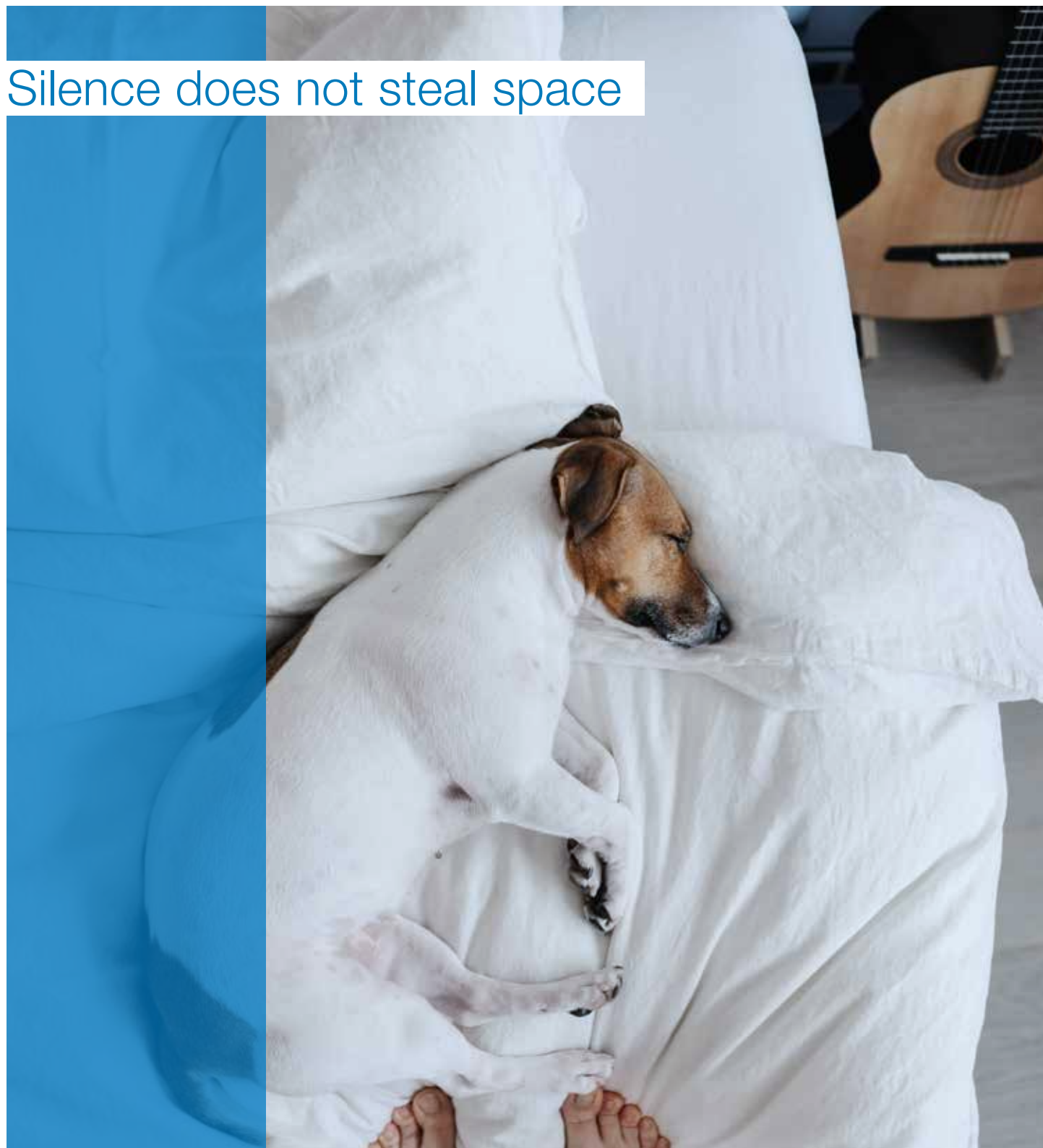


Silence does not steal space



Soundproofing and
Sound-Absorption
for Building and Industry

PRODUCT CATALOGUE



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SOPREMA GROUP

A HISTORY OF KNOW-HOW



THE TRUSTED PARTNER

An independent family group since its creation in 1908, **SOPREMA** asserts itself as one of the very first global companies in the field of waterproofing, but also as a roofing, acoustic underlayment and insulation specialist. The **SOPREMA** Group has developed and diversified around the world by integrating over the years, activities complementary to the original offering. Becoming a world leader selling solutions, the Group is today a key player in the building sector.

