

Akustik +
sylomer[®]
by getzner

Open every day 7am - 11pm

ISOLATION OF URBAN SUPERMARKETS

AMC
MECANOCAUCHO

ABOUT 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.





SOUND-INSULATION
OF URBAN SUPERMARKETS



AMC Solutions for Supermarkets

URBAN SUPERMARKETS

Supermarkets in urban areas are very practical and convenient due to their smaller size. Due to the **high profitability of these establishments** there has been a **growing demand**, however careful consideration should be given to **ensure** that the **noises generated do not disturb neighbouring residents**.

1

SHOP FLOOR

Box in box System

2

LOADING AND UNLOADING

Sylomer floating floor

3

ELEVATOR

Isolated supports



In urban supermarkets, **significant sources of vibration** can be identified that **require the correct isolation**. Failing to do so adequately can lead to disturbances for surrounding neighbours, a complaint about these issues could have a significant financial impact or even closure of the supermarket.

4

COLD AIR DUCTS

Acoustic pipe clamps

5

REFRIGERATION SYSTEM

Anti-Vibration mounts

6

MACHINERY ROOM

Anti-Vibration mounts



Isolation of urban supermarkets

REFRIGERATION SYSTEM



To ensure optimum vibration isolation across the entire frequency range it is recommended that a two stage system is implemented, the advantages of this are:

First stage - Low frequencies are effectively isolated using spring mounts

Second stage - Medium-high frequencies are isolated with Sylomer

A reinforced concrete slab provides stability and a high mass which requires more energy to excite

Connecting pipes and ducts can be supported on the insulated slab



1

FIRST STAGE

2

SECOND STAGE



Isolation of Urban Supermarkets

MACHINERY ROOM

Equipment such as air conditioners, air handling units, generators, etc. are significant sources of noise. The following describes the **most common systems for isolating a supporting concrete slab**

Full-surface supports for slab isolation



Sylomer is a microcellular polyurethane with excellent insulation properties. It is placed beneath the entire surface of the slab, providing a stable solution with a straightforward installation.

This system allows for **isolating the slab regardless of the arrangement of the machines**. The slab accommodates future changes in machinery and allows changes to their positions.

***NOTE:** It is important to elastically decouple the perimeter of the raised floor to avoid acoustic bridges.



Isolation of urban supermarkets

MACHINERY ROOMS

Point Supports for Slab Isolation

With the use of the same Sylomer microcellular polyurethane allows for a cost-effective slab suspension with **point bearings**, offering an **efficient solution** that **optimizes load distribution**, enhancing structural performance and **cost-effectiveness** in various applications.

Different solutions are available depending on the project performance and construction requirements as can be seen below. **Floor blocks** sit underneath the concrete where as the **"Jack up"** system embeds the **supports directly in the concrete itself**, the slab is raised once it has completely set.



FLOOR BLOCK SYSTEM



"JACK UP" SYSTEM



FLOOR BLOCK

Natural frequency

8 Hz



FZH + SYLOMER

Natural frequency

12-15 Hz



FZHM + SYLOMER

Natural frequency

2,5 - 4 Hz



Isolation of Urban Supermarkets

LOADING AND UNLOADING AREA

It is necessary to re-stock the products that are being sold. This is most often done at night, this can cause a great deal of inconvenience to neighbours due to the movement of forklifts, pallet trucks, etc.

Supermarkets in residential buildings

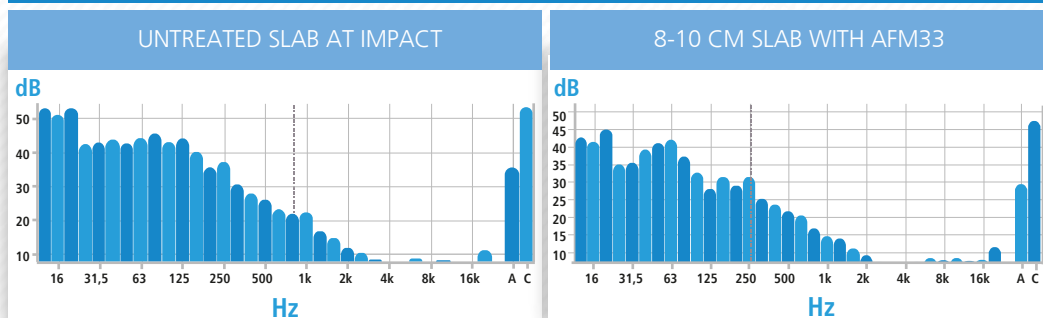
In order to avoid the transmission of noise and vibrations generated during the loading and unloading of goods, it is **necessary to decouple the warehouse slab**. The great variety of **static and dynamic loads** makes the Acoustic Floor Mat particularly interesting for this case.

