stravigym
by CDM Stravitec

FITNESS & GYM ISOLATED FLOATING FLOORS

THE NEXT GENERATION

Why CDM Stravitec?

CDM Stravitec has been engineering and installing fitness isolation solutions since the early 1970s. Our continuous investment in R&D and years of real-world experience has yielded a greater understanding of the driving forces behind structure-borne noise from fitness activities and how to isolate them effectively.

Today, gyms and sports facilities are more accessible than ever, often located next door or in the same buildings where we work and live. Without addressing noise and vibration from exercise activities (such as booming low frequency sound from weight impacts, thumping bass from aerobic class music, and the percussive noise from cardio and strength equipment) it can become a significant noise nuisance affecting well-being and health.

From conception to completion, we at CDM Stravitec pride ourselves in being a full-service solution provider that designs, manufactures, and delivers market leading noise and vibration isolation products that help make your world a quieter place.

Q&E Management

CDM Stravitec nv operates ISO 9001:2015 and ISO 14001:2015 approved quality & environment management systems.

Stravigym

Fitness & Gym Isolated Floating Floors

The need to access fitness as part of our daily routine has resulted in gyms and fitness studios being integrated into many multi-purpose residential and commercial buildings. Fitness activities generate a high level of structure-borne vibration and airborne noise, particularly at low frequencies, which are not covered by existing acoustic standards and test devices. Left unaddressed it can be incredibly difficult to facilitate basic acoustic comfort levels making it incredibly difficult for fitness facility users and building occupants to co-exist.

Careful selection of the final flooring is a crucial decision when designing the fitness facility in order to avoid generation of significant noise nuisance. When in use, these floors experience the full impact force of weight-drop equipment, treadmills, and strength equipment, and therefore the final floor finish must always be a primary design consideration for the effective control of noise and vibration.

Stravigym dry and lightweight floating floor solutions are specially designed to effectively and safely manage impact energy. These systems are a perfect solution for existing buildings where the extra weight and height of a concrete floor is not feasible, and where rebound is to be limited to guarantee user safety.

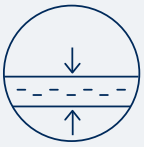
Every fitness facility is different and within the same facility there are usually different zones of activity (free-weight, cardio, aerobic, etc.) which generate different levels of noise and vibration. The Stravigym range addresses all these different zones to guarantee the best acoustical performance.

Main Benefits

Easy installation

Quick to install

Lightweight



Limited extra height

Easy to dismantle and reinstall

Long-lasting

Noise reduction

Protection of substrate

Compatible with different gym activities

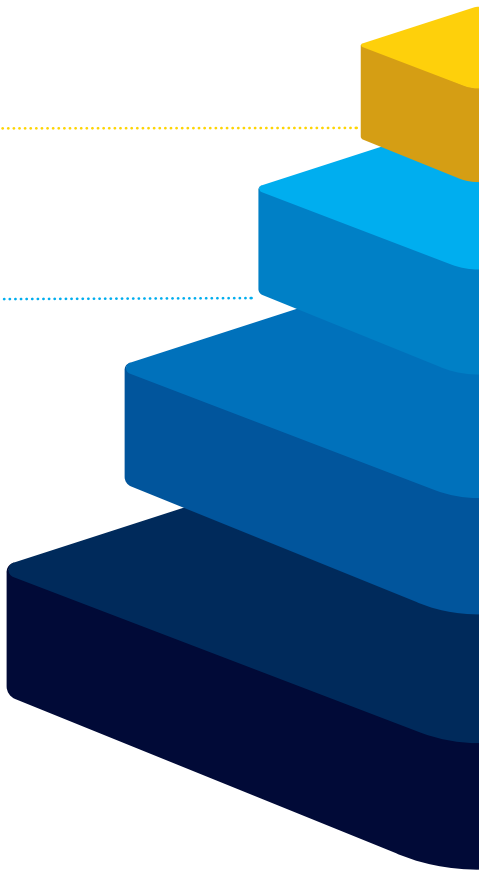
Compatible with different impact energies