HIGH PERFORMANCE CUSTOMIZED SOLUTIONS

SOPREMA offers original, efficient and high-tech solutions which respond to all building issues. Constantly optimized by R&D departments in an eco-design logic, **SOPREMA** systems today display exceptional performance in terms of resistance, reliability and longevity. So you can be sure of finding with the technical teams and solutions, the solution adapted to each type of site.

INNOVATION AS A DRIVING ELEMENT

The result of close collaboration between the marketing department and the Research & Development, the **SOPREMA** product offering is evolving in perfect harmony with market expectations and current standards.

Products and services aim to meet the most demanding needs and demanding building professionals.

The **SOPREMA** Group continues to expand its know-how by offering complete and quality acoustic solutions. Rich products offer 2 in 1 solutions, combining thermal and acoustic performance.



NOISE CHALLENGE

UNDERSTANDING AND MEASURING

Noise and noise pollution surround us on a daily basis (in homes, schools, hospitals, restaurants, at work, etc.).

Added to this is the strong urbanization and the multiplication of means transportation in cities.

For this, we seek to improve the quality of life in buildings through better acoustic comfort.

ACOUSTIC COMFORT, ESSENTIAL ELEMENT PERFORMANCE OF A BUILDING

Architects, promoters, designers as well as building companies are constantly looking for solutions to improve the quality of life and comfort in buildings. Acoustics is a parameter essential in new construction and in the renovation of a building where the comfort of residents and users is a priority.

Overall, poor sound insulation in buildings impacts from 10% to 20% the value of the property exposed to neighborhood noise⁽¹⁾.

⁽¹⁾Data from Paris Notaries and an EY study, 2014.

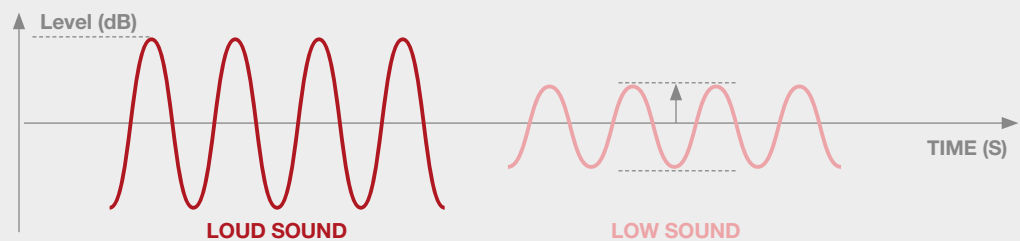


SOUND AND NOISE

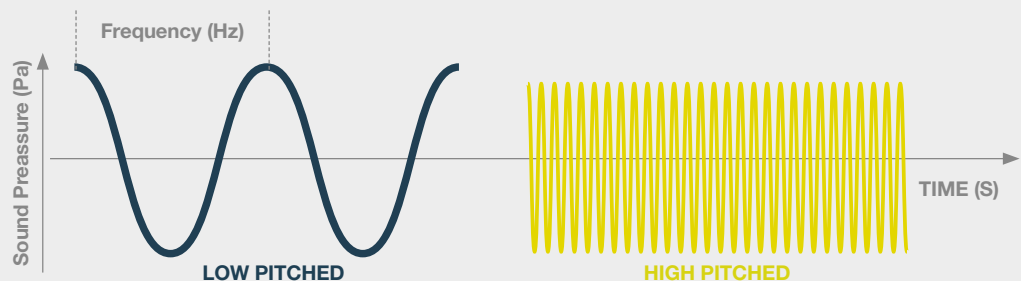
Sound is a vibration that travels through the air and causes a hearing sensation. Two main parameters characterize it: frequency and sound level (or scale).

FREQUENCY is measured in hertz (Hz); the young and healthy human ear can perceive frequencies between 20 Hz and 20.000 Hz, with a different sensitivity depending on the frequencies.