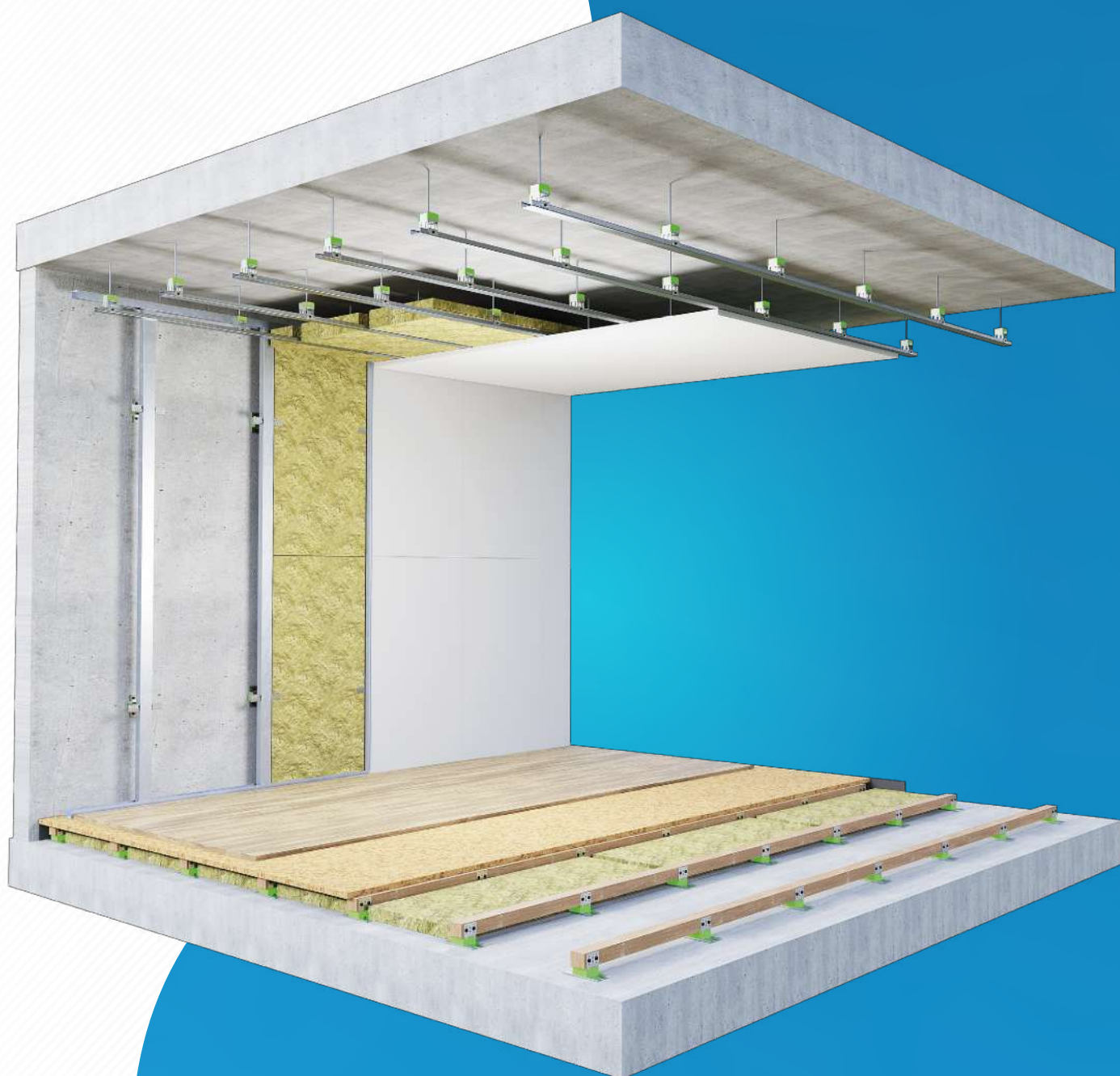
The **honeycomb shape** of this elastic blanket ensures that the **stiffness of the suspension is adapted to the load** at any given moment. This ensures **optimum suspension performance** over the entire load range.



