Akustik + sylomer® by getzner

ACOUSTIC AND VIBRATION SOLUTIONS FOR GYMS

AMC MECANOCAUCHO

WHY AMC MECANOCAUCHO?

Aplicaciones Mecánicas del Caucho (AMC) is a company that designs and produces anti-vibration mounts as well as noise insulation composites for the industrial and building sectors.

Since 1969 we have been developing noise and vibration solutions for a wide range of applications. To meet the demands of each project our products combine the properties of different isolating materials such as rubber, metal, springs and Sylomer.

Our dedicated engineering team are on hand to offer technical support with vibration calculations and product advice. On our website akustik.com you will find access to an extensive range of technical data for our products as well as calculation tools such as our acoustic mount selector. This tool allows the input of your system specifications and provides a recommendation of ceiling and floor mounts to meet the requirements of your project. Our library of acoustic test data is also available to view using our dB finder tool, this details the acoustic data we have obtained for various ceiling, wall and floor systems.

With a wide variety of clients served from across the world, we are ready to provide you with a personalised acoustic solution to your problem.

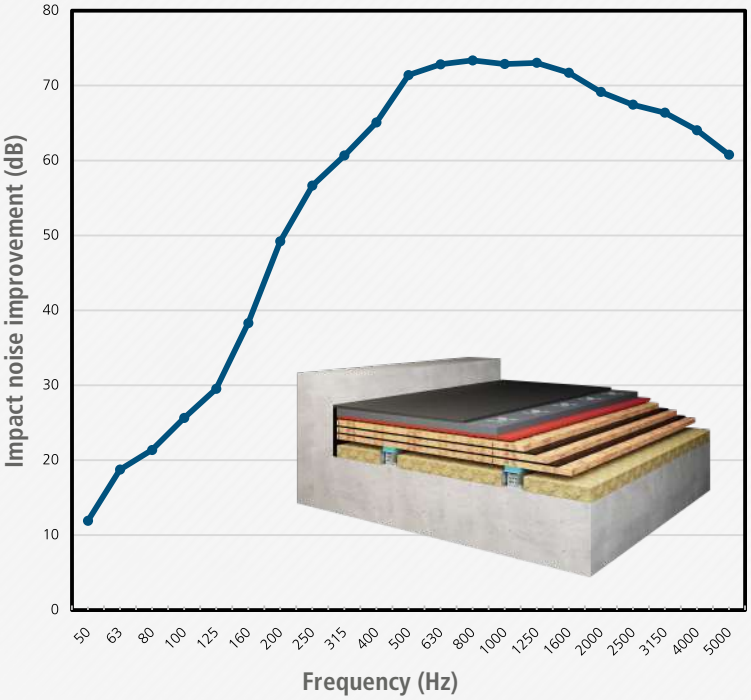
USE OF FLOATING FLOORS IN GYMS

Gyms and sports facilities located in residential areas or close proximity to other buildings may cause noise disturbances to neighbouring properties.

Acoustic insulation helps to contain and reduce the transmission of noise, minimising the impact on nearby residents. This promotes positive neighbourly relations and avoids potential complaints or legal issues due to excessive noise.

Addition of Sylomer Gym Dry Floor Pro to concrete slab results:

Impact noise improvement according to EN ISO 10140-3



-54 dB
of impact noise

VIEW REPORT

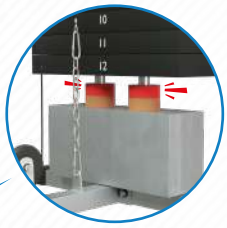
USE OF VIBRATION ISOLATORS FOR GYM EQUIPMENT

Gym equipment such as treadmills, elliptical machines and weightlifting machines can generate significant vibrations and noise during operation.

Vibration isolators help to absorb and dampen these vibrations, resulting in reduced noise levels. This is especially important in gym settings where excessive noise can be disruptive to other users or neighbouring spaces.

In addition to noise reduction,the installation of vibration isolators offers benefits such as equipment longevity, enhanced user experience, structural protection and improved safety. It helps to minimise vibrations, providing a more comfortable and enjoyable workout environment while protecting both the equipment and the building structure.