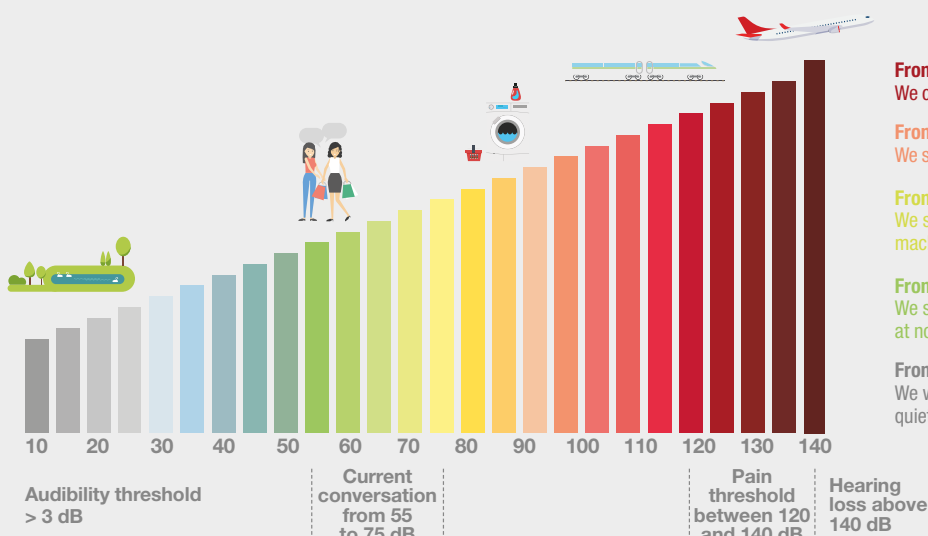
The scale of perception of the human ear being very vast, we use in practice a logarithmic scale to characterize **SOUND AMPLITUDE**. The **SOUND LEVEL** expressed in decibel (dB) characterizes the intensity of a sound and in particular its amplitude.



The dB(A) is the overall value representative of the sensitivity of the human ear.



NOISE is the set of sounds produced by more or less irregular vibrations, which are often perceived as a nuisance. The smallest variation likely to be perceived by the human ear is of the order of 2 to 3 dB (A).





ACOUSTICS

IN CONSTRUCTION

Noise is one of the main sources of nuisance.

The noises spread in a building through interior spaces, materials used, openings and the structure of the premises.

Acoustic comfort in buildings is an essential parameter to be considered from the design of the building.

A building is subjected to a set of noises coming from outside and inside.

In order to improve acoustics, it is important to note the following main principles.

SOUNDPROOFING

Sound or acoustic insulation is the chief method for controlling sound propagation in buildings. In particular, sound function is to reduce noise transmission between two premises or, in general, between one enclosed area and another. Insulation modifies the difference between acoustic intensity level L1 in the emitting area and acoustic intensity level L2 in the receptor area. It is important to note that, when a venue is acoustically conditioned by fitting absorbent materials, what is achieved is to lower noise level L1, but the difference L2 L1 remains unaltered.



FORM OF NOISE TRANSMISSION IN STRUCTURES:

The noise between two enclosed areas in a building is transmitted by three different routes:

- **Directly through the surface:**

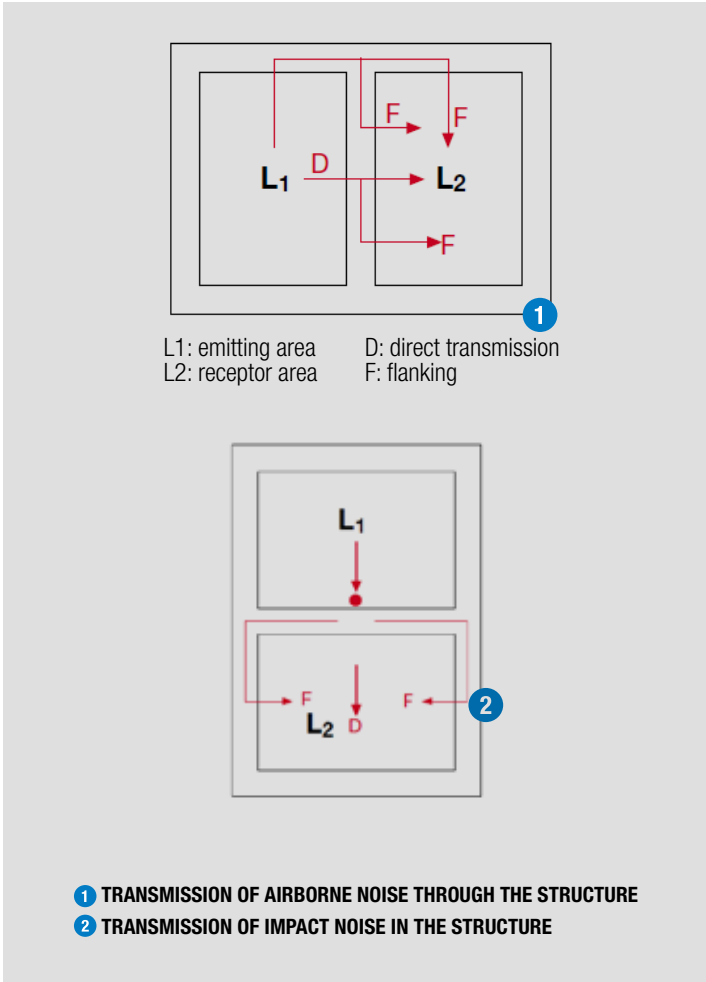
In this case, the incident waves make the construction element vibrate, transmitting their deformation to the air in the adjacent area, causing the so-called “drum effect” or “diaphragm effect”. Noise transmitted by this mechanism is known as airborne noise.