FREE FALL OF A PALLET WITH 600 KG FROM A HEIGHT OF 6-8 CM

Noise level measured in the upper dwelling
free fall of a pallet with 600 kg from a height of 6-8 cm





BOX IN BOX
SOUND INSULATION BOX IN BOX

Isolation of Urban Supermarkets

BOX IN BOX

AMC Mekanocaucho has a wide range of products for all types of joints and profiles.

Box in Box Solutions

The main shop floor area can be an important source of noise due to the movement of trolleys, speech and music, **this area should be decoupled using the box in box method**. This approach provides an elastic separation of the floor, walls and ceiling from the main building structure.

WALL



EP 700 + SYLOMER®



EP 500 + SYLOMER®

CEILING



AKUSTIK 3 + SYLOMER®

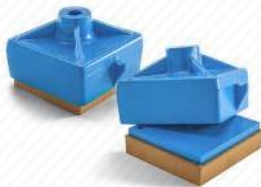


AKUSTIK GB



ST+SYLOMER

FLOOR



FZH + SYLOMER®



FLOOR BLOCKS



AKUSTIK + SYLOMER® FLOOR MOUNT

CEILING

WALL

FLOOR

Isolation of Urban Supermarkets

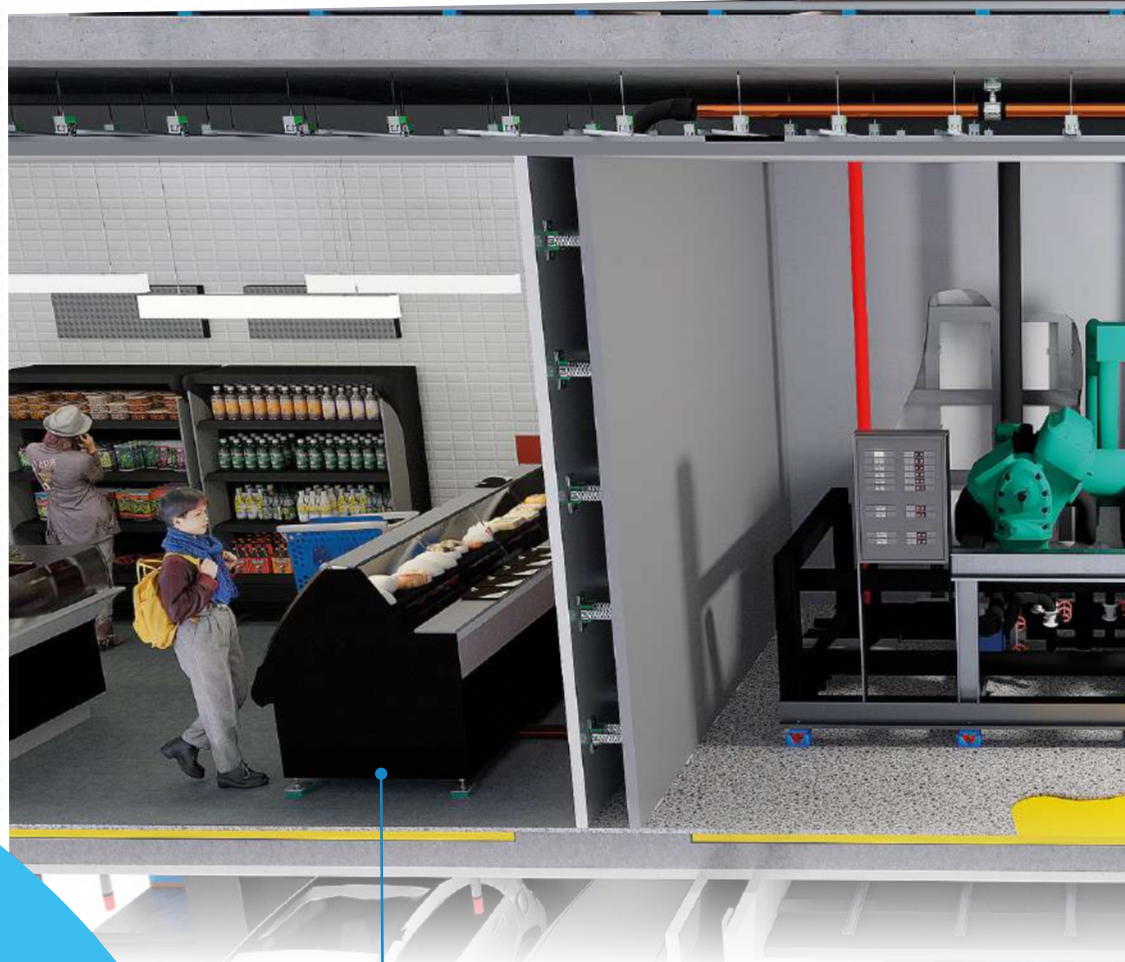
COLD AIR DUCTS



REFRIGERATORS

EXHIBITION AREA

The **high-pressure coolant** generated in the refrigeration plant needs to be transported to the **refrigerators and freezers** in the exhibition area.

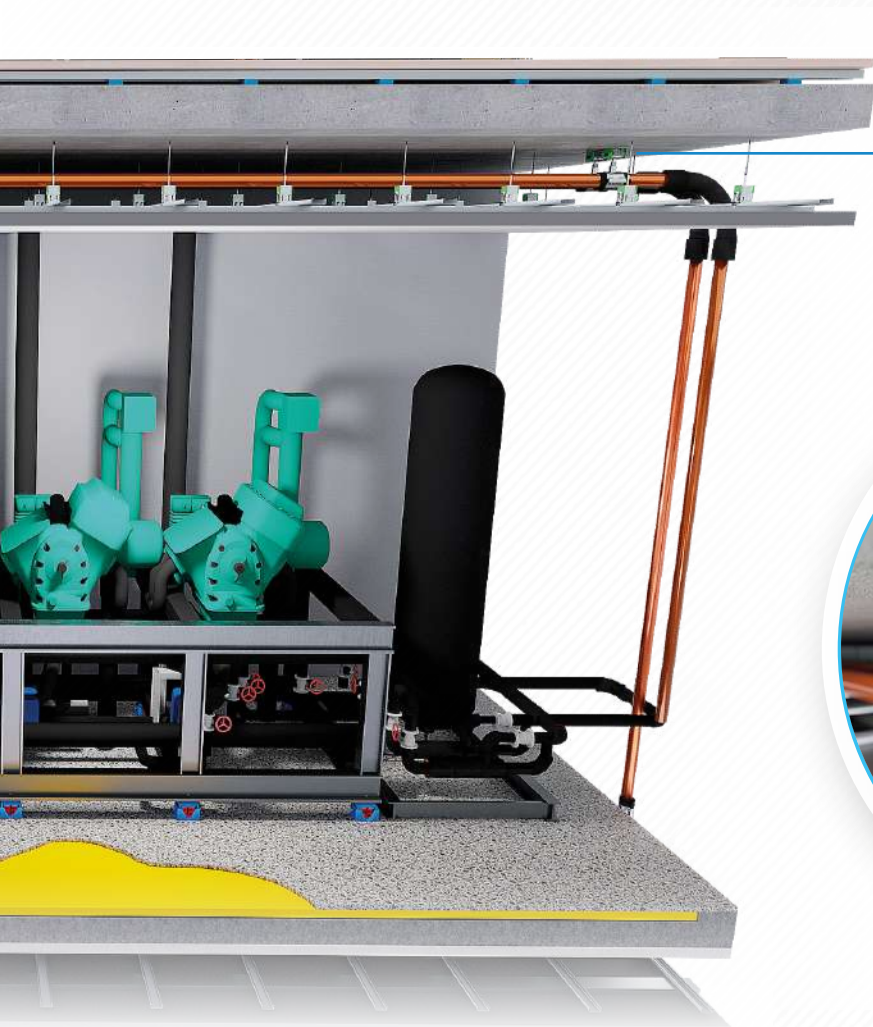


REFRIGERANT DUCTS

Connecting pipework can vibrate due to the operating motion of the compressors in the refrigeration plant. Any pipework which is rigidly fixed to the structure can act as a **transmission path for vibration**.