Final floor options

Stravigym
Typical Floating Floor Construction

1 FLOOR COVERING

2 IMPACT ABSORPTION LAYER

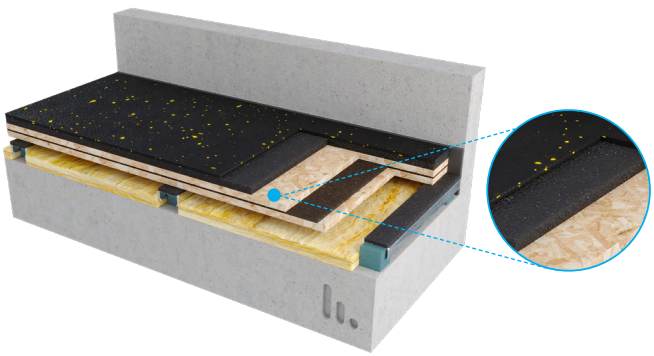


Historically, the floor finish in a gym has been primarily aesthetic in purpose, however it is now recognized that when combined with the right impact absorption layer it can play an important role in mitigating structure-borne noise. Soft floor covering and impact absorption layers work together to extend the time of contact and reduce the peak impact force and the sound generated.

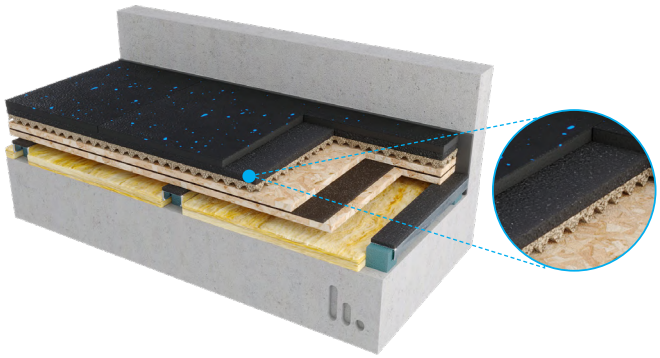
All Stravigym standard systems can be configured using different types of impact absorption layers, called **Stravigym GympactLayer**. The different standard Stravigym GympactLayer solutions, engineered to provide the best solution for each gym activity, are:

Stravigym GympactLayer-20 & Stravigym GympactLayer-45
The continuous mats Stravigym GympactLayer-20 and Stravigym GympactLayer-45 are compatible with most available floor coverings, allowing freedom of choice of the final flooring.

Stravigym HP with GympactLayer-20



Stravigym HP with GympactLayer-45



3 LOAD DISTRIBUTION LAYER

Loads (including impacts) are distributed to the supporting structural floor via rigid lightweight panels. To reduce noise and vibration radiation from impacts, low radiation efficiency and panel strength must be balanced. Wood-based panels exhibit the optimal balance of these two characteristics. When these panels are combined with **Damping Layer**, a thin constrained damping layer (CLD) a highly efficient load distribution system with low noise and vibration radiation is achieved.