- **Flanking:**

Since the sound pressure not only causes the dividing wall to vibrate, but also all the adjacent surfaces become noise-producing sources in the next-door area. A direct consequence of this phenomenon is that acoustic insulation calculated by taking only the dividing element into account will always be less than the actual.

- **By direct impact on the structure:**

Footsteps, vibrations caused by starting up machinery (lifts, washing machines, etc.) and in general any noise caused by direct impact with a construction element generates a series of vibrations which spread fast throughout the entire structure, with little energy loss. These noises are known as impact noise.





FORM OF NOISE REVERBERATION:

Direct sound, in a straight line from source to receptor

Indirect reflected sound, which bounces off the floor, walls and / or ceiling

Coefficient α is defined as:

$$\alpha = \frac{E_{AS}}{E_i} = \frac{\text{Absorbed energy}}{\text{Incident energy}}; 0 \leq \alpha \leq 1$$

The amount of acoustic absorption A of a surface (S) is defined as:

$A = S \cdot \alpha$ and being α dimensionless, it is expressed in m^2

The total amount of absorption in an enclosed area corresponds to the sum of all the partial absorptions of the different surfaces:

$$A = \sum (S \cdot \alpha)$$

SOUND ABSORPTION

An environment, even if perfectly acoustically soundproofed can maintain a reverberating behavior due to its surface characteristics, volume and highly reflecting materials.

Reverberation phenomenon is caused by a presence of too many reflecting sound waves, causing an increase of the noise level and loss of unintelligibility of the word.

Absorbent materials are characterized by their porous structure which dissipate the sound energy in heat.

REVERBERATION TIME

The sound produced by a spot source of sound emitted into the open air is attenuated when propagated 6 dB every time the distance is doubled.

This is not the case in an enclosed area, where sound can take much longer to become extinguished, due to the reflections off the walls, particularly if the room has little acoustic absorption.

The parameter used to predict and characterize the responses of different premises to this phenomenon is reverberation time T_r , defined as the time needed for a sound pulse or a brusquely interrupted continuous sound to be attenuated 60 dB. Reverberation time varies with frequency and is longer at low than at medium and high frequencies.

The anti-reverberation treatment or the acoustic correction, is a necessary step to achieve a good acoustic comfort inside an interior space. The generic acoustic treatment consists in an application of sound-absorbing materials. Their shape, porosity and thickness cause the ability to reduce reflection of sound in the various frequency bands.

The key the acoustic correction is to control the reverberation time.

Depending of the use of the space (restaurant, conference room, class or theatre) a certain reverberation time will be needed, hence acoustical treatment will be designed in accordance.

The energy balance can be written as:

$$E_i = (E_R + E_{AS}) + (E_{di} + E_T) *$$

The absorbent material reflects a minimum part of the energy and transforms part of the energy it transmits into another type of energy.

For small premises, the above formula can be approximated with:

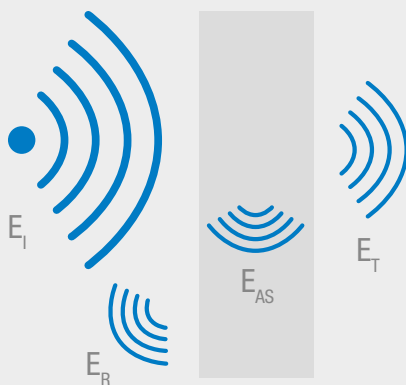
T_r is calculated using the general Sabine expression: $T_r = 0,161 V/A$

Where

T_r = reverberation time (s)

V = volume of venue (m^3)