Elastic mounts, such as the **Akustik + Sylomer**, offer the possibility of securing these ducts in a flexible manner, which contributes significantly to the **reduction of vibration transmission**.

EP+ SYLOMER



Isolation of Urban Supermarkets

ELEVATOR

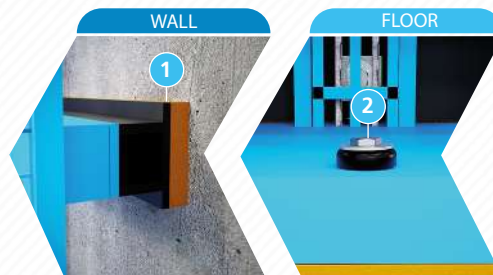
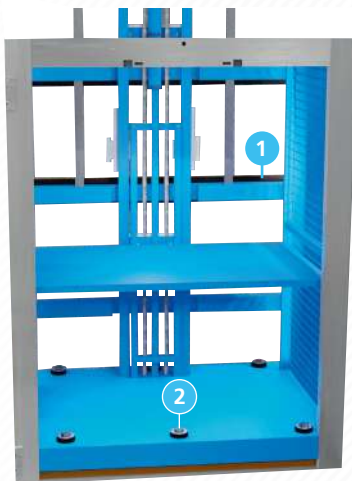
Elevator solutions

In addition to the aforementioned sources, elevators that are rigidly installed to the structure of the building are also an important source of nuisance to the neighbours.

It is necessary to decouple both the base of the elevators and the guides, for which two different systems are used.

1 OPTION

Support on both sides of the wall.

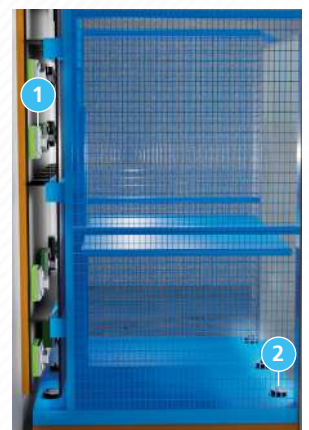
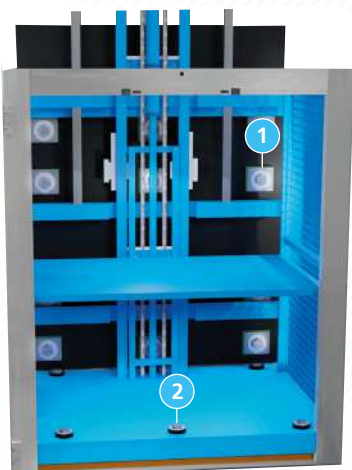


2 OPTION

Sheet metal is only used on one side of the supporting wall for fixing the guide. Because of this, the use of **large metal plates** is necessary. On the other hand, the use of another **layer of Sylomer** and **small metal plates** is necessary to prevent acoustic bridges of the screws with the wall.



