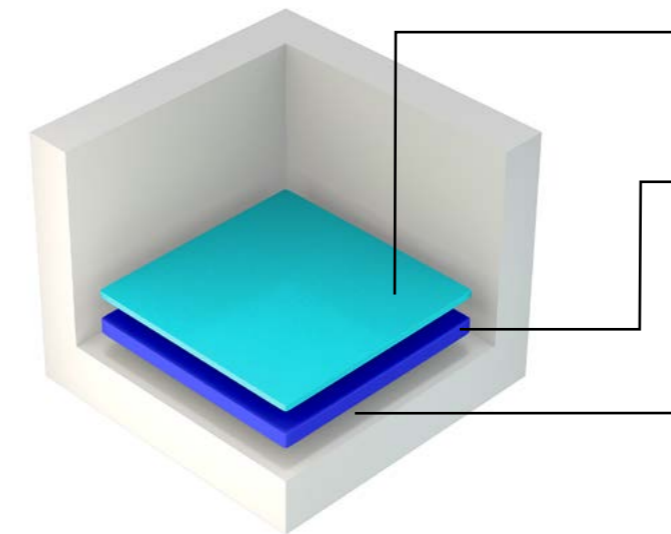
The relatively thin concrete screed layer of merely 50 mm shows good results from 125 Hz and upwards. The result below 100 Hz are less satisfying due to low additional mass (50mm screed).

Cases relevant for noise and vibration mitigation below 50 Hz requires special attention and cannot be evaluated properly by using normalised impact sound pressure levels according to ISO 717.



ZONE 1

CONTROLLED BUT HEAVY DYNAMIC LOADS



Floor covering

Providing the user a durable, stable and comfortable surface to exercise on.

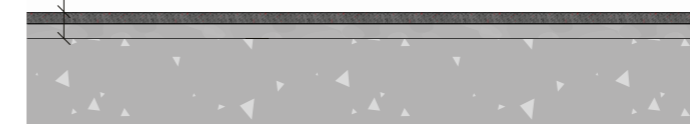
Mass layer

Mass can be different combinations of floorboards, concrete, underscreed, concrete tiles. The important thing is to have a high mass per m^2 to increase vibration isolation.

Foundation

A foundation with a high stiffness results in better performance. A level surface is required when using a gym mat.

GYM MAT Everroll 10 mm
 UNDERSCREED



Everroll gym mat

EXAMPLE

In this example the base floor is leveled using underscreed which also adds mass to the structure. Everroll 10 mm gym mat provides a durable and comfortable floor surface.

Weight approx. 10,6 kg/m^2 (excluding underscreed)

GYM TILES - Everroll Cross Tile 30 or 43 mm / Sonusfit T110
 UNDERSCREED



Everroll cross tiles or Sonusfit T110

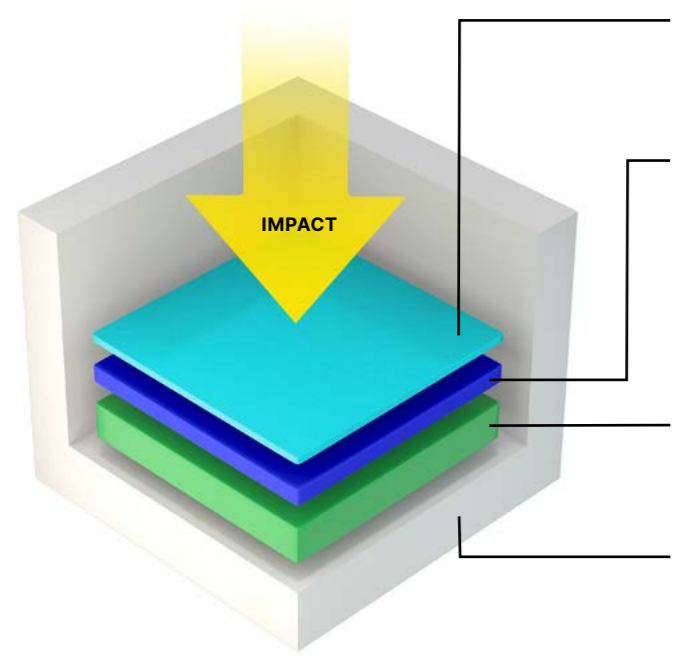
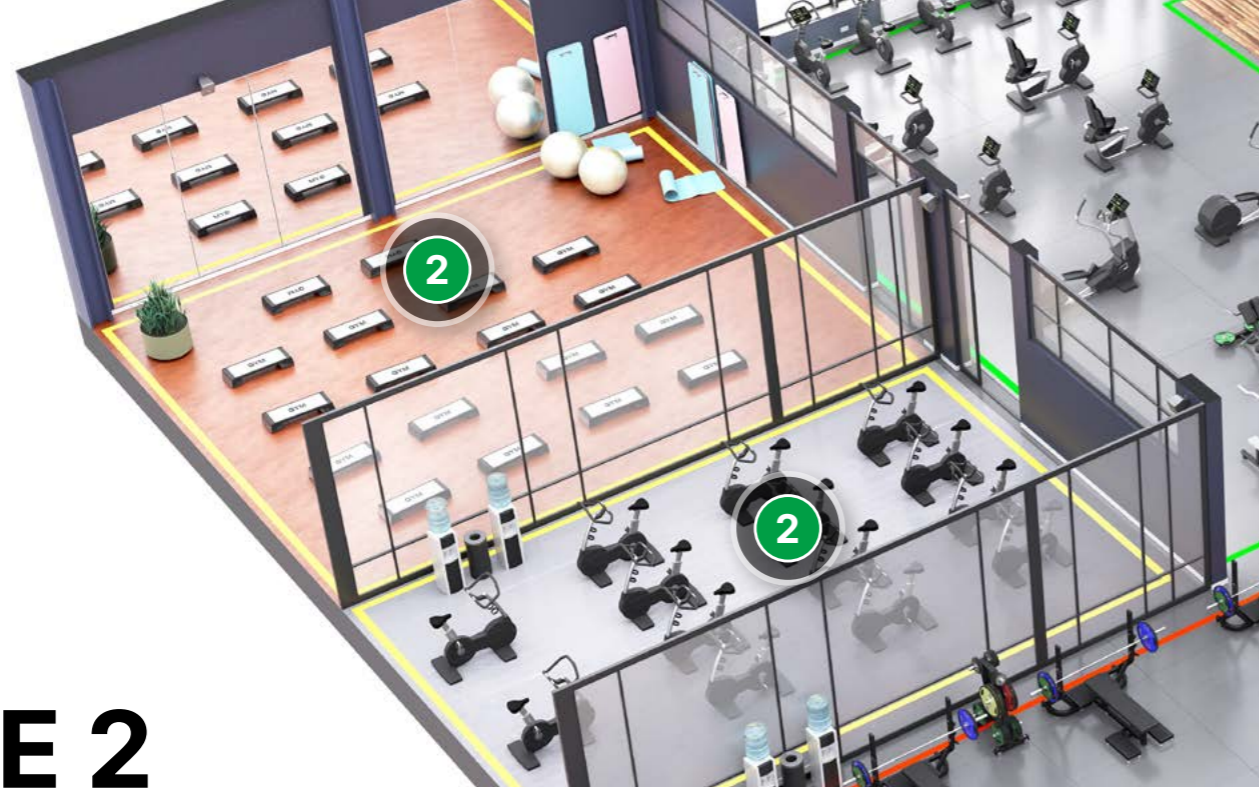
EXAMPLE

In this example the base floor is leveled using underscreed which also adds mass to the structure. Gym tiles from 30, 43, 45 or 70 mm provides a durable and comfortable floor surface.

Weight from $\approx 34,0$ kg/m^2 (excluding underscreed)

ZONE 2

FUNCTIONAL TRAINING & GROUP TRAINING AREAS



Floor covering

Providing the user a durable, stable and comfortable surface to exercise on.

Mass layer

Mass can be different combinations of floorboards, concrete, underscreed, concrete tiles. The important thing is to have a high mass per m² to increase vibration isolation.

Vibration isolation layer

A floating floor solution from Vibratec optimized for the structure's properties and acoustic requirements.

Foundation

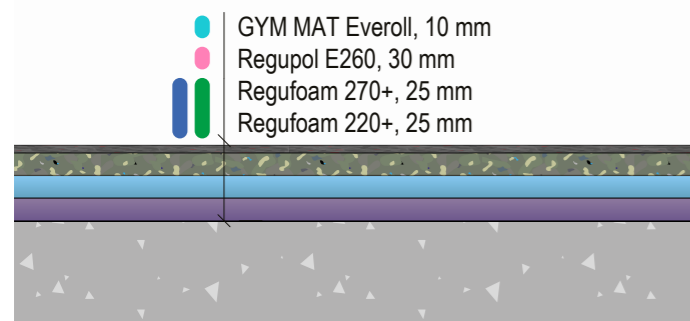
A foundation with a high stiffness results in better performance.

SONUSFIT M 515

EXAMPLE

Multiple layers of impact and vibration damping mats which also adds mass to the structure. A layer of underscreed is recommended since this is a full mat solution.

Weight approx. 29 kg/m²
Thickness: 90 mm

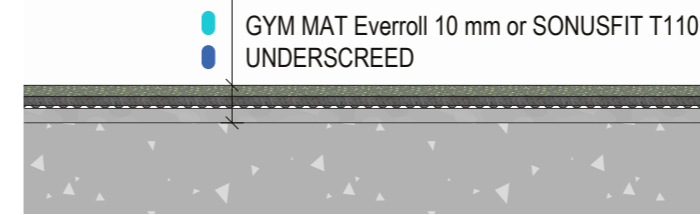


Everroll gym mat

EXAMPLE

The gym mat is fixed to the screed using Vibratec's viscoelastic compound DG-2000. In this example the base floor is leveled using underscreed which also adds mass to the structure.

Weight approx. from 11 / 28 / 44 kg/m² (excluding underscreed)
Thickness ≈ 10 / 45 / 70 mm

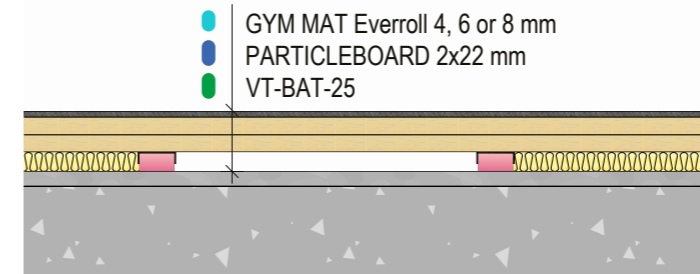


VT-BAT

EXAMPLE

Multiple layers of floorboards increases mass and stiffness, which enhances the performance of the solution. The floorboard layers are fixed together with Vibratec's viscoelastic compound DG-2000. In this example the base floor is leveled using underscreed which also adds mass to the structure.