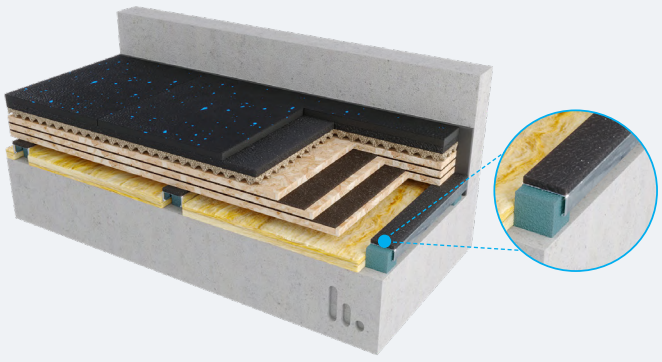
4 RESILIENT SUPPORT

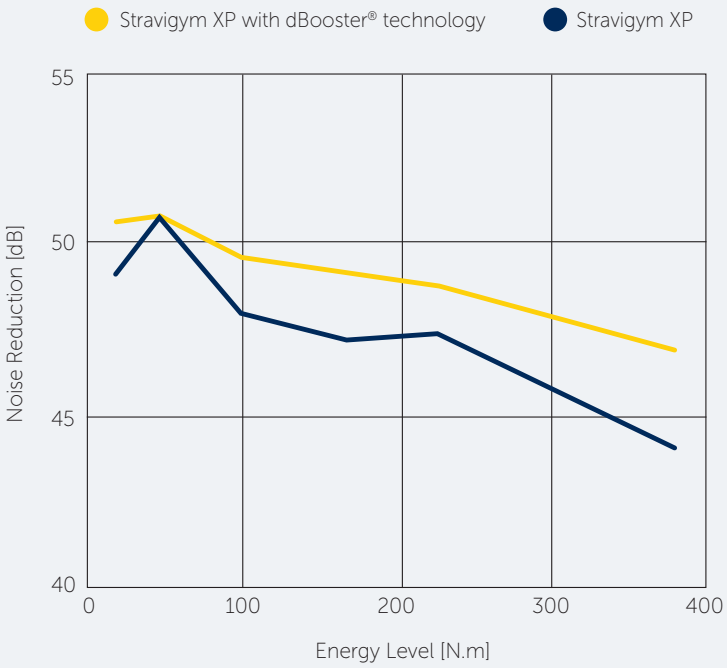
The Stravigym range is available with **full-surface** or **discrete** resilient supports. Discrete resilient supports offer better noise reduction at low frequencies; achieving natural frequencies as low as 8Hz.

The Next Generation: dBooster® Technology

Our patented dBooster® technology decouples the load distribution layer from the resilient supports with minimal contact area.

Tests show that isolation efficiency improves for all Stravigym systems and that it makes the gym floor less dependent on the impact energy level applied to the system.