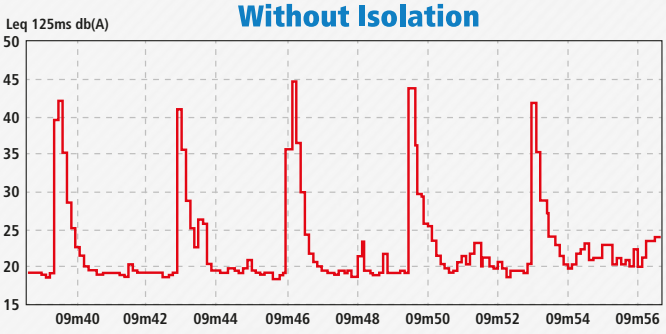
TSR FIT®
MACHINE FEET



MPR+SYLOMER®
WASHERS

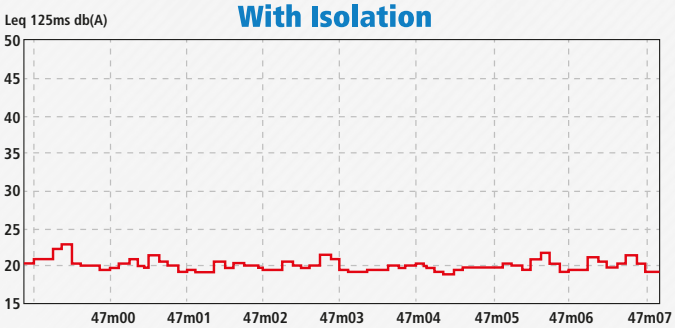
Addition of MPR + Sylomer® and TSR Fit® mounts to gym equipment results:

Impact Noise Measured
Without Isolation



-23 dB
of impact noise

Impact Noise Measured
With Isolation



VIEW REPORT

FLOOR COMPOSITION

The construction of a gym floor can be broken down into **four sections** and these elements can be viewed in the example schematic below of the **Sylomer Gym Dry Floor Pro**.

1 Cover

The **floor cover** is the visible layer of the floor that is subjected to impacts.

2 Impact absorber

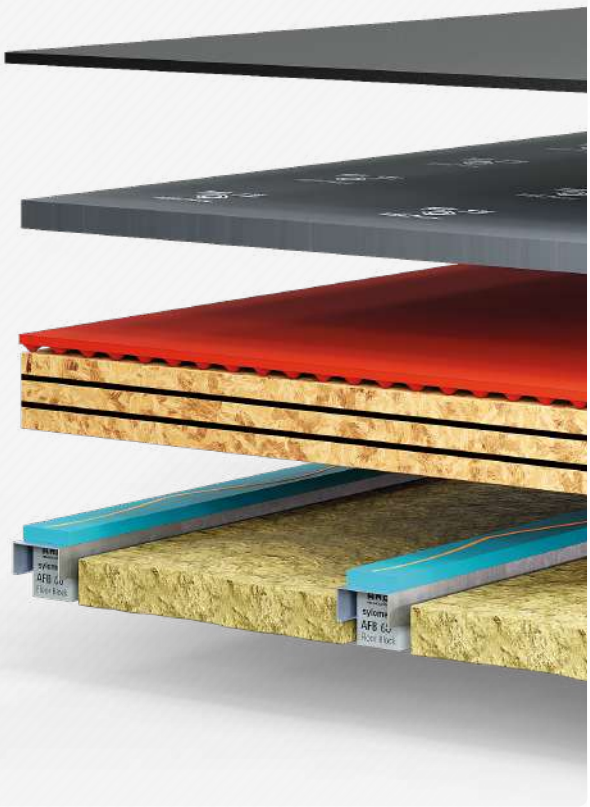
The properties of the **impact absorber** determine the time that the floor experiences impulses and thus the amount of structure borne noise is transmitted.

3 Impact damper

The **impact damper** layer is composed of a series of wood panels and damping pads that work to reduce the amplitude of the transmitted vibration.

4 Support structure

Finally, the **support structure**, in this case composed of Sylomer blocks surrounded by mineral wool insulation, serves as the base of the floor and determines the natural frequency of the system.



DRY OR WET CONSTRUCTION?

There are different floating floor construction methods and the choice between **dry** and **wet** construction depends on the specific project requirements and considerations.