Weight approx. 27 kg/m² (excluding underscreed)
Thickness from approx. 64 mm



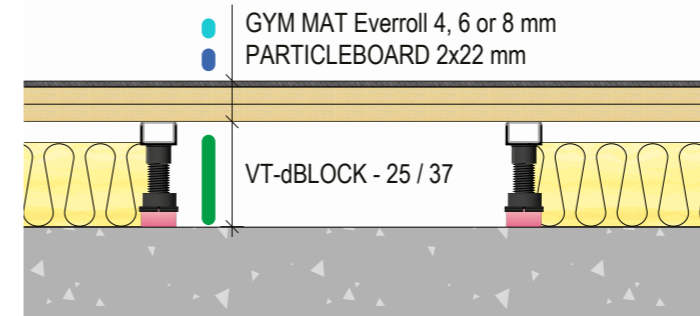
VT-dBlock

EXAMPLE

Multiple layers of floorboards increases mass and stiffness, which enhances the performance of the solution. The floorboard layers are fixed together with Vibratec's viscoelastic compound DG-2000.

VT-dBlock available with 200 or 400 mm treaded rod. The height is adjusted and the rods are cut during installation to fit the specified height. No underscreed necessary.

Weight approx. 32 kg/m²
Thickness from approx. 158 mm

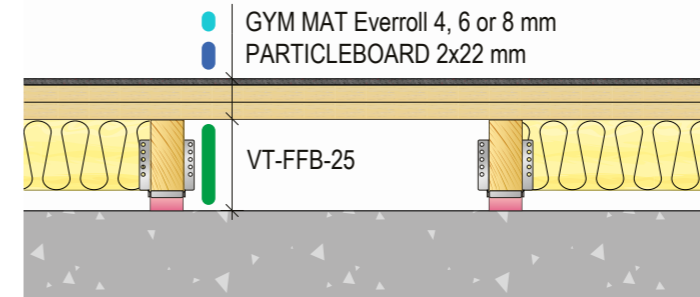


VT-FFB

EXAMPLE

Multiple layers of floorboards increases mass and stiffness, which enhances the performance of the solution. Because of the unique feature of the VT-FFB floor bracket, leveling the floor joist is very easy. No underscreed necessary. The floorboard layers are fixed together with Vibratec's viscoelastic compound DG-2000.

Weight approx. 28 kg/m²
Thickness from ≈ 146 mm

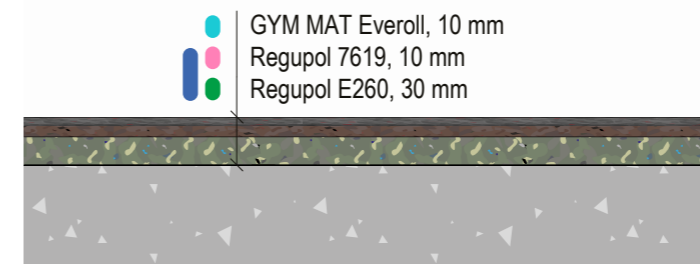


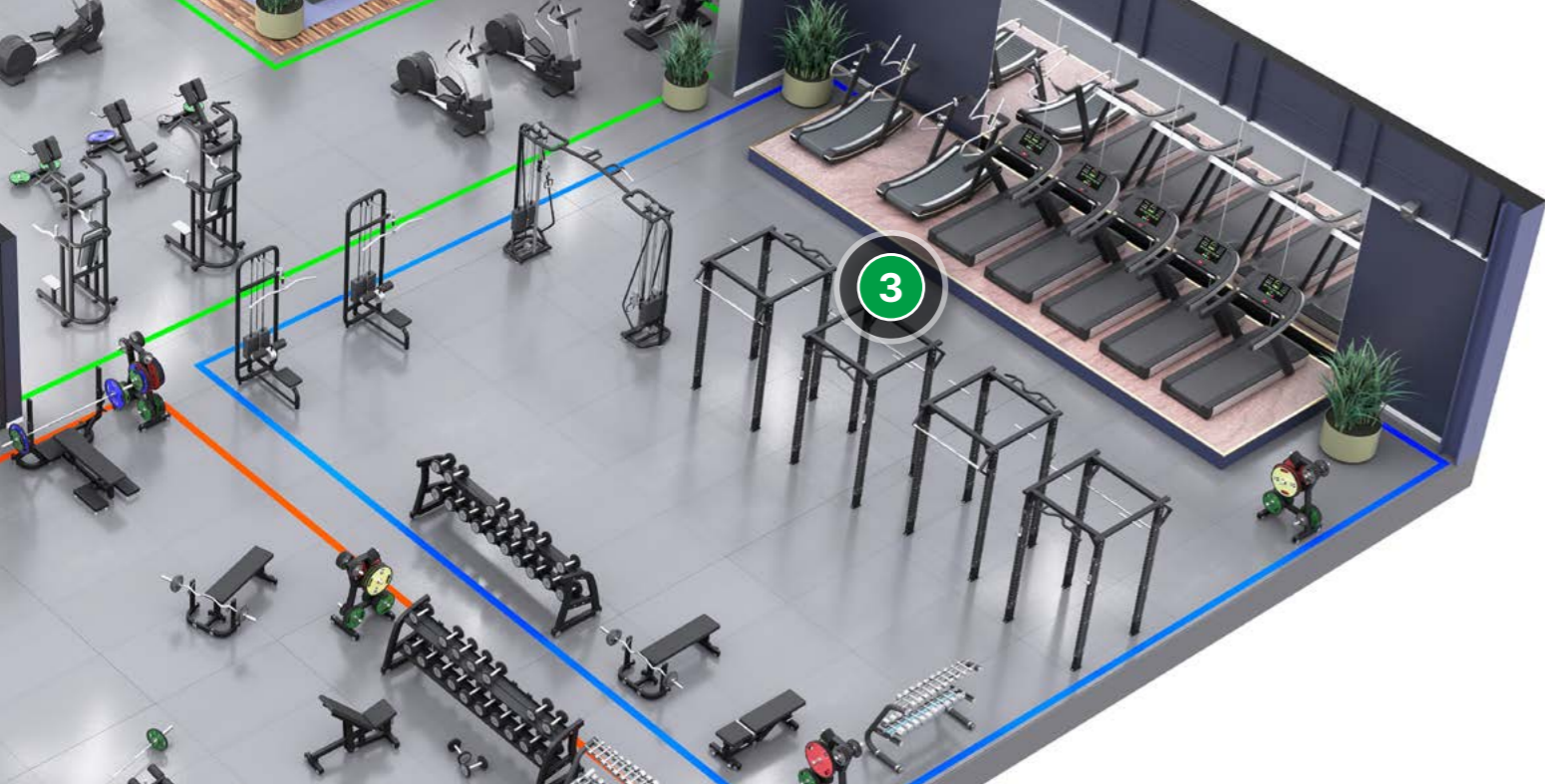
SONUSFIT M 517

EXAMPLE

Multiple layers of impact and vibration damping mats which also adds mass to the structure. A layer of underscreed is recommended since this is a full mat solution.

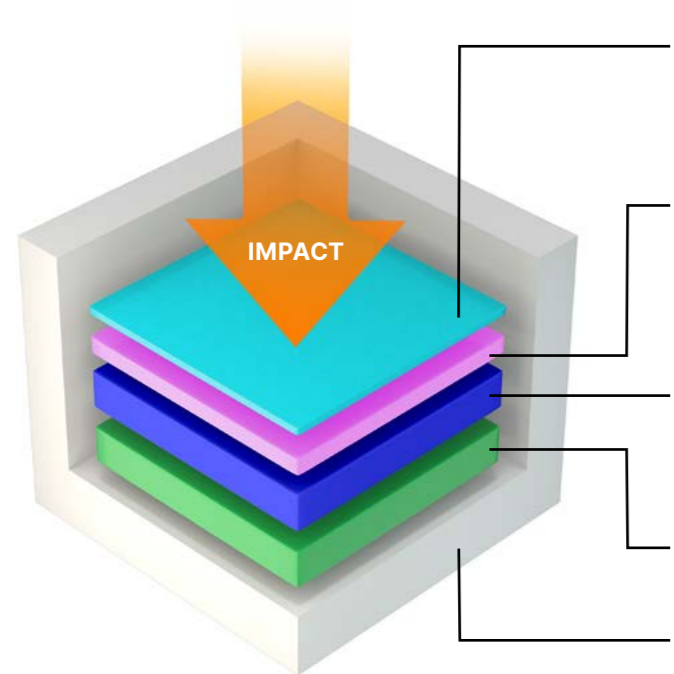
Weight approx. 27 kg/m²
Thickness: 50 mm





ZONE 3

CARDIO EQUIPMENT, WEIGHT & FUNCTIONAL TRAINING



Floor covering

Providing the user a durable, stable and comfortable surface to exercise on.

Impact layer

Absorbs the high energy impacts of weights dropping to the floor.

Mass layer

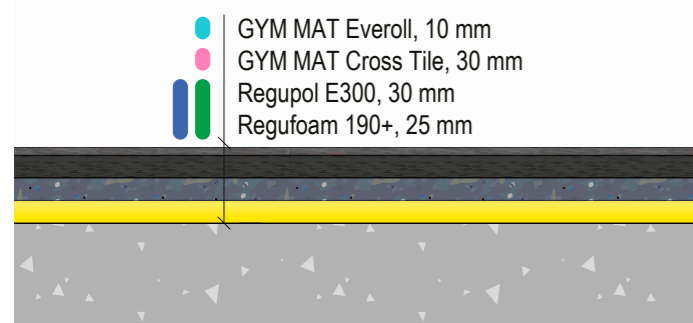
Mass can be different combinations of floorboards, concrete, underscreed, concrete tiles. The important thing is to have a high mass per m² to increase vibration isolation.

Vibration isolation layer

A floating floor solution from Vibrattec optimized for the structure's properties and acoustic requirements.

Foundation

A foundation with a high stiffness results in better performance.