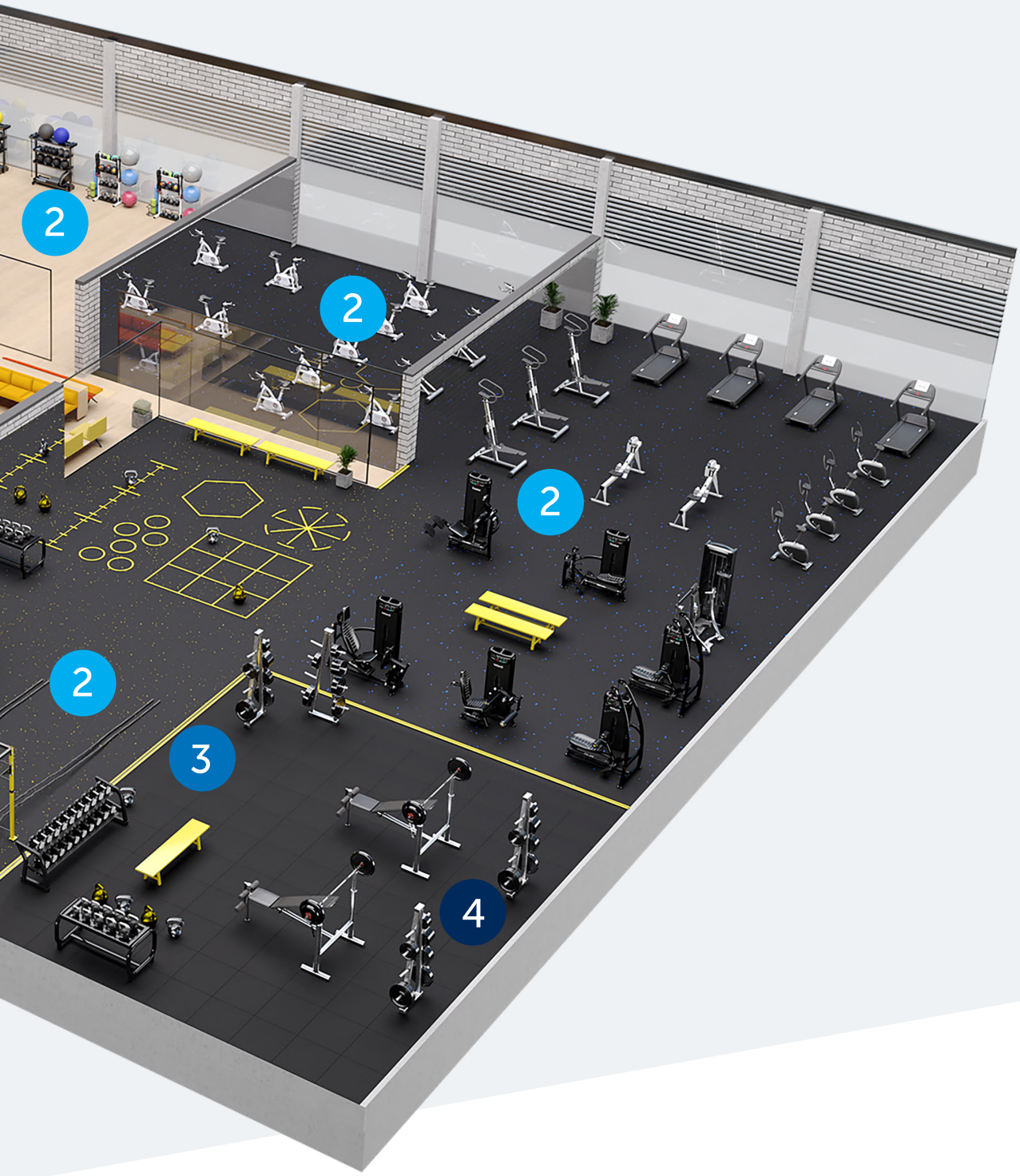




Acoustic Design

Gym Areas

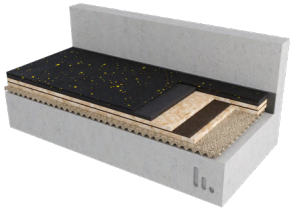
Gym Areas / Gym Activities		Stravigym SP GympactLayer-20	Stravigym HP GympactLayer-20	Stravigym HP GympactLayer-45	Stravigym XP GympactLayer-45
Stretch Zone		●●●	●●	●	●
Group Classroom, Spinning Studio		●●	●●●	●	●
Cardio Zone		●●	●●●	●	●
Strength Zone		●	●●●	●	●
Functional Zone		●	●●●	●●	●●
Free Weight Zone	Residential Gyms (impact energy <600 N.m)	●	●	●●●	●●
	Commercial Gyms (impact energy ≤1000 N.m)	●	●	●●	●●●



Most suitable Stravigym solution for the following areas:

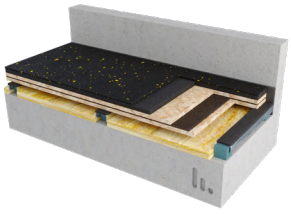
1

Stravigym SP



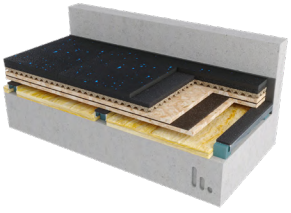
2

Stravigym HP with GympactLayer-20



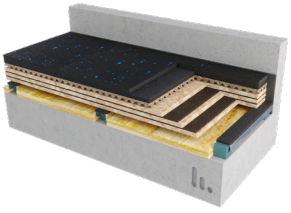
3

Stravigym HP with GympactLayer-45



4

Stravigym XP with GympactLayer-45



Stravigym XP
GympactLayer-45

Free-weight areas are the most critical areas to address because of the extensive use of barbells and dumbbells which generate significant levels of impact and, in addition to the noise nuisance they cause, can damage the structural floor.

Stravigym XP with Stravigym GympactLayer-45 is designed as an "Extreme Performance" discrete isolator floating floor system specifically intended for use in free-weight areas. The system offers superior structural resistance and acoustical performance and can withstand and absorb the energy from very high impacts. Stravigym XP is engineered to reduce noise, dampen vibration and minimize bounce thereby reducing the risk of injuries.