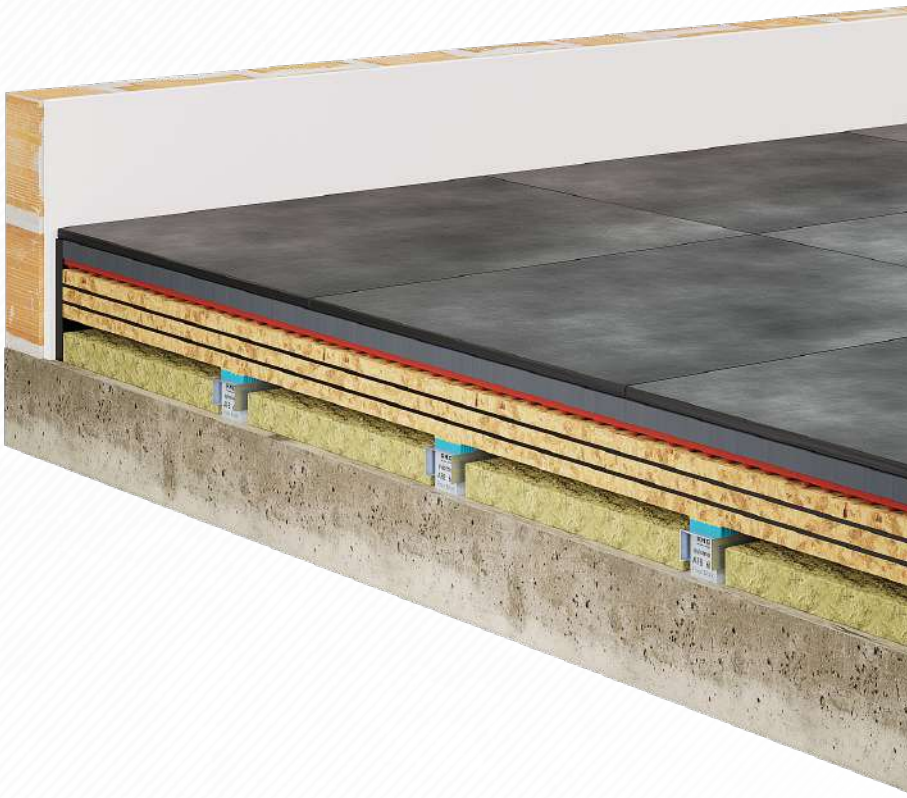
Dry Construction

Advantages

- Faster installation
- No drying time
- Lower environmental impact
- Flexibility and adaptability to different gym layouts

Disadvantages

- Higher initial costs



Wet Construction

Advantages

- Higher inertia on floating slab
- Superior sound insulation
- Cost effective
- Even load distribution

Disadvantages

- Longer construction time
- Higher environmental impact
- Limited flexibility for future layout modifications

DRY CONSTRUCTION SOLUTION

GYM DRY FLOOR

Sylomer GYM Dry Floor is an acoustic floating floor system with excellent performance, designed specifically for use in gym free weight areas. The system is available in three different configurations: **Base**, **Advance**, and **Pro**.

Each system combines high levels of acoustic performance with superior structural strength, allowing it to withstand and absorb the energy of very strong impacts.

To avoid infringement of patent, apply full surface permanent and effective adhesive assuring no movement between panel and profile.

LAFmax Reduction

Noise reduction compared to concrete slab with sports flooring only:

BASE

-42,4 dB

ADVANCE

-41,5 dB

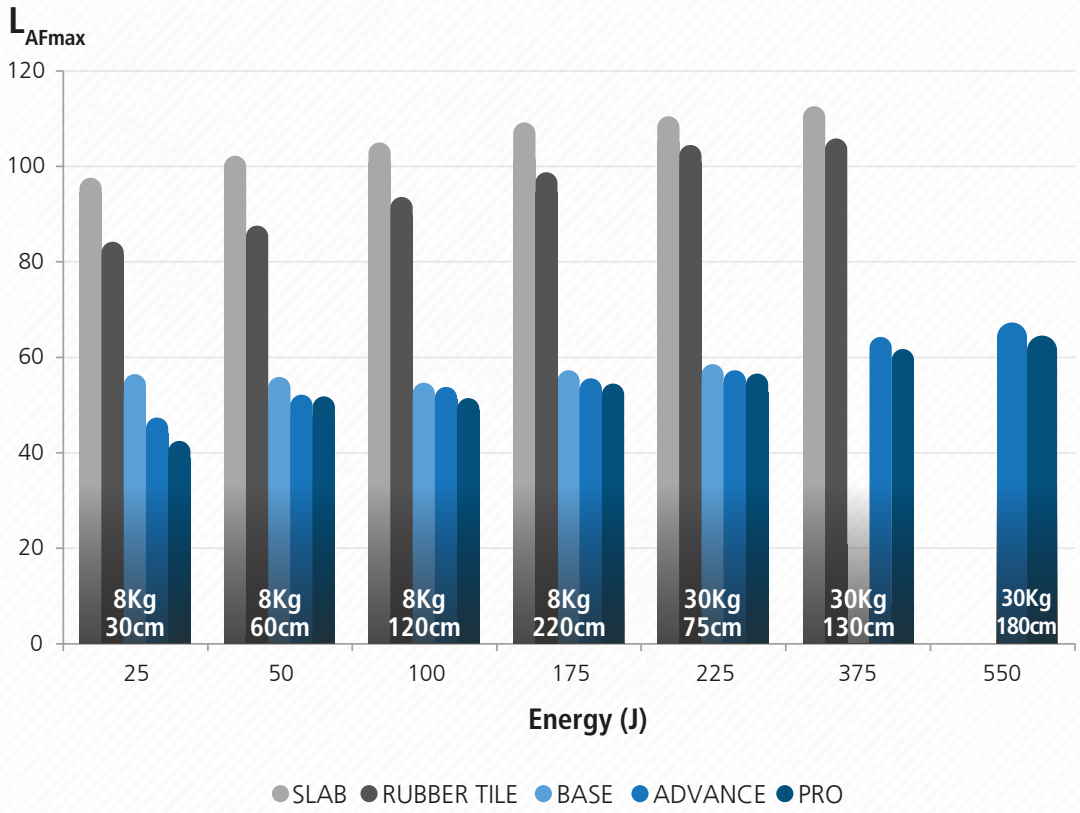
PRO

-44,1 dB

*AMC does not make installations of this systems.

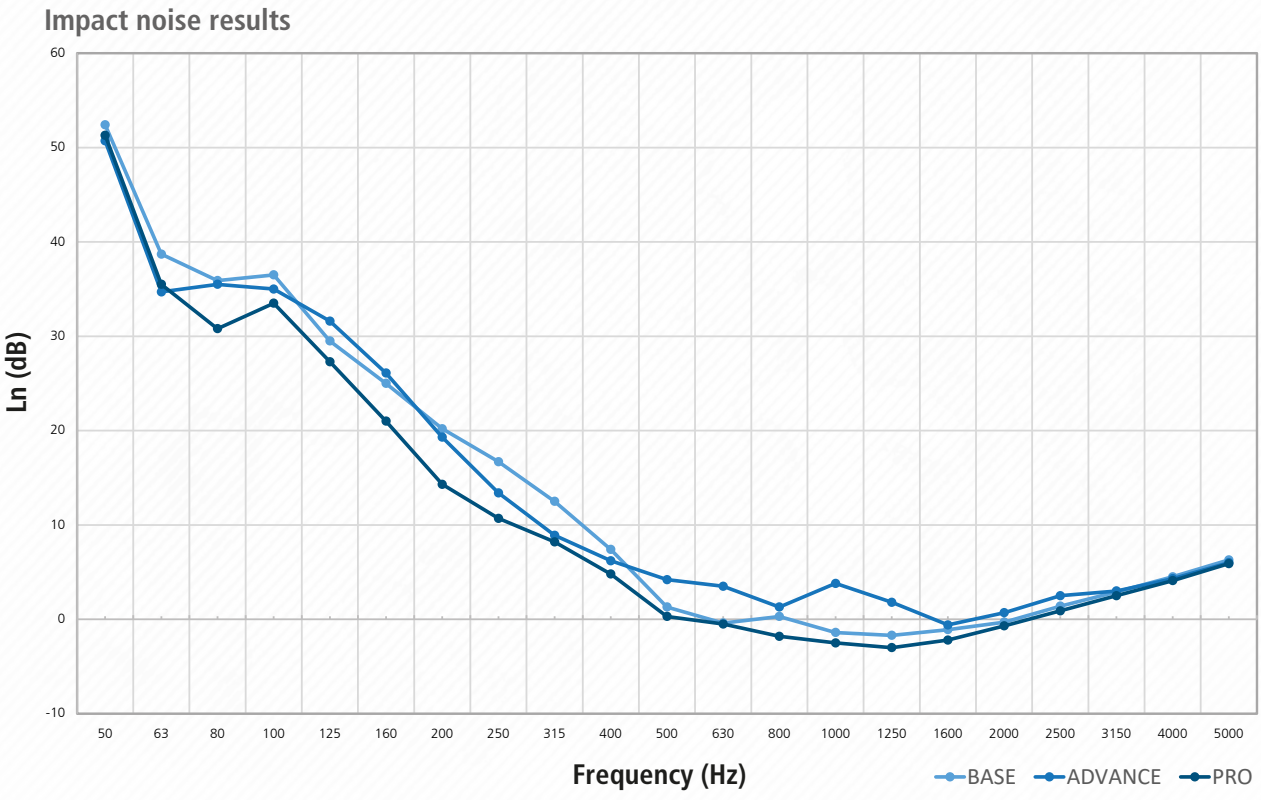
Noise level of free fall of weights

Tests carried out in Audiotec.