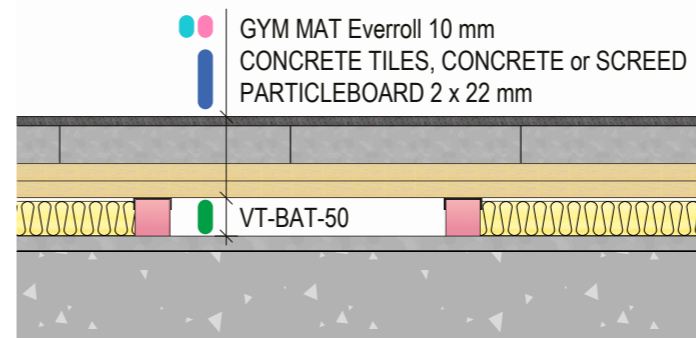


SONUSFIT M 519

EXAMPLE

Multiple layers of impact and vibration damping mats which also adds mass to the structure. A layer of underscreed is recommended since this is a full mat solution.

Weight approx. 50 kg/m²
Thickness: 95 mm

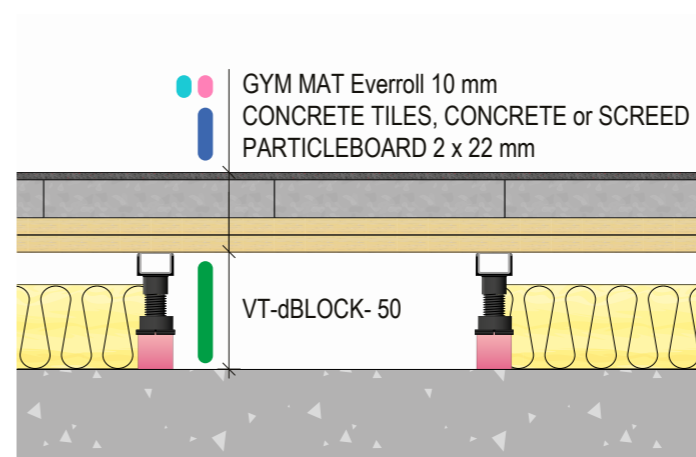


VT-BAT

EXAMPLE

Multiple layers of floorboards and a concrete layer increases mass and stiffness, which enhances the performance of the solution. The floorboard layers are fixed together with Vibrattec's viscoelastic compound DG-2000. In this example the base floor is leveled using underscreed which also adds mass to the structure.

Weight approx. 155 kg/m² (excluding underscreed)
Thickness from ≈ 135 mm



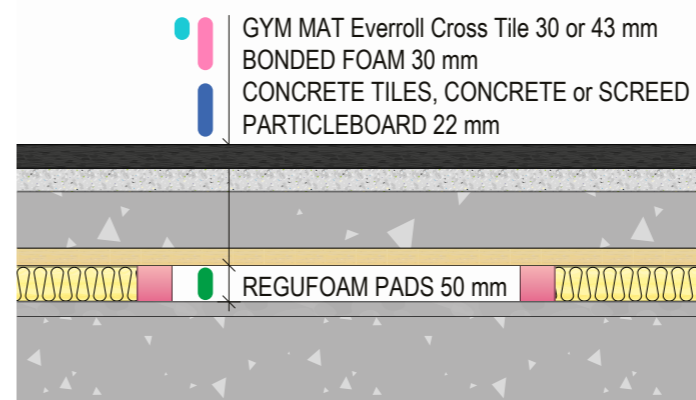
VT-dBlock

EXAMPLE

Multiple layers of floorboards and a concrete layer increases mass and stiffness, which enhances the performance of the solution. All layers are fixed together with Vibrattec's viscoelastic compound DG-2000.

VT-dBlock is available with 200 or 400 mm threaded rod. The height is adjusted and the rods are cut during installation to fit the specified height. No underscreed necessary. This floor system is recommended for complete floors, not podiums.

Weight approx. 155 kg/m²
Thickness from ≈ 219 mm

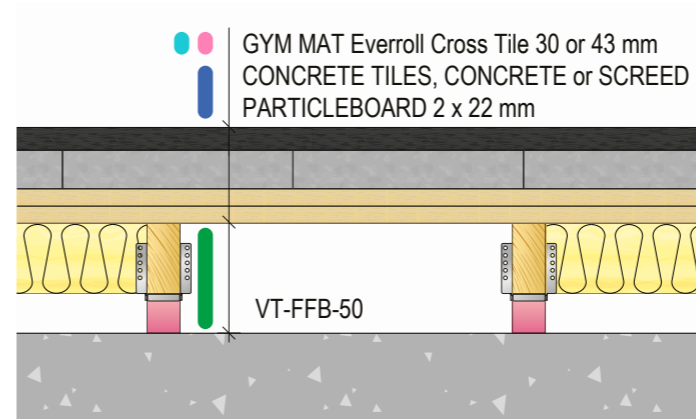


VT-FLOAT

EXAMPLE

A layers of floorboards on top of the elastic pads is the base for the concrete layer which increases mass and stiffness. The gym mat provides a durable and excellent floor surface for training and the underlying bonded foam dampens the heavier impacts and enhances the performance of the solution. In this example the base floor is leveled using underscreed which also adds mass to the structure.

Weight approx. from 150 kg/m² (excluding underscreed)
Thickness from ≈ 182 mm



VT-FFB

EXAMPLE

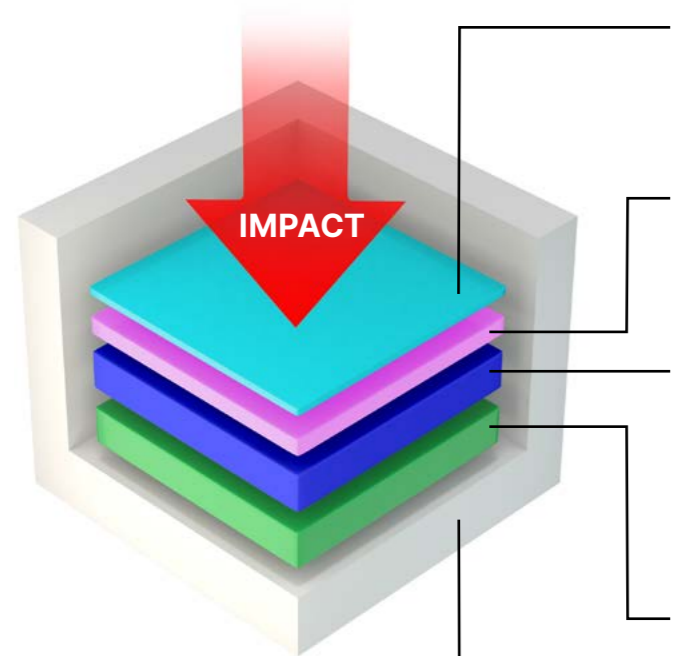
Multiple layers of floorboards and concrete increases mass and stiffness, which enhances the performance of the solution. Because of the unique feature of the VT-FFB floor bracket, leveling the floor joist is very easy. The floor board layers are fixed together with Vibrattec's viscoelastic compound DG-2000.

Weight approx. 186 kg/m²
Thickness: from ≈ 222 mm



ZONE 4

FREE WEIGHTS & HEAVY LIFTING



Floor covering

Providing the user a durable, stable and comfortable surface to exercise on.

Impact layer

Bonded foam absorbs the high energy impacts of weights dropping to the floor.

Mass layer

Mass can be different combinations of floorboards, concrete, concrete tiles. The important thing is to have a high mass per m² to help with vibration isolation.

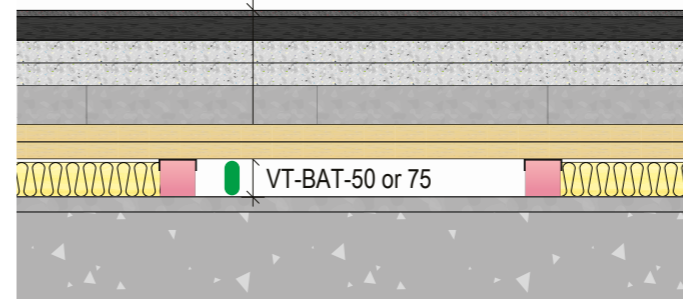
Vibration isolation layer

A floating floor solution from Vibratec optimized for the structures properties and clients wishes.

Foundation

A foundation with a high stiffness results in better performance.

- GYM MAT Everroll CrossTile 30 or 43 mm
- BONDED FOAM 30 - 60 mm
- CONCRETE TILES 70 mm
- PARTICLEBOARD 2 x 22 mm



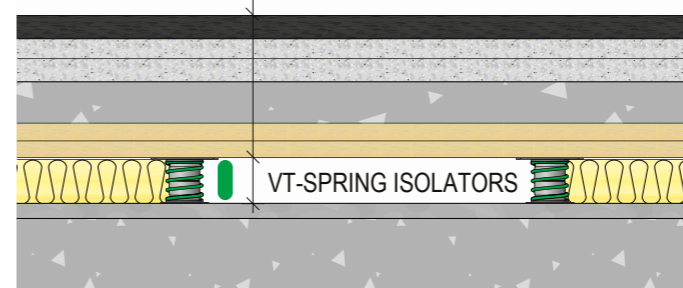
VT-BAT

EXAMPLE

Multiple layers of floorboards and a concrete layer increases mass and stiffness, which enhances the performance of the solution. Two layers of Bonded Foam adds impact dampening and the gym mat adds comfort and performance for the user. The floorboard layers are fixed together with Vibratec's viscoelastic compound DG-2000. In this example the base floor is leveled using underscreed which also adds mass to the structure.

Weight approx. from 200 kg/m² (excluding underscreed)
Thickness: from ≈ 224 mm

- GYM MAT Everroll Cross Tile 30 or 43 mm
- BONDED FOAM 30 - 60 mm
- CONCRETE ≥ 70 mm
- PARTICLEBOARD 2 x 22 mm



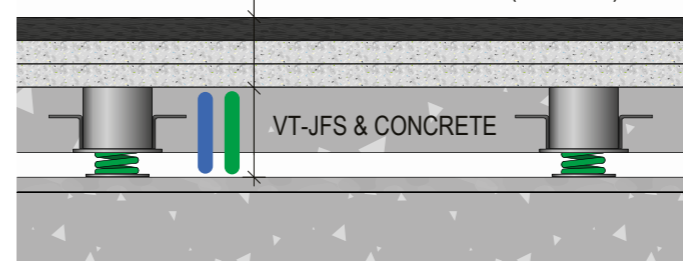
VT-FLOAT with pads or springs

EXAMPLE

Dual layers of particle board on top of the springs or elastic pads is the base for the concrete layer which increases mass and stiffness. The gym mat provides a durable and excellent floor surface for training and the dual layers of underlying bonded foam dampens the heavier impacts and enhances the performance of the solution. In this example the base floor is leveled using underscreed which also adds mass to the structure.