19 (4) dB

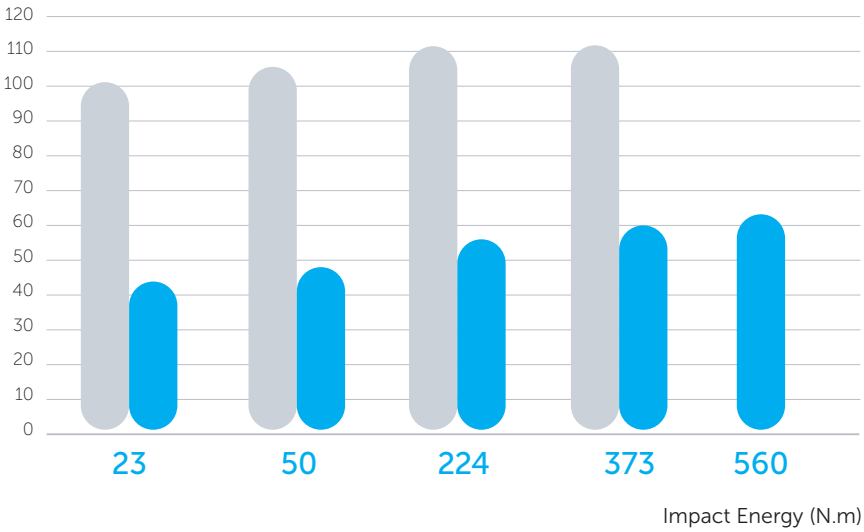
$L_{n,w}$ (C_i)
(calculated according to ISO 717-2, based on ASTM measurement)*
Stravigym XP with GympactLayer-45 and dBooster® technology

* Over 200 mm concrete slab and with 9,5 mm rubber floor.

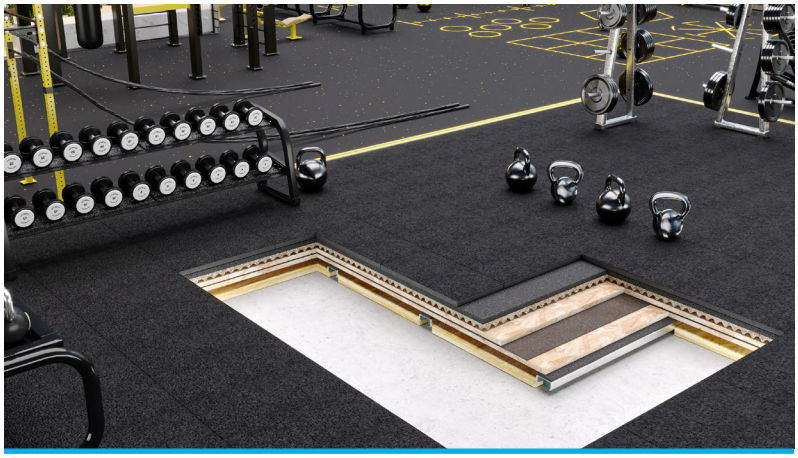
- Build-up height ± 170 mm excluding floor covering.**
- Suitable for commercial gyms (impact energy from 200 to 1000 N.m).

Drop Weight Tests
Overall Noise Level

$L_{A,F,MAX}$ (dBA ref 20µPa)



** Please check the products compatibility prior to installation with both CDM Stravitec and the floor manufacturer.



Stravigym HP
GympactLayer-45

Even though heavy weights such as kettlebells and dumbbells are lighter than most barbells, their use in free training areas can be a particular nuisance, producing vibrations that affect other areas of the building.

Stravigym HP is a "High Performance" discrete isolator floating floor system that is performance-engineered to control vibrations, minimize low-frequency impact noise, and reduce the transmission of audible structure-borne sound. When configured with Stravigym GympactLayer-45, it offers high mechanical resistance and acoustical performance.