1 Support on the opposite side of the wall

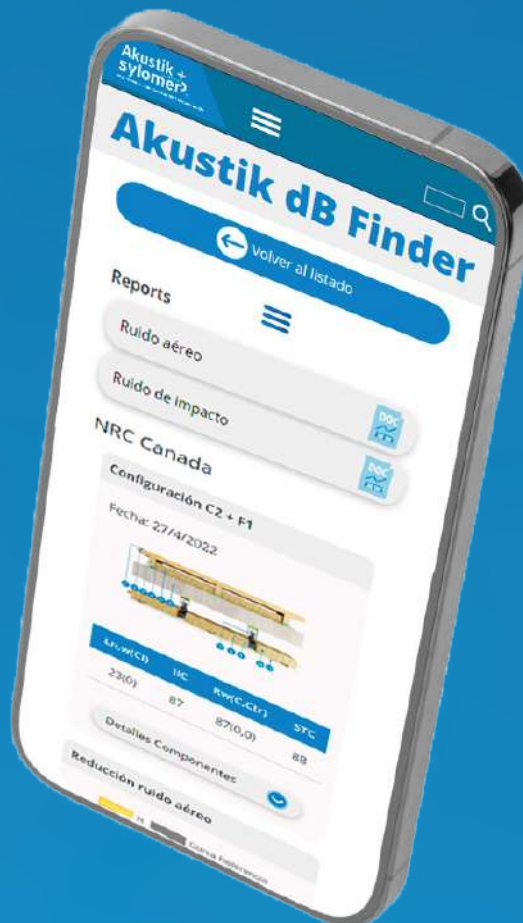


AKUSTIK DB FINDER

A useful tool on our website, the **Akustik dB finder**, contains a catalogue of acoustic testing data for various ceiling, wall, and floor structures.

You can utilise this data to visualise how effectively various isolation systems work in order to better understand how to address your particular acoustic problems.

Akustik dB Finder



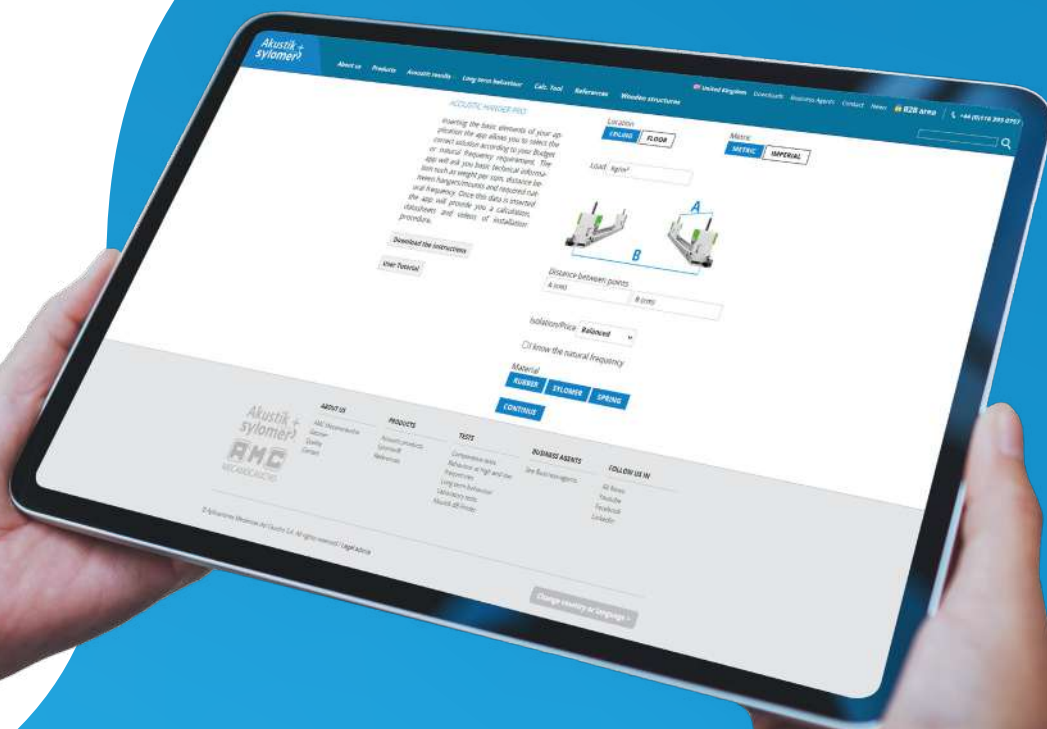
ACOUSTIC HANGER PRO

The acoustic hanger pro selection tool (on our website and phone app) provides you with a recommendation on acoustic hangers and floor mounts for your personalised system characteristics.

Acoustic Hanger Selection Website Tool



Download the Acoustic Hanger ProApp!





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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