Weight approx. from 200 kg/m² (excluding underscreed)
Thickness from ≈ 224 mm with pads, and ≈ 240 mm with springs

- GYM MAT Everroll Cross Tile 30 or 43 mm
- BONDED FOAM 60 mm (2 x 30mm)



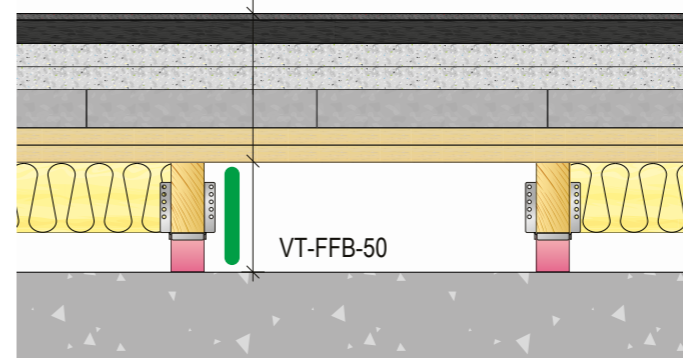
VT-JFS

EXAMPLE

A concrete layer for mass and stiffness, suspended with our jack-up spring isolators VT-JFS. The gym mat provides a durable and excellent floor surface for training and the dual layers of underlying bonded foam dampens the heavier impacts and enhances the performance of the solution. In this example the base floor is leveled using underscreed which also adds mass to the structure.

Weight approx. from 250 kg/m² (excluding underscreed)
Thickness from ≈ 220 mm

- GYM MAT Everroll Cross Tile 30 or 43 mm
- BONDED FOAM 30 - 60 mm
- CONCRETE TILES ≥70 mm
- PARTICLEBOARD 2 x 22 mm



VT-FFB

EXAMPLE

Dual layers of plywood and a layer of concrete increases mass and stiffness, which enhances the performance of the solution. Because of the unique feature of the VT-FFB floor bracket, leveling the floor joist is very easy. The floorboard layers are fixed together with Vibratec's viscoelastic compound DG-2000. The gym mat provides a durable and excellent floor surface for training and the dual layers of underlying bonded foam dampens the heavier impacts and enhances the performance of the solution.

Weight approx. from 150 kg/m²
Thickness from ≈ 272 mm



Half rack podiums

Targeted Vibration Isolation for Heavy Lifting

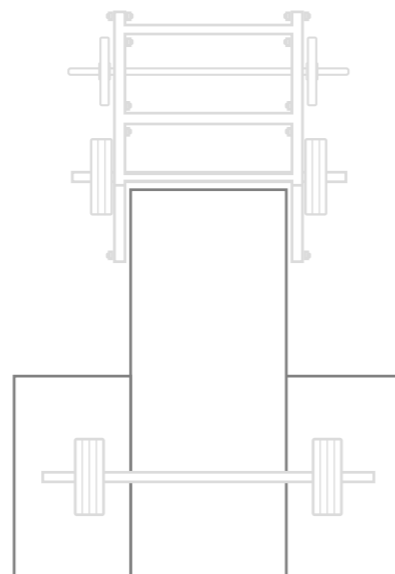
Heavy free-weight training generates some of the highest impact forces in a gym environment.

When barbells are dropped during exercises such as squats, deadlifts, or Olympic lifts, large dynamic loads are transferred into the floor structure. In urban buildings this results in structure-borne vibrations and noise spreading through the building, potentially disturbing adjacent spaces.

T-shaped layout

The Half Rack Podium is a purpose-designed floor system developed to control these impacts at the source. The platform has a T-shaped layout that corresponds to the functional movement pattern of the lifter and the position of the weight plates during lifting and dropping.

The center section of the podium – where the athlete stands and performs the lift – is constructed with high



stiffness and minimal damping. This ensures a stable and solid lifting surface that provides the performance and safety expected in strength training.

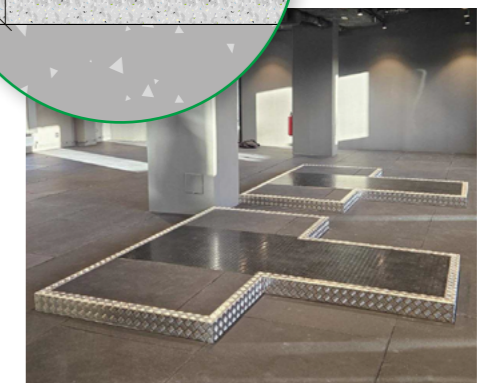
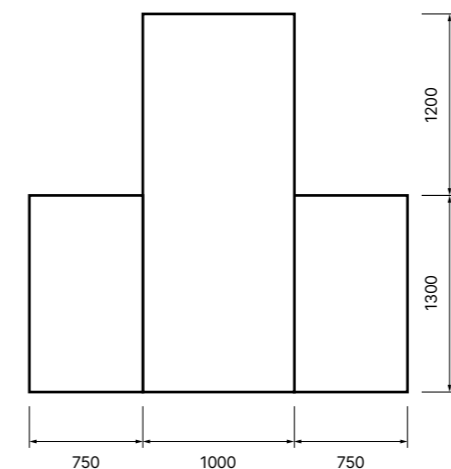
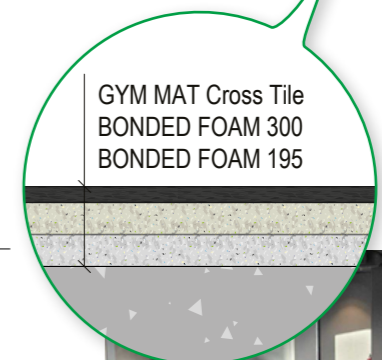
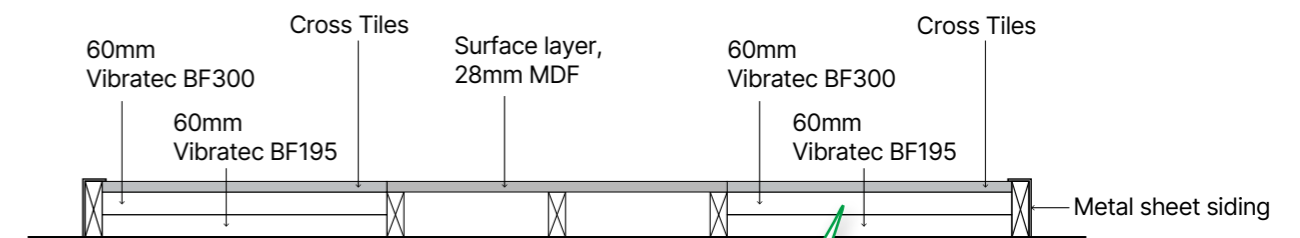
On both sides of the platform, where the weight plates impact the floor, the structure incorporates a multi-layer vibration isolation system consisting of two layers of bonded foam with different stiffness characteristics (BF195 and BF300) combined with a durable gym mat surface.

This layered configuration is engineered to absorb and dissipate high-energy impacts, significantly reducing the transmission of vibrations into the building structure.

By combining rigidity for performance with high damping in the impact zones, the Half Rack Podium effectively limits structure-borne noise while maintaining a professional lifting environment. The system is particularly suited for urban gyms located in mixed-use buildings, where vibration control is essential to protect surrounding spaces.

Vibratec designs each solution as part of a custom floor system, ensuring the vibration isolation performance meets the specific requirements of the building and training activities.

Half Rack Podium



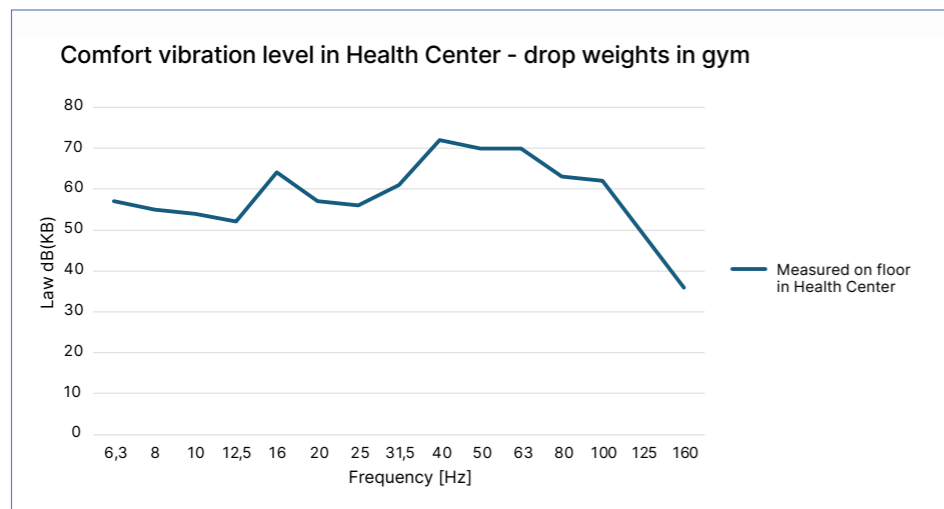
Drop Weight Area

Impact and Vibration Isolation for weight training area
SATS Sluseholmen Copenhagen

Vibration generated by drop weights, transferred through the structure and radiated as noise in adjacent occupancies.



The SATS gym on the bottom floor in a mixed-use building created disturbances as structure borne noise reached the adjacent apartments and health center. Measurements were carried out by a consultant on different Vibrattec solutions.



Concrete floor															
Frequency [Hz]	6,3	8	10	12,5	16	20	25	31,5	40	50	63	80	100	125	160
L_{w} [dB(KB)]	57	55	54	52	64	57	56	61	72	70	70	63	62	49	36

Vibrattec Solution

SATS had problems with noise from the heavy weight training zones in the gym despite using drop weight platforms. To eliminate the problem, Vibrattec proposed the well-tested and documented floating floor system VT-BAT — a solution developed for applications requiring high insertion loss of structure-borne noise.