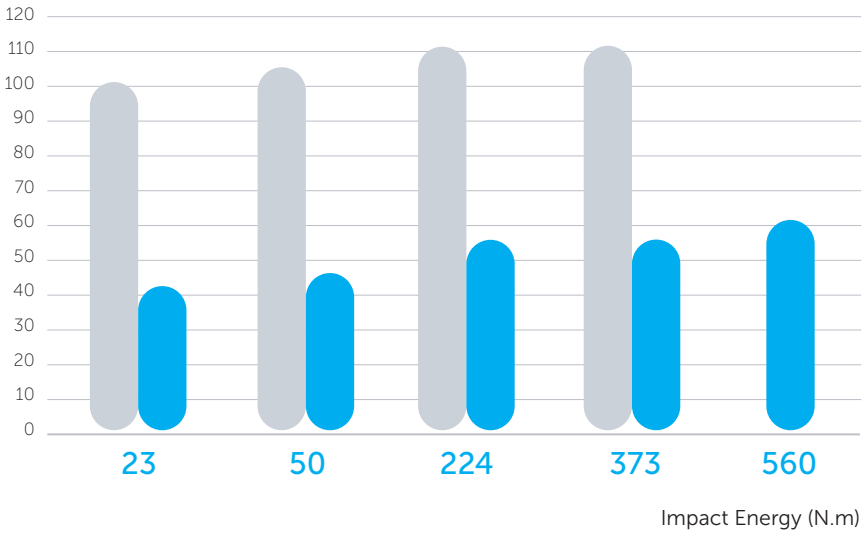
20(3) dB

$L_{n,w}(C_i)$
(calculated according to ISO 717-2, based on ASTM measurement)*
Stravigym HP with GympactLayer-45 and dBooster® technology

* Over 200 mm concrete slab and with 9,5 mm rubber floor.

Drop Weight Tests
Overall Noise Level

$L_{A,F,MAX}$ (dBA ref 20µPa)



- Build-up height ± 145 mm excluding floor covering.**
- Suitable for residential and light commercial gyms (impact energy <600 N.m).

** Please check the products compatibility prior to installation with both CDM Stravitec and the floor manufacturer.

Stravigym HP
GympactLayer-20

One of the most common sources of noise in a gym is the strength area where the percussive sound of dropping weights is continuous source of noise nuisance. Less obvious sources of low frequency noise are group fitness, spin studios, treadmills and functional fitness area activities.

Stravigym HP is a discrete "High Performance" floating floor system that decouples the building's floor construction, keeping workouts inside the gym and out of the building structure.

Stravigym HP with Stravigym GympactLayer-20 is compatible with most conventional floor coverings.

29(3) dB

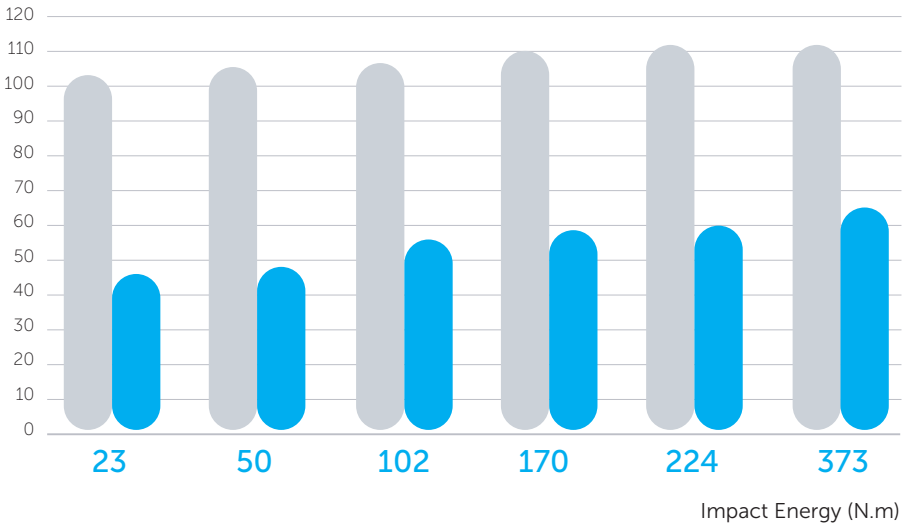
$L_{n,w}(C_i)$
(calculated according to ISO 717-2, based on ASTM measurement)*
Stravigym HP with GympactLayer-20 and dBooster® technology

* Over 200 mm concrete slab and with 9,5 mm rubber floor.

- Build-up height ± 120 mm excluding floor covering.**
- Suitable for areas with medium impact energy and low frequency.