Normalized impact noise isolation

Tests carried out in Audiotec UNE EN ISO 10140-1:2016.



DRY CONSTRUCTION SOLUTION

AFS GYM DRY FLOOR

The **Akustik Floor Springs** (AFS + Sylomer®) can be used in a dry construction solution. Due to the low stiffness of the mounts they can achieve very low natural frequencies, as low as 3.5 Hz, therefore are able to offer the best levels of sound isolation. They do however require a larger height of the installation space.

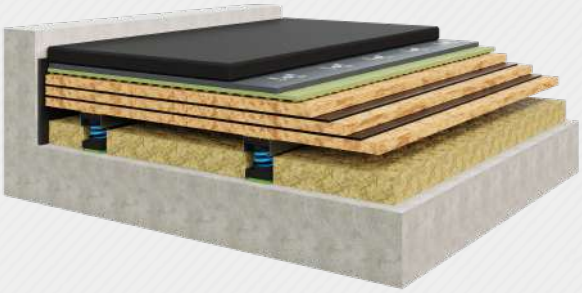
LAFmax Reduction

Noise reduction compared to concrete slab with sports flooring only:

BASE

-41,7 dB

ADVANCE



-45,7 dB

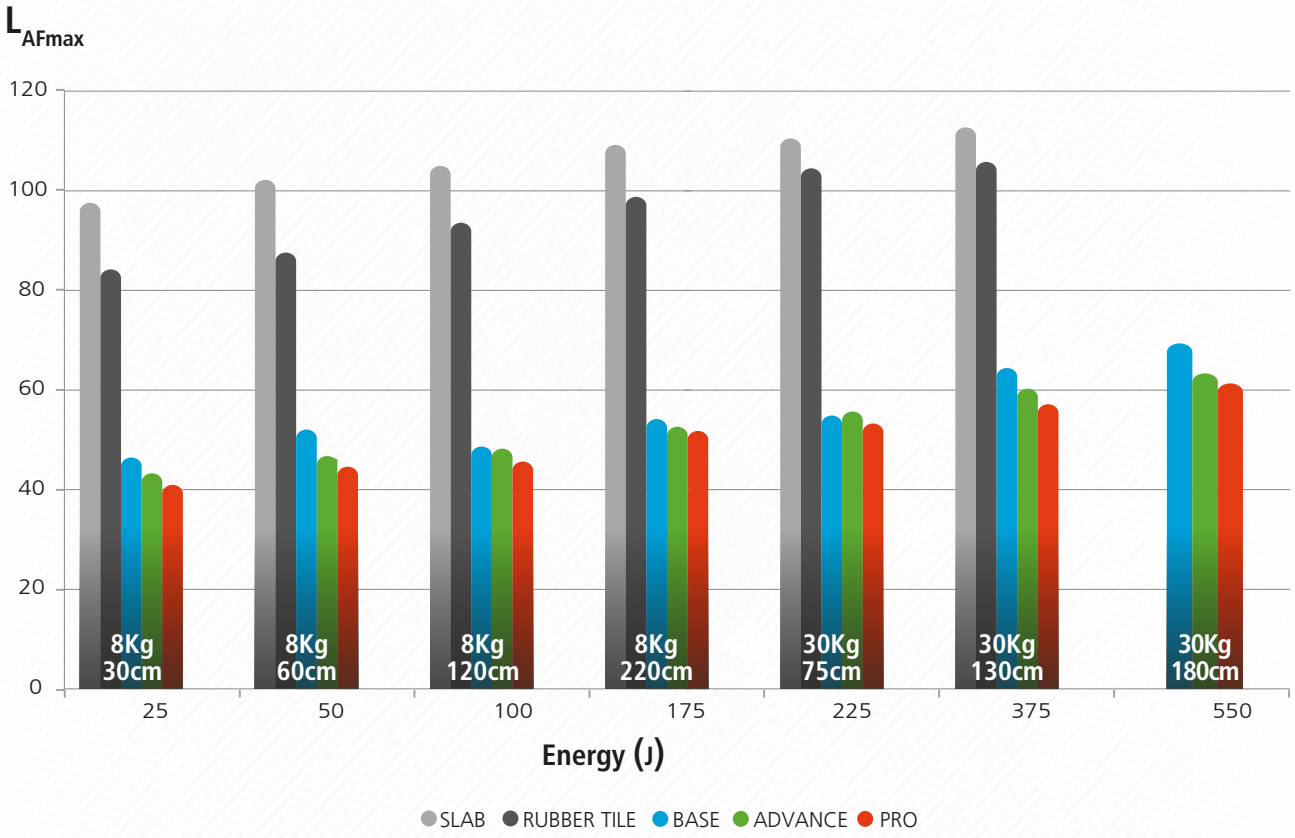
PRO

-48,6 dB

*AMC does not make installations of this systems.