Mock-Up Test

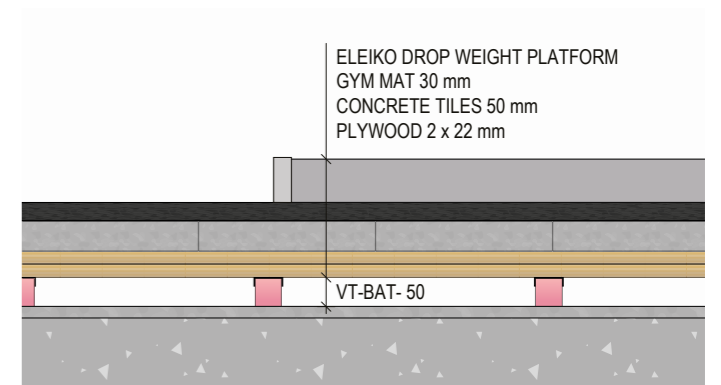
The mock-up podium consisted of the Vibrattec VT-BAT floor system with 50mm Regufoam 570 pads plus the Eleiko drop-weight platform.



THE PODIUM CONSTRUCTION:

Listed from the foundation to the top floor surface

- The elastically supported VT-BAT system with discrete Regufoam isolators, carefully selected and dimensioned according to static and dynamic load conditions
- Two layers of plywood
- Concrete tiles
- SATS gym-tile floor
- Eleiko drop weight platform

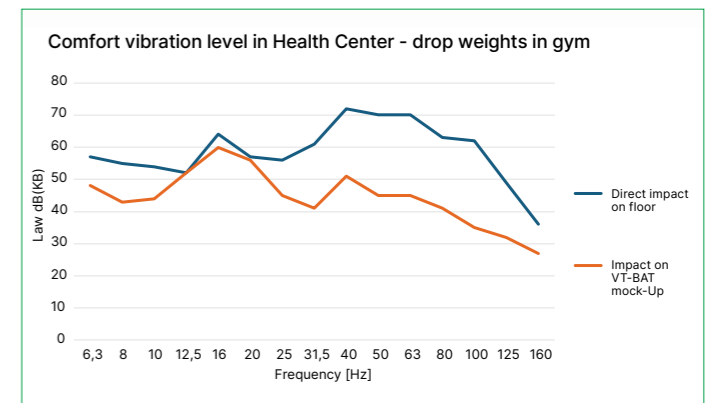


The 50mm VT-BAT isolators were positioned and dimensioned to ensure effective vibration isolation while maintaining structural stability and proper load distribution.

Results

The measured comfort vibration level for the drop of weights on mockup platform compared with the raw floor, showed a high insertion loss.

After installation of the final integrated VT-BAT podium, no complaints from neighbors were observed for either noise or vibration.

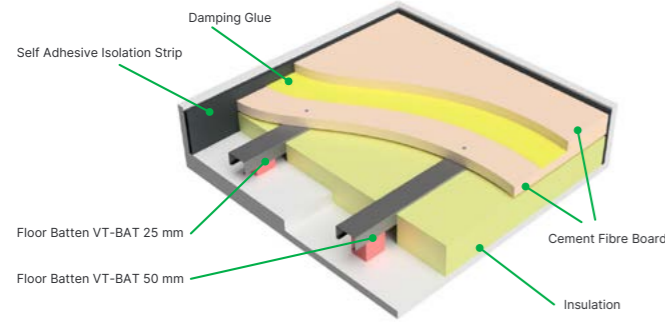


Vibrattec podium floor															
Frequency [Hz]	6,3	8	10	12,5	16	20	25	31,5	40	50	63	80	100	125	160
L_{w} [dB(KB)]	48	43	44	52	60	56	45	41	51	45	45	41	35	32	27

Floor system VT-BAT

GYM FLOOR SYSTEM

Illustration of a typical installation



Vibratec floor system VT-BAT is a quick and easy-to-install system with discrete isolators.

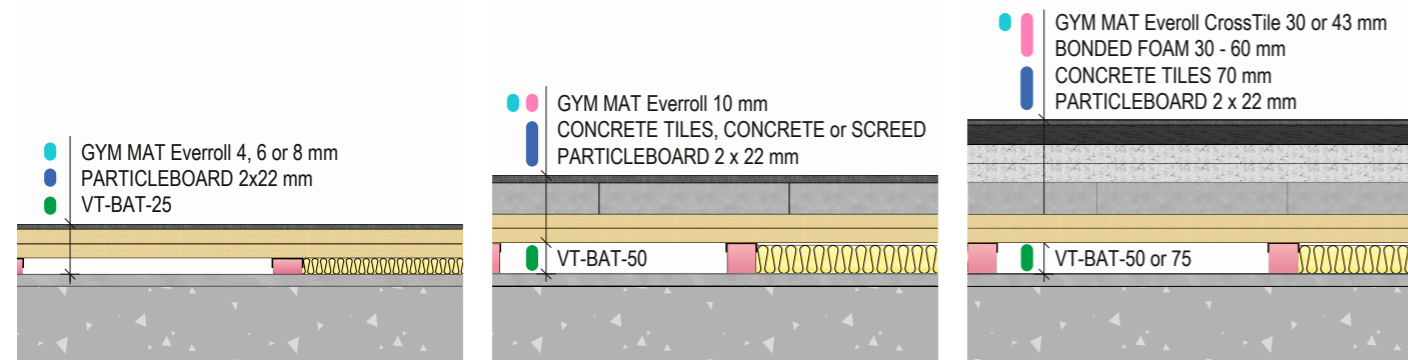
The system comprises of 3 meter long and a width of 48 mm steel battens with isolators (elastic elements) available in 4 different standard heights: 25, 50 (other heights available on request).

ISOLATORS

By adding extra isolators the system allows easy adjustment of the stiffness on different parts of the floor (due to extra linear or point loads for instance).



EXAMPLE CONSTRUCTIONS



Color	Type	Load Range (kg/m ²)*
Grey	VT-BAT-400	40 - 120
Beige	VT-BAT-510	60 - 240
Pink	VT-BAT-570	80 - 310
Teal	VT-BAT-680	120 - 450

*Loads are based on CC 600 mm

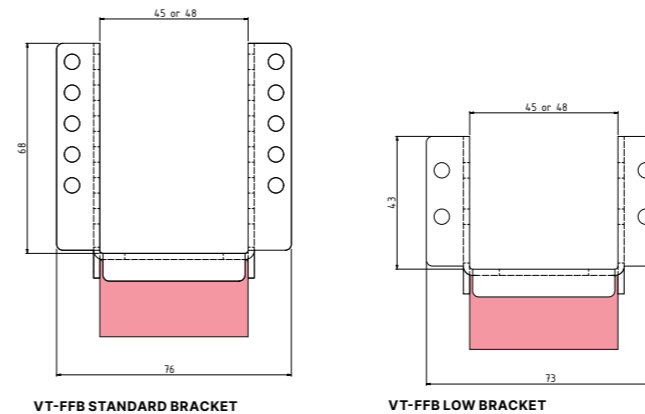
Pad Height (available for most Regufoam materials)	Target Deflection	Fn (Hz)
25 mm	1 - 2 mm	> 10 Hz
37 mm	3 - 4 mm	> 8 Hz
50 mm	5 - 6 mm	> 7 Hz
75 mm	7 - 8 mm	> 6 Hz

FLOOR SYSTEM VT-BAT				
Floor construction type	ZONE 1	ZONE 2	ZONE 3	ZONE 4
VT-BAT 25		X		
VT-BAT 37		X	X	
VT-BAT 50			X	X
VT-BAT 75				X

Flexible Floor Bracket VT-FFB



Left in image: VT-FFB standard bracket with Regufoam 680, 25 mm cushion
To the right: VT-FFB low bracket with a Regufoam 570, 25 mm cushion



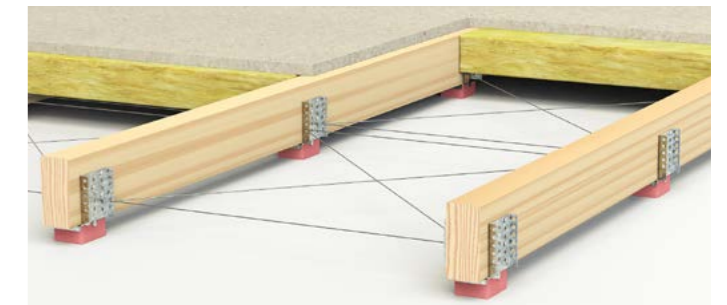
VT-FFB - type	Unloaded height with 25 mm elastic pad	Unloaded height with 50 mm elastic pad
VT-FFB low	70 mm	95 mm
VT-FFB standard	95 mm	120 mm

Vibratec's Flexible Floor Bracket is a quick and easy way to build an adjustable floating floor. The bracket fits on standard wooden beams (45 or 48 mm width) and is fastened with screws. The height can be adjusted about 30 mm and the total height of the floor depends on the height of the wooden beam. By sewing steel wire through the holes on the side of the foot you can make a web to put insulation on.

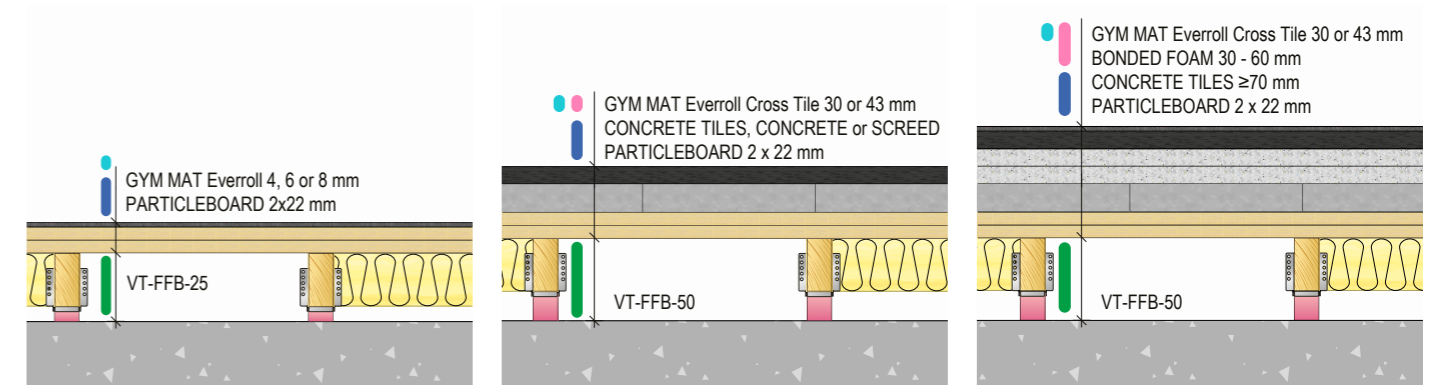
ISOLATORS

By adding extra isolators the system allows easy adjustment of the stiffness on different parts of the floor (due to extra linear or point loads for instance).