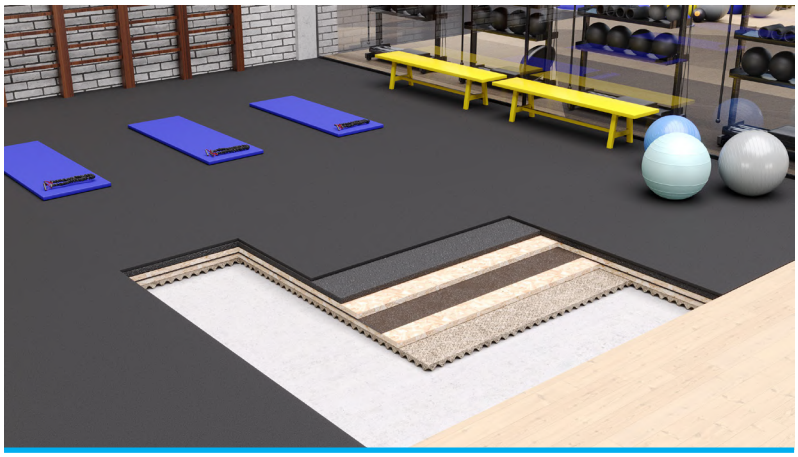
Drop Weight Tests
Overall Noise Level

$L_{A,F,MAX}$ (dBA ref 20µPa)



Bare Slab (200 mm)
Stravigym HP with dBooster® and GympactLayer-20

** Please check the products compatibility prior to installation with both CDM Stravitec and the floor manufacturer.



Stravigym SP
GympactLayer-20

Low-intensity impact related sounds often associated with spin classes and even gym balls bouncing on the floor in the heavily frequented stretch zone can be very obtrusive.

Stravigym SP is our "Standard Performance" gym system. It is a continuous support floating floor that provides great performances in the reduction of low-impact sound while offering a high level of comfort for any type of training.

Stravigym SP is compatible with most conventional floor coverings and so selection of the final flooring can be made independent on the acoustic solution.

36(2) dB

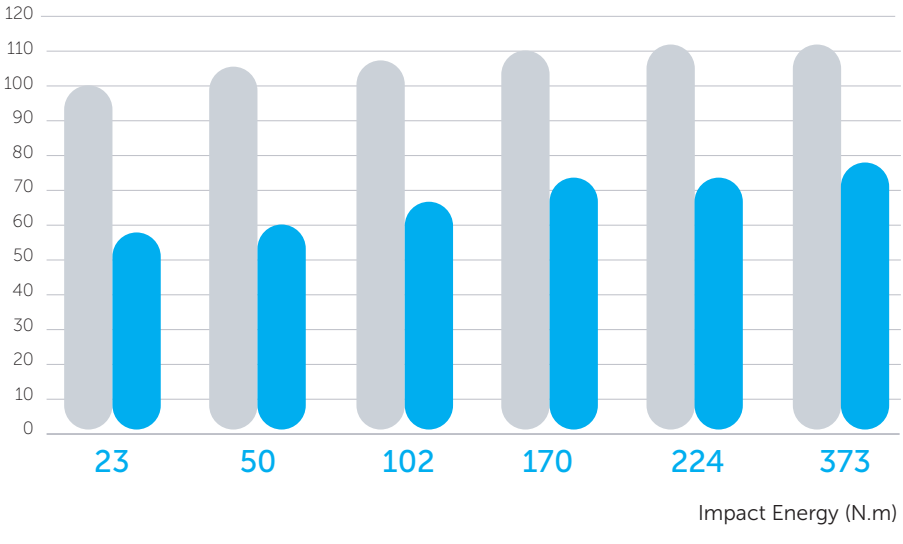
$L_{n,w}(C_i)$
(calculated according to ISO 717-2, based on ASTM measurement)*
Stravigym SP with GympactLayer-20

* Over 200 mm concrete slab and with 9,5 mm rubber floor.

- Build-up height ± 85 mm excluding floor covering.**
- Ideally suited for areas with restricted additional floor build-up.