Noise level of free fall of weights

Tests carried out in Audiotec



Normalized impact noise isolation

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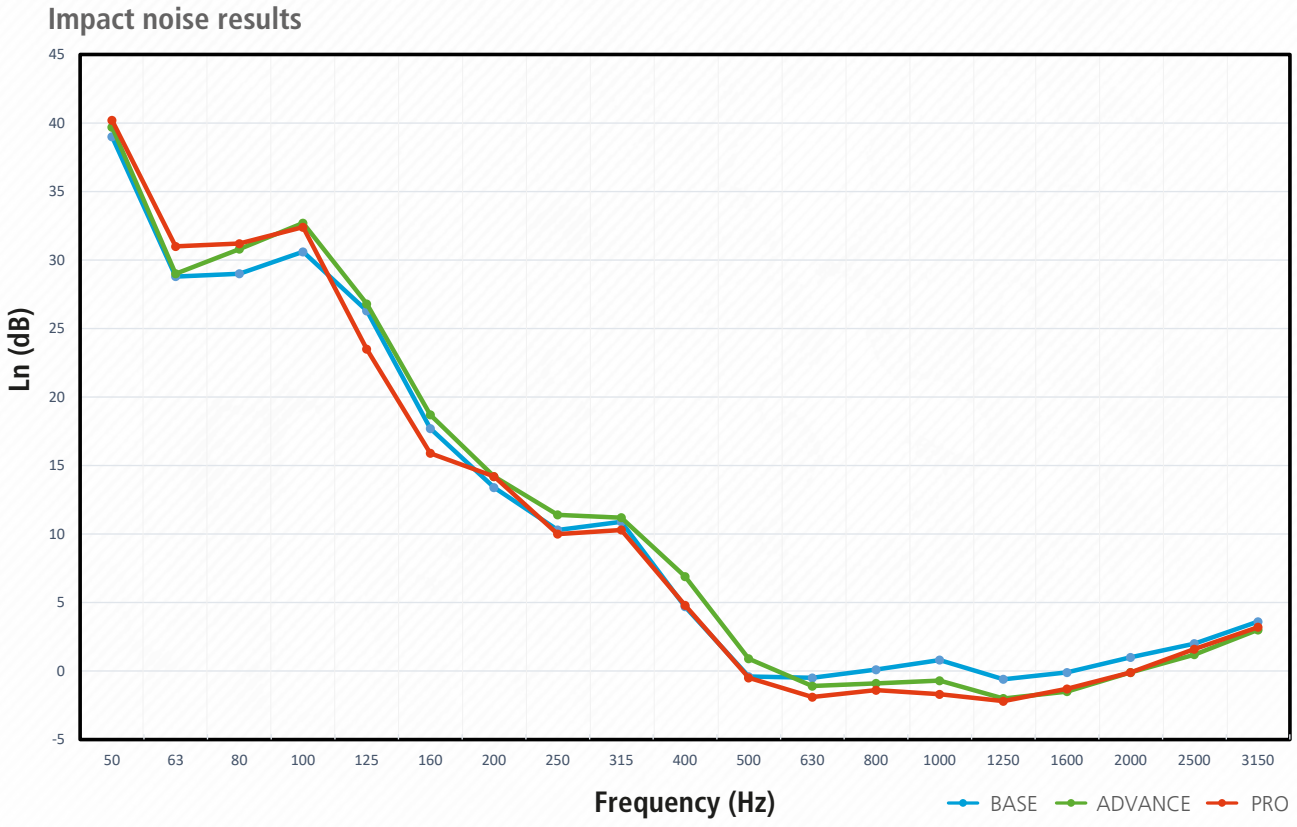


WET CONSTRUCTION SOLUTION

SYLOMER®

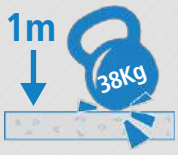
Sylomer® floor blocks can be used in a wet construction system as the base for a lost formwork. They provide great improvements in impact noise insulation, with an average impact noise improvement of 31 dB. With dimensions of 50x50x50 mm they can be adapted to fit most system height requirements.