The elastic isolators are available in standard heights 25 and 50 mm but other heights are available on request.



EXAMPLE CONSTRUCTIONS



FLOOR SYSTEM WITH VT-FFB				
Floor construction type	ZONE 1	ZONE 2	ZONE 3	ZONE 4
VT-FFB with 25mm pads		X		
VT-FFB with 37mm pads		X	X	
VT-FFB with 50mm pads			X	X

Floor system VT-JFS

GYM FLOOR SYSTEM



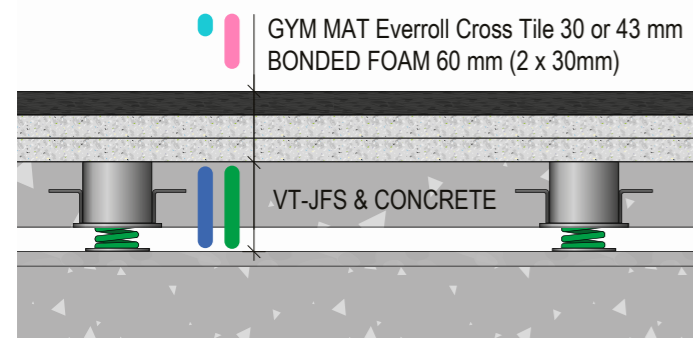
VT-JFS is an antivibration system for floating concrete floors and slabs. This floor system results in high performances isolating airborne and structure-borne sound transmission.

VT-JFS is ideal to use in areas subjected to vibrations such as gym floors where heavy equipment is used. It is also useful in cases where a limited height is available for the floating concrete floor, as the system allows for smaller air gap than with formwork panels.

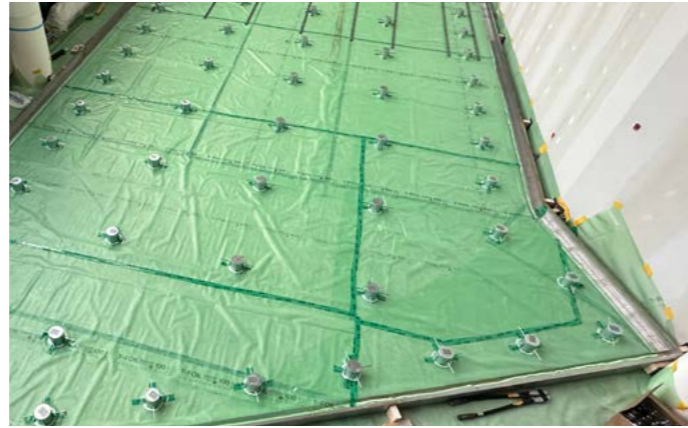
ISOLATORS

The spring isolators deliver a natural frequency of 3 - 6 Hz depending on the construction. The spring can also be equipped with a cushion isolator for more damping.

EXAMPLE CONSTRUCTION



Properties	
Static load in daN (≈kg) / m ²	300 - 600 daN
Natural frequency	3 - 6 Hz
Concrete thickness	80 - 300 mm



VT-JFS Height	Deflection	Fn (Hz)
80 mm	8-10 mm	5 - 6 Hz
100 mm	8-10 mm	5 - 6 Hz
120 mm	10 - 20 mm	3.5 - 4 Hz
140 mm	15 - 25 mm	3.5 - 4 Hz
200 mm	15 - 25 mm	3 Hz

FLOOR SYSTEM VT-JFS				
Floor construction type	ZONE 1	ZONE 2	ZONE 3	ZONE 4
VT-JFS 80	-	-	X	-
VT-JFS 100	-	-	X	X
VT-JFS 120	-	-	X	X
VT-JFS 140	-	-	-	X

Floor System VT-FLOAT with Regufoam pads

GYM FLOOR SYSTEM



A system for heavy floating concrete floors with elastic pads as discrete isolators. VT-FLOAT is used in cases with high requirements on airborne and impact sound isolation.

The system can either be delivered as pre-manufactured, uniquely marked panels (with isolators, added over-height and mineral wool glued to the board), or as separate components.

ISOLATORS

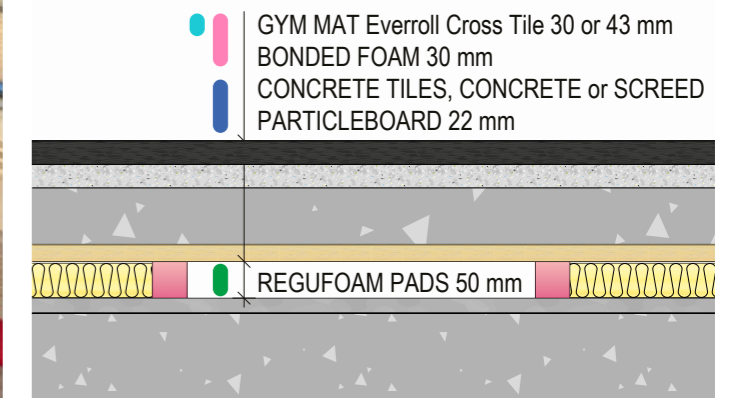
The elastic isolators are available in standard heights 25, 37 and 50. Other heights up to 75 mm on request. This solution can reach a resonance frequency of 6 Hz.

By adding additional isolators, the stiffness of the system can be adjusted locally to accommodate variations in linear and point loads.

Heavy floating concrete floors are commonly used in applications such as bowling alleys, cinema halls, gym floors, nightclubs, and machine foundations.



EXAMPLE CONSTRUCTION



FLOOR SYSTEM VT-FLOAT				
Floor construction type	ZONE 1	ZONE 2	ZONE 3	ZONE 4
VT-FLOAT with 25mm pads	-	-	-	-
VT-FLOAT with 37mm pads	-	-	X	-
VT-FLOAT with 50mm pads	-	-	X	X

Floor System VT-Float with spring isolators

GYM FLOOR SYSTEM



The VT-FLOAT system with springs is designed for heavy floating concrete floors. The steel springs act as discrete isolators with very low natural frequency, providing efficient vibration isolation and improved sound insulation.

VT-FLOAT with springs is used in applications with high requirements for both airborne and impact sound insulation. The system can be supplied either as pre-manufactured, uniquely marked panels (with isolators and mineral wool bonded to the board), or as separate components.

ISOLATORS

By adding additional isolators, the stiffness of the system can be adjusted locally to accommodate variations in linear and point loads.

Heavy floating concrete floors are commonly used in applications such as bowling alleys, cinema halls, gym floors, nightclubs, and machine foundations.

FLOOR SYSTEM VT-FLOAT WITH SPRING ISOLATORS

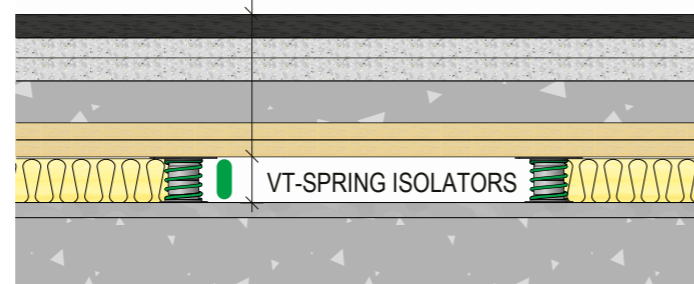
Isolator type	Height	Height under load	Natural frequency
Spring VT4423	90 mm	80 ± 2 mm	5 - 6 Hz
Spring VT4424	140 mm	120 ± 5 mm	4 Hz
Spring VT4425	140 mm	115 ± 5 mm	3 Hz

FLOOR SYSTEM VT-FLOAT

Floor construction type	ZONE 1	ZONE 2	ZONE 3	ZONE 4
VT-FLOAT with Spring VT4423	-	-	X	X
VT-FLOAT with Spring VT4424	-	-	X	X
VT-FLOAT with Spring VT4425	-	-	X	X

EXAMPLE CONSTRUCTION

- GYM MAT Everroll Cross Tile 30 or 43 mm
- BONDED FOAM 30 - 60 mm
- CONCRETE ≥ 70 mm
- PARTICLEBOARD 2 x 22 mm



Floor System VT-dBlock

GYM FLOOR SYSTEM

VT-dBlock is an adjustable system for raised floors specially developed for a quick and easy installation and for effective impact and airborne sound isolation.

By using different types of damping pads, different noise reduction can be achieved, and by playing with c/c distances, higher load capacity (or less bounce) can be obtained.

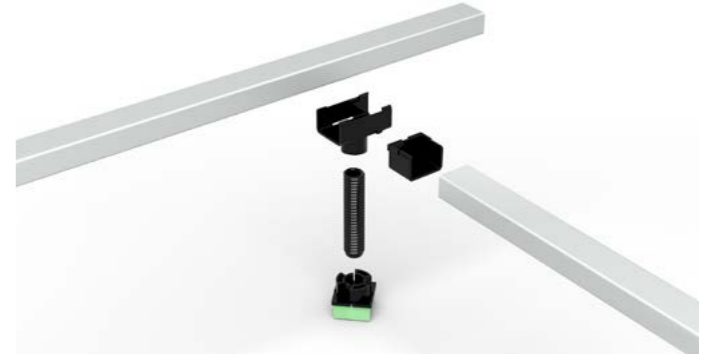
The heights adjusting screws are available in 200 or 400 mm, and are cut to the desired length on site.

ISOLATORS

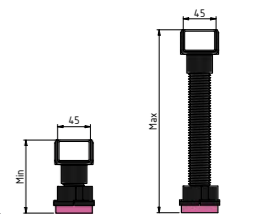
The damping feet are equipped with 25, 37 or 50 mm thick elastic elements in Regufoam. Several types are available to choose from depending on the application and dimensioning load.

Resonance frequency: 7 - 15 Hz

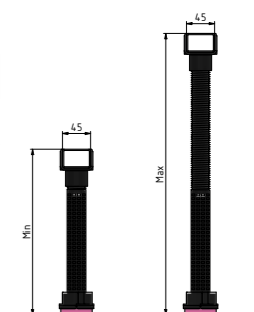
Floor system VT-dBlock-50 is used where the requirements for sound insulation are high and for applications where low frequencies and impacts must be isolated. The system requires a heavy upper floor to endure no bounce and to provide a low resonant frequency. Typical applications are rehearsal rooms, cinemas, concert halls, fitness / gym, etc.