Drop Weight Tests
Overall Noise Level

$L_{A,F,MAX}$ (dBA ref 20µPa)



Bare Slab (200 mm)
Stravigym SP with GympactLayer-20

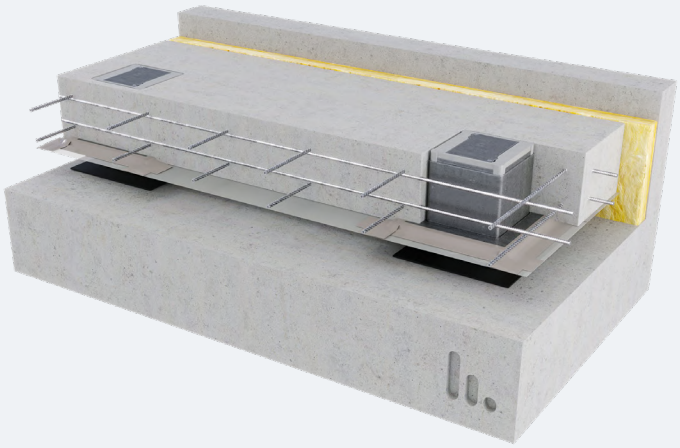
** Please check the products compatibility prior to installation with both CDM Stravitec and the floor manufacturer.

Alternative Floor Systems

We have designed various robust concrete spring and elastomeric floor systems for locations where even higher levels of performance are needed (acoustical or mechanical resistance) such as Olympic weightlifting facilities or basketball courts.
For more information please take a look at our brochure on high-performance floating floors (Stravifloor), contact your local representative or visit our website.

Stravifloor Deck

High-performance acoustic floating floor deck system using dovetailed metal decking for shuttering and reinforcing concrete or screed floors of limited thickness.



Stravifloor Jackup-R

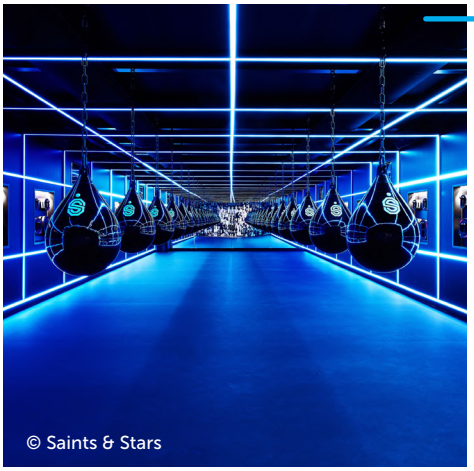
Isolated floating floor system using reinforced steel boxes cast into concrete and jacked up after the concrete has cured, to provide the required void depth. Available with springs or elastomeric bearings for enhanced damping.

References

Individual solutions for gyms and fitness centers require flexibility in application, versatility in design and a sophisticated technology – these requirements have been met by our floating floor systems for more than 70 years. During that time, we have made many contributions to the intelligent design and soundproofing of gyms with our engineered products. Here we will present a selection of the most interesting tasks that we have carried out with well-known fitness brands and reputable acoustical consultants.

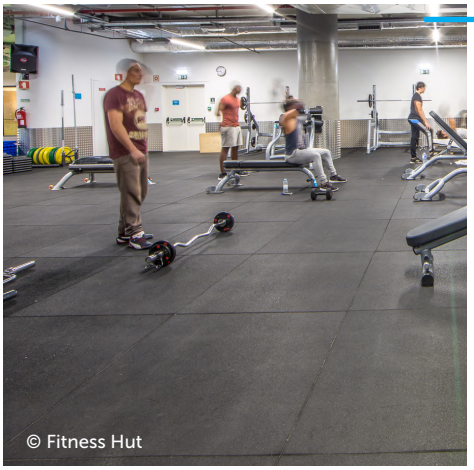
Black Rose Gym
Dublin
(IE)

Thorpe Park PureGym
Leeds
(UK)



Saints & Stars
Amsterdam
(NL)

Basic-Fit
Aubervilliers
(FR)



Fitness Hut Avenida de Roma
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(PT)

Making your world a quieter place

We have qualified engineers in noise and vibration based at different locations around the world – they are only a phone call away. For general enquiries please contact our head office or visit our website.

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