G-FIT IMPACT EXTREME

Sylomer® floor blocks in combination with **ShockAbsorb** in different thicknesses from 0 to 75mm.

LAFmax Reduction

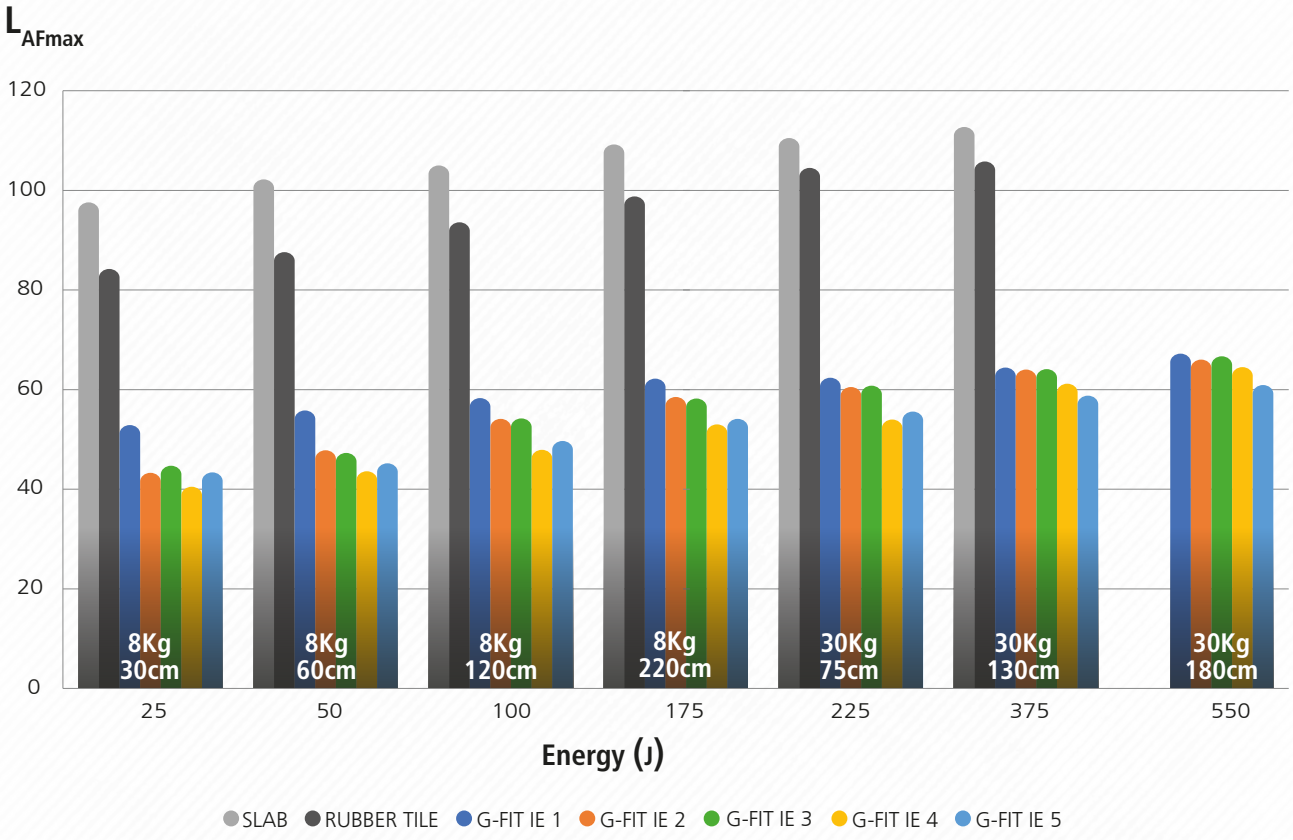
Noise reduction compared to concrete slab with sports flooring only:



G-Fit Impact Extreme 1	G-Fit Impact Extreme 2	G-Fit Impact Extreme 3	G-Fit Impact Extreme 4	G-Fit Impact Extreme 5
Without ShockAbsorb	12,5mm	25mm	50mm	75mm
-41,4 dB	-41,8 dB	-41,7 dB	-44,6 dB	-47 dB