Floor System VT-dBlock with 200mm adjustable screw						
Elastic element thickness (mm)	25		37,5		50	
	Min	Max	Min	Max	Min	Max
Total height (mm)	110	260	125	275	135	285



Floor System VT-dBlock with 400mm adjustable screw						
Elastic element thickness (mm)	25		37,5		50	
	Min	Max	Min	Max	Min	Max
Total height (mm)	275	460	290	475	300	485



FLOOR SYSTEM VT-DBLOCK

Floor construction type	ZONE 1	ZONE 2	ZONE 3	ZONE 4
25	-	X	-	-
37	-	X	X	-
50	-	-	X	-

Everroll

GYM FLOOR MAT

Everroll Classic fitness floor from REGUPOL, is a hard-wearing, robust and durable flooring for fitness centers. Everroll classic fitness floor is ideally suited to a variety of applications.

Various thicknesses are available for you to choose from so that you can meet the specific demands in the different training areas.

Produkt:

Resilient floor covering made of PUR-bonded SBR-granulates, with 20 % EPDM colour content

Areas of Application:

Cardio & machine training, Free weight training & weight-lifting, Indoor cycling

Features:

comfortable, robust, durable, sustainable, non-slip

Standard Roll Dimensions:

Width: 1,250 mm
Length: 10m, 15m, 20m
Thicknesses: 4 mm, 6 mm, 8 mm, 10 mm, 12 mm

Weight:

approx. 1.06 kg/m²/mm

Standard Dimensions Puzzle Tiles:

Outer dimensions: 600 × 600 mm
Thickness: 6 mm (8 mm and 10 mm possible on request)

Slip Resistance:

R 10 based on DIN 51130 (02.2014) and ASR A1.5/1,2

Impact Resistance:

> 21 Nm based on EN 14904 / EN 1517

Force Reduction:

up to 16 % based on EN 14904 / EN 14808

Certificate of sustainability:

EPD - Environmental Product Declaration
REGUPOL everroll classic is C2C Certified® Full Scope at the Bronze level according to version 3.1.

Impact Sound Reduction:

Testing based on DIN EN ISO 10140, 8 mm = 19 dB

Fire Classification:

E_{fl} based on EN 13501-1:2010-01 / EN9239-1:2010-11

Colours:

approx. 13 standard colours, individual colours available on request

Further technical data is available on request.



Sonusfit T 110

GYM FLOOR MAT

The 45 or 70 mm thick gym floor combines high acoustic efficiency with fast installation.

Sonusfit T 110 is a rubber tile with pre-laminated Everroll as a wear layer. The underside has a special geometry so that the floor can deform optimally. In combination with Everroll, this results in high acoustic efficiency and sports functional properties. Depending on the sound reduction requirements, the gym floor can be loose laid on the bare floor or screed.

The reduction of the maximum sound pressure level is $\Delta L_{AF,max}$ 22 dB (45mm) and $\Delta L_{AF,max}$ 30 dB (70 mm). Tiles loosely laid on 140 mm concrete slab.

Produkt:

Floor covering made of structure-borne sound insulating elastomers with springy and sports functional properties for use in gyms. A gym floor is laminated onto the molded part. REGUPOL Sonusfit T 110 can be laid loosely on the raw ceiling or screed.

Material

- Polyurethane bonded rubber fibers
- Top layer: REGUPOL everroll

Dimensions and weight

length: 1,000 mm, width: 500 mm, thickness: 45 mm
approx. 14 kg/tile - 28 kg/m²
length: 1.000 mm, width: 500 mm, thickness: 70 mm
approx. 22 kg/tile - 44 kg/m²

Fire classification

C_{fl}-s1*; in Accordance with DIN EN 13501-1

Colours:

approx. 5 standard colours, individual colours available on request

Further technical data is available on request.



FLOOR MAT EVERROLL			
ZONE 1	ZONE 2	ZONE 3	ZONE 4
X	X	X	X

FLOOR MAT SONUSFIT T 110			
ZONE 1	ZONE 2	ZONE 3	ZONE 4
X	X	X	X

Everroll Crosstile / Crosstile Duo

GYMFLOOR MAT

The Everroll Crosstile from REGUPOL is robust tile range for fitness centres. Quick to install, it also serves primarily to protect your sub-base.

The neutral character of the tiles in the Everroll Crosstile range for fitness centres is a most striking feature. They can be laid loosely and connected to each other by means of a plug-in dowel system, which enables quick and easy installation. Our fitness centre flooring also serves to protect the sub-base and provide athletes with very good training conditions.

If dumbbells or kettlebells are dropped or put down in an uncontrolled manner in your fitness centre, the necessary cushioning and shock absorption is provided by our REGUPOL everroll crosstiles, which are extremely robust and resilient.



Product:

Tile product, made of PUR bonded SBR granulates

Areas of Application:

Free weight training & weightlifting

Features:

Protects the subfloor, quickly installed, non-slip, sustainable, durable

Thicknesses:

30 mm, 43 mm

Standard Dimensions:

1,000 × 500 mm, dummy joint at 500 mm

Weight:

30 mm = approx. 34.0 kg/m²

43 mm = approx. 37.0 kg/m²

Slip Resistance:

R 10 based on DIN 51130 (02.2014) and ASR A1.5/1,2

Impact Resistance:

> 21 Nm based on EN 14904 / EN 1517

Certificate of sustainability:

REGUPOL everroll crosstile is C2C Certified® Full Scope at the Bronze level according to version 3.1.

Force Reduction:

up to 59 % based on EN 14904 / EN 14808

Fire Classification:

E_{fl} based on EN 13501-1:2010-01 / EN9239-1:2010-11

Colours:

One standard colour.

Further technical data is available on request.

EVERROLL CROSTILE				
Height of tile	ZONE 1	ZONE 2	ZONE 3	ZONE 4
30 mm	X	X	X	X
43 mm	X	X	X	X

Everroll Multitile Classic & Ultimate

GYMFLOOR MAT

The Everroll Multitile from REGUPOL provides a solid footing for weight training and protects the sub-base from damage of falling dumbbells.

The tiles in the Everroll Multitile range are ideal wherever the surface needs protection from damage caused by falling dumbbells. The range was developed for more heavily used areas in the fitness centre and offers your customer, among other things, outstanding underfoot stability so that exercises with heavy weight loads can be performed correctly.

The tile has proven its quality over many decades. The impact resistance and durability properties make our tiles for fitness centres a very good solution for those areas which are subject to heavy loads. And wherever the demands on your floors are particularly high, that's where our 43 mm version comes into play.



Product:

Everroll Multitile Ultimate: tile product, with prefabricated REGUPOL everroll ultimate top layer made of PUR bonded EPDM granulates.

Everroll Multitile Classic: tile product, with prefabricated REGUPOL everroll classic top layer made of PUR bonded SBR-granulates with 20 % EPDM colour content.

Areas of Application:

Cardio & machine training, free weight training & weightlifting

Features:

Protects the subfloor, quickly installed, non-slip, sustainable, durable

Thicknesses:

27 mm, 43 mm

Standard Dimensions:

1,000 × 500 mm,

Weight:

27 mm = approx. 26.0 kg/m²

43 mm = approx. 42.0 kg/m²

Slip Resistance:

R 10 based on DIN 51130 (02.2014) and ASR A1.5/1,2

Impact Resistance:

> 21 Nm based on EN 14904 / EN 1517

Certificate of sustainability:

REGUPOL Everroll Mutitile Ultimate/Classic are C2C Certified® Full Scope at the Bronze level according to version 3.1.

Force Reduction:

up to 44 % based on EN 14904 / EN 14808

Impact Sound Reduction:

22 dB

Fire Classification:

C_{fl}-s1 based on EN 13501-1:2010-01 / EN9239-1:2010-11

Colours:

Ultimate: two standard colours, other colours available on request

Classic: three standard colours, other colours available on request

Further technical data is available on request.

EVERROLL MULTITILE CLASSIC & ULTIMATE				
Height of tile	ZONE 1	ZONE 2	ZONE 3	ZONE 4
30 mm	X	X	X	X
43 mm	X	X	X	X

Bonded Foam

GYM FLOOR MAT

Flexible and dimensionally stable granular foam from recycled foams

The bonded PU-foam, based on recycled post-industrial trim and waste, has excellent mechanical properties.

Application areas

A flexible foam with good impact-absorbing properties, can also be used for the following purposes:

- Sound damping
- Vibration damping



Type	Density (kg/m³)	length x width (mm)	thickness (mm)
BF 135	135	2000 × 1200	20
			30*
			60
BF 195	195	2000 × 1200	20
			30*
			60
BF 300	300	2000 × 1000	20
			30*
			60

* standard product

Material Specification

1. Raw material:	<ul style="list-style-type: none"> ■ Polyurethane foam granules, glued together with glue made from polyol and MDI ■ Does not contain formaldehyde ■ Density from 135 to 300 kg/m³. Tolerance +/- 20%
2. Temperature:	<ul style="list-style-type: none"> ■ Avoid temperatures below -40° Celsius and above 120° Celsius ■ At a constant temperature of over 115° Celsius, there is a risk that the material will be slowly degraded
3. Effects of heat:	<ul style="list-style-type: none"> ■ Minimal change to properties when exposed to changing temperatures. ■ Heat conductivity is 0.0400 W/mK
4. Fire classification:	<ul style="list-style-type: none"> ■ Bonded foam 135 and 195 meet the requirements of fire test FMVSS 302/ISO 3795 & EN ISO 11925-2, Class E (DIN 4102 B2) ■ Bonded foam 300 meet fire rating FMVSS 302 ■ Autoignition temperatures are +340° Celsius
5. Dimensional stability:	<ul style="list-style-type: none"> ■ Highly elastic and stable
6. Physiologically:	<ul style="list-style-type: none"> ■ Neutral – no negative reactions from skin exposure
7. Resistance:	<ul style="list-style-type: none"> ■ Tolerates weak acids and alkali solvents ■ Does not tolerate extended exposure to sunlight (not UV protected)
8. Water absorption:	<ul style="list-style-type: none"> ■ Approx. 80% of volume

BONDED FOAM MATS

ZONE 1	ZONE 2	ZONE 3	ZONE 4
	X	X	X

REGUFOAM

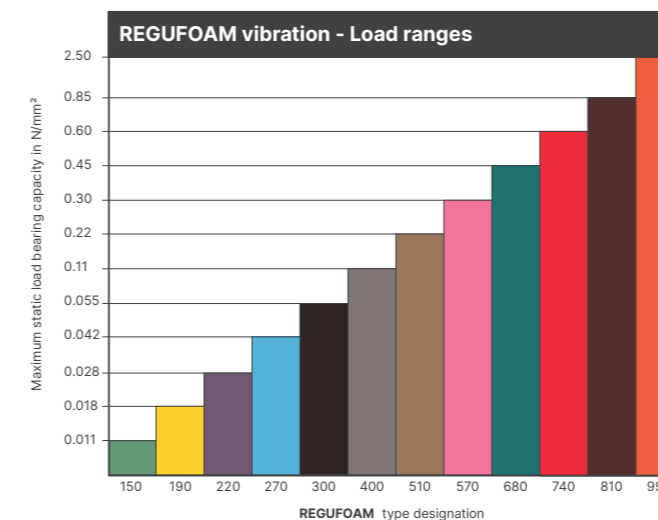
GYM FLOOR MAT

Regufoam® vibration is an elastic polyurethane foam designed for optimal vibration isolation.

Regufoam® is a vibration isolation and structure-borne sound decoupling material. There are twelve different material stiffnesses available which covers a static load range from 0.015 N/mm² to 2.5 N/mm².

Application

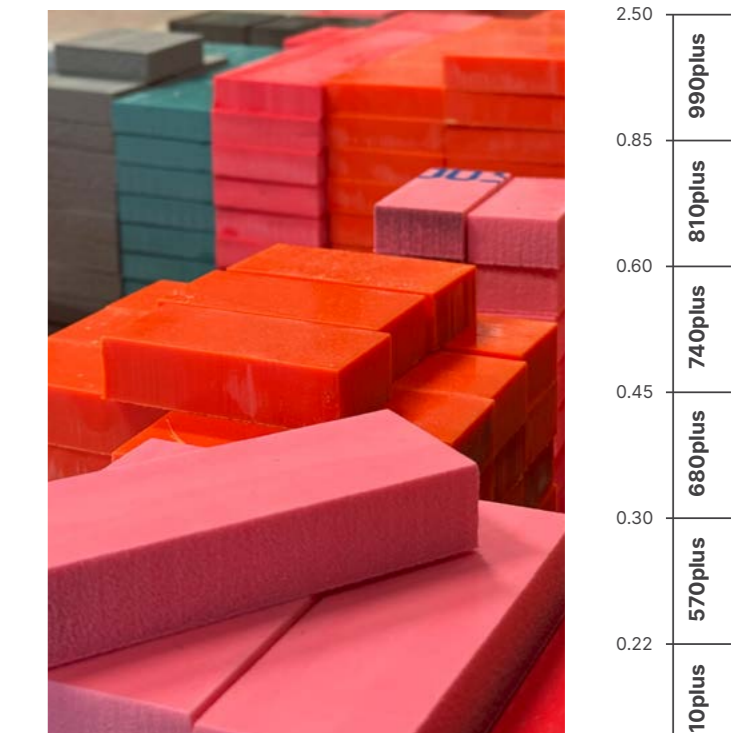
It can be used in single or double layers, as mats/sheets or pads in different sizes to achieve natural frequencies down to ≈ 7 Hz, depending on load and material thickness.



Type	Density (kg/m³)	Continuous Static Load (N/mm²)	Operating Load Range (N/mm²)	Peak Loads (N/mm²)	Thickness (mm)
Regufoam 150	150	0.011	0 - 0.016	0.5	12.5 and 25
Regufoam 190	190	0.018	0 - 0.028	0.8	12.5 and 25
Regufoam 220	220	0.028	0 - 0.04	0.9	12.5 and 25
Regufoam 270	270	0.042	0 - 0.062	1.2	12.5 and 25
Regufoam 300	300	0.055	0 - 0.08	2.0	12.5 and 25
Regufoam 400	400	0.11	0 - 0.16	3.0	12.5, 25, 37.5 and 50
Regufoam 510	510	0.22	0 - 0.32	4.0	12.5, 25, 37.5 and 50
Regufoam 570	570	0.30	0 - 0.42	4.5	12.5, 25, 37.5 and 50
Regufoam 680	680	0.45	0 - 0.62	5.0	12.5, 25, 37.5 and 50
Regufoam 740	740	0.60	0 - 0.85	6.0	12.5, 25, 37.5 and 50
Regufoam 810	810	0.85	0 - 1.2	7.0	12.5, 25, 37.5 and 50
Regufoam 990	990	2.5	0 - 3.5	8.0	12.5, 25, 37.5 and 50

BONDED FOAM MATS

ZONE 1	ZONE 2	ZONE 3	ZONE 4
	X	X	X





VIBRATEC

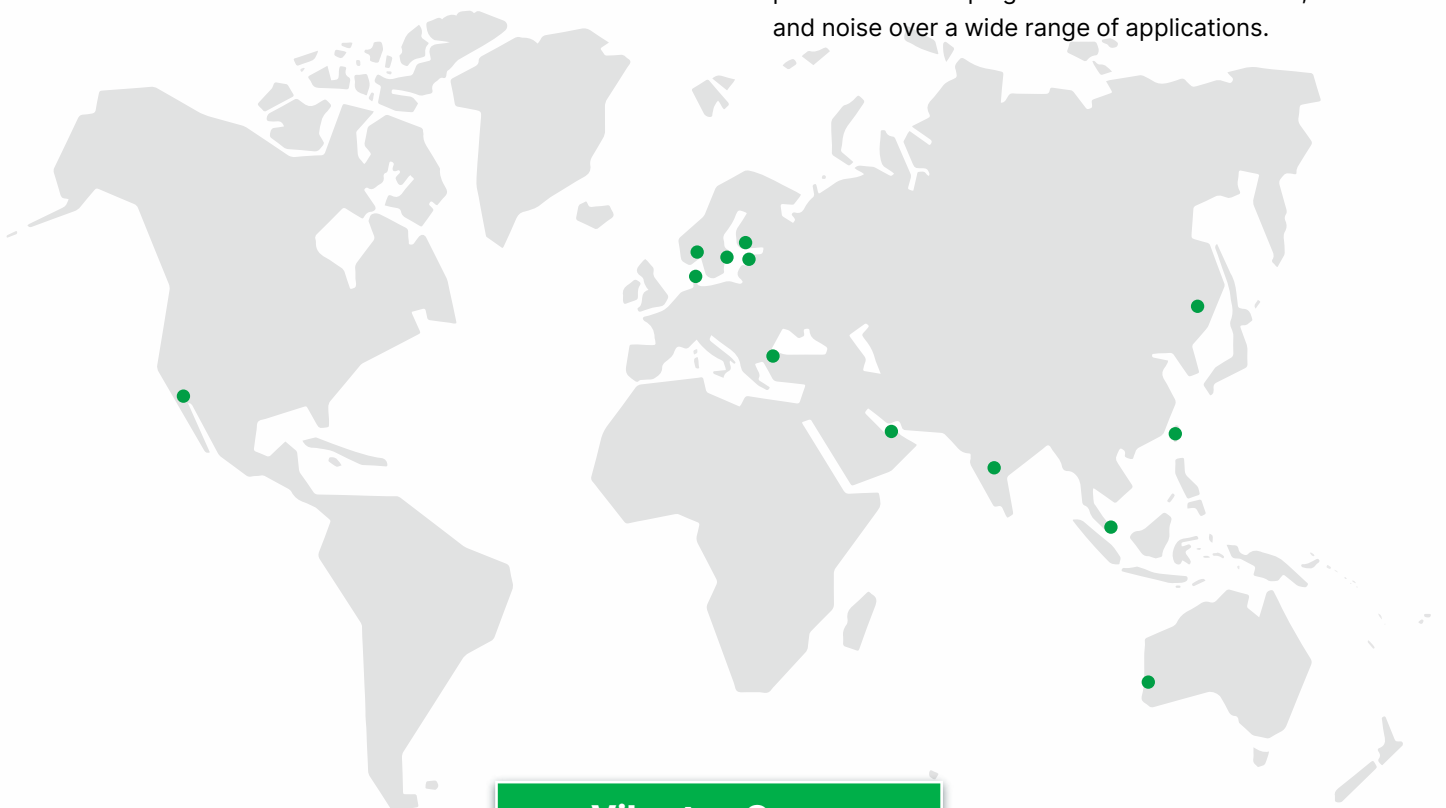
Quiety Improving Your Environment

Engineering, Production and Installation

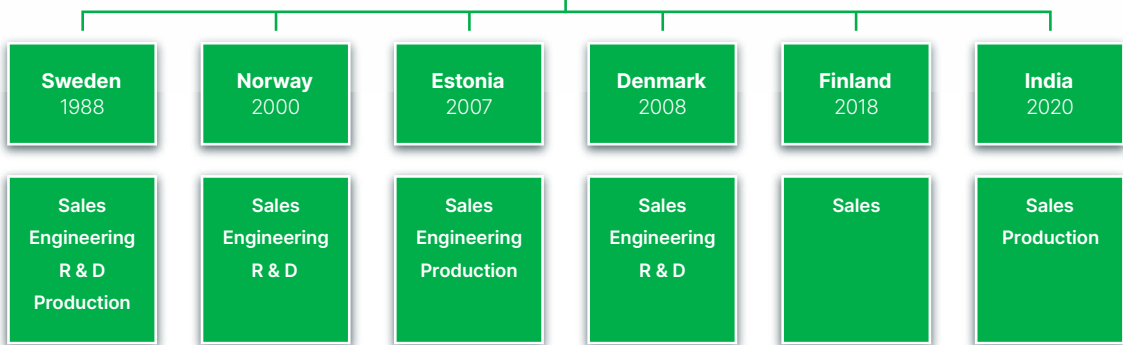
Vibratec has extensive experience, combined with the use of modern tools, when we design and manufacture tailor made solutions in all areas of vibration and noise reduction. Vibratec performs test to evaluate mechanical, physical and long term behaviour on materials as well as complete solutions.

Construction, Defence, Industry, Marine, Offshore and Railway

Vibratec Akustikprodukter is one of Scandinavia's leading suppliers of noise and vibration solutions. Vibratec's ambition is to become the preferred choice for customers who need solutions to noise, vibration and shock problems. Vibratec produce and store many products for damping and isolation of vibration, shock and noise over a wide range of applications.



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