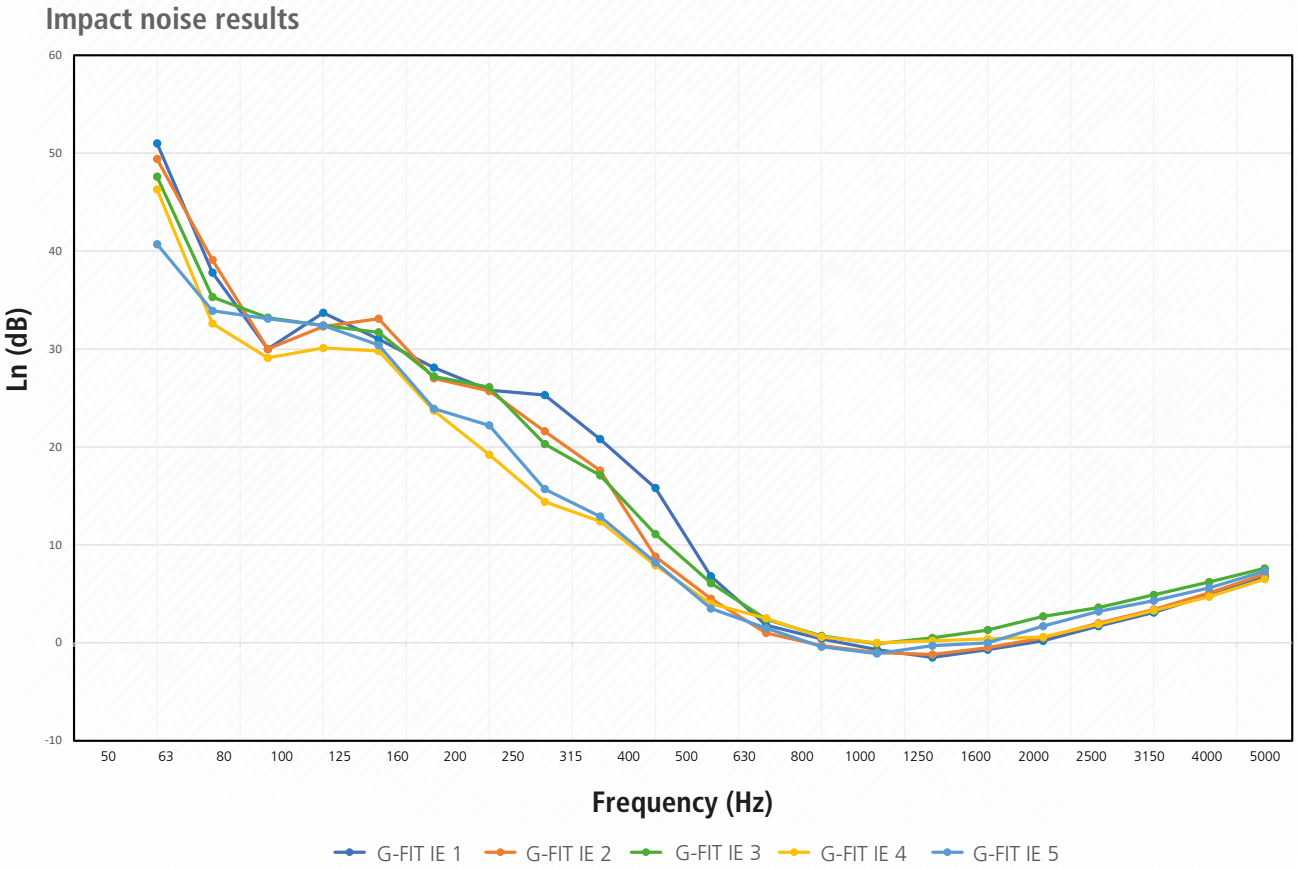
Noise level of free fall of weights

Tests carried out in Audiotec



Normalized impact noise isolation

Tests carried out in Audiotec UNE EN ISO 10140-1:2016.



WET CONSTRUCTION SOLUTION

JACK-UP MOUNTS

The **FZH + Sylomer®** floating floor mounts are an example of a wet construction jack-up solution. They provide good isolation, being able to reach natural frequencies of 8.5 Hz, while not requiring as much space as the spring solution.

MACHINE ISOLATION SOLUTIONS

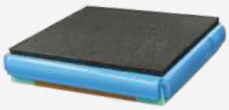
MPR

The **MPR + Sylomer®** is used for impact insulation of weight stacks or plates.

AKUSTIK FIT RANGE

The Akustik Fit is used for insulation of gymnasium machinery and comes in two forms: the **GYM T4** and the **TSR Fit**.

TSR Fit



GYM T4

MECANOCAUCHO

Our **expertise lies** in the **Building** and **industrial acoustics field,** with a dedicated **technical department.** We have skilled engineers situated across various countries who are prepared to comprehend your specific situation and offer suitable solutions. Don't hesitate to **get in touch with our main office or explore our websites** and social media platforms.

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