A = acoustic absorption of venue (m^2)



* Where

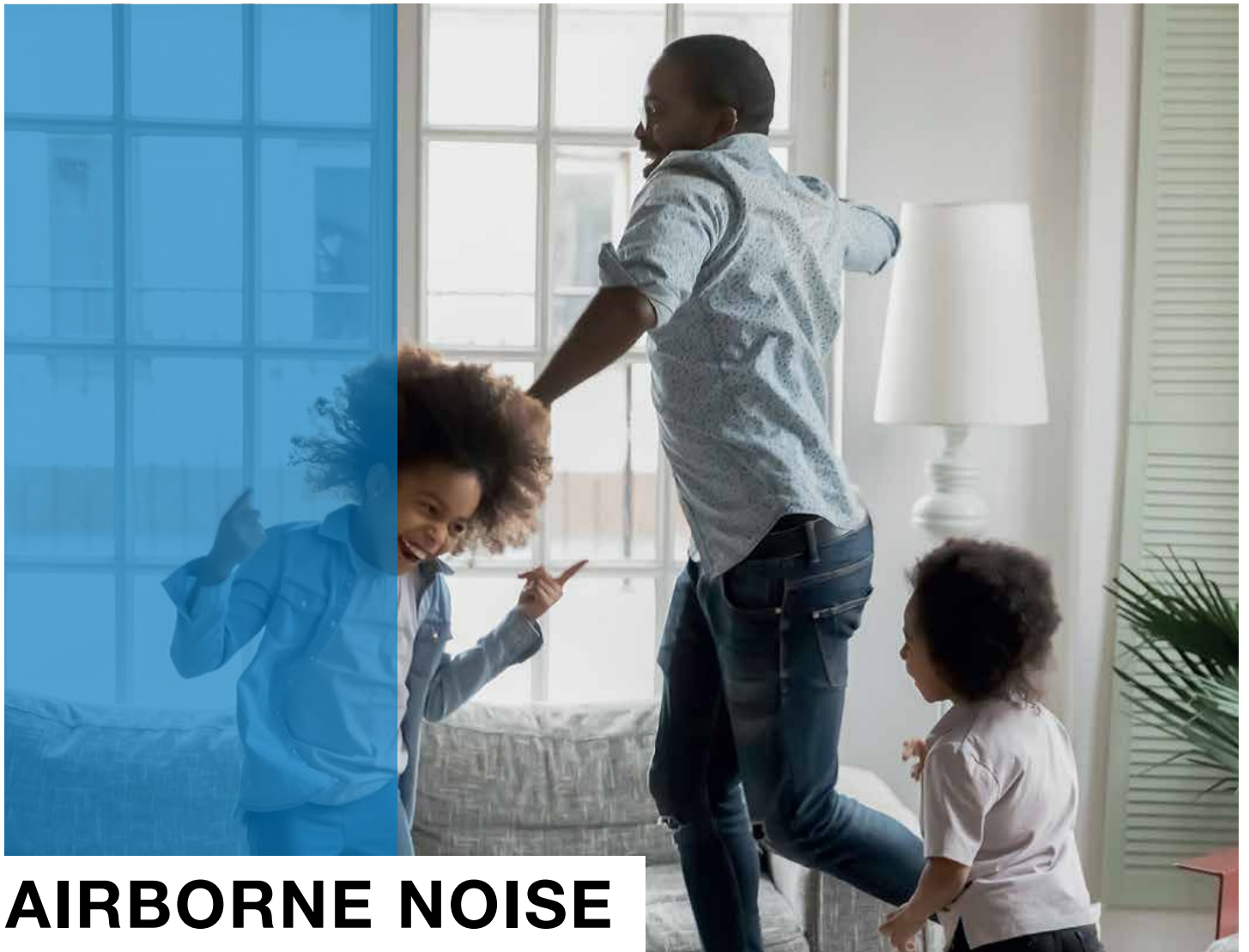
E_i = incident energy

E_R = reflected energy

E_{AS} = energy absorbed in the surface

E_{di} = energy dissipated

E_T = energy transmitted



AIRBORNE NOISE



AIRBORNE NOISE INSULATION in Construction

Airborne noise is the most common way of noise transmission through the air. Its nature can be outdoors or indoors.

Outdoor traffic (road, rail, air), human traffic on the street, etc. are examples of outdoors airborne noise. Inside a room, the sources of indoors airborne noise are multiple: discussions, music, radio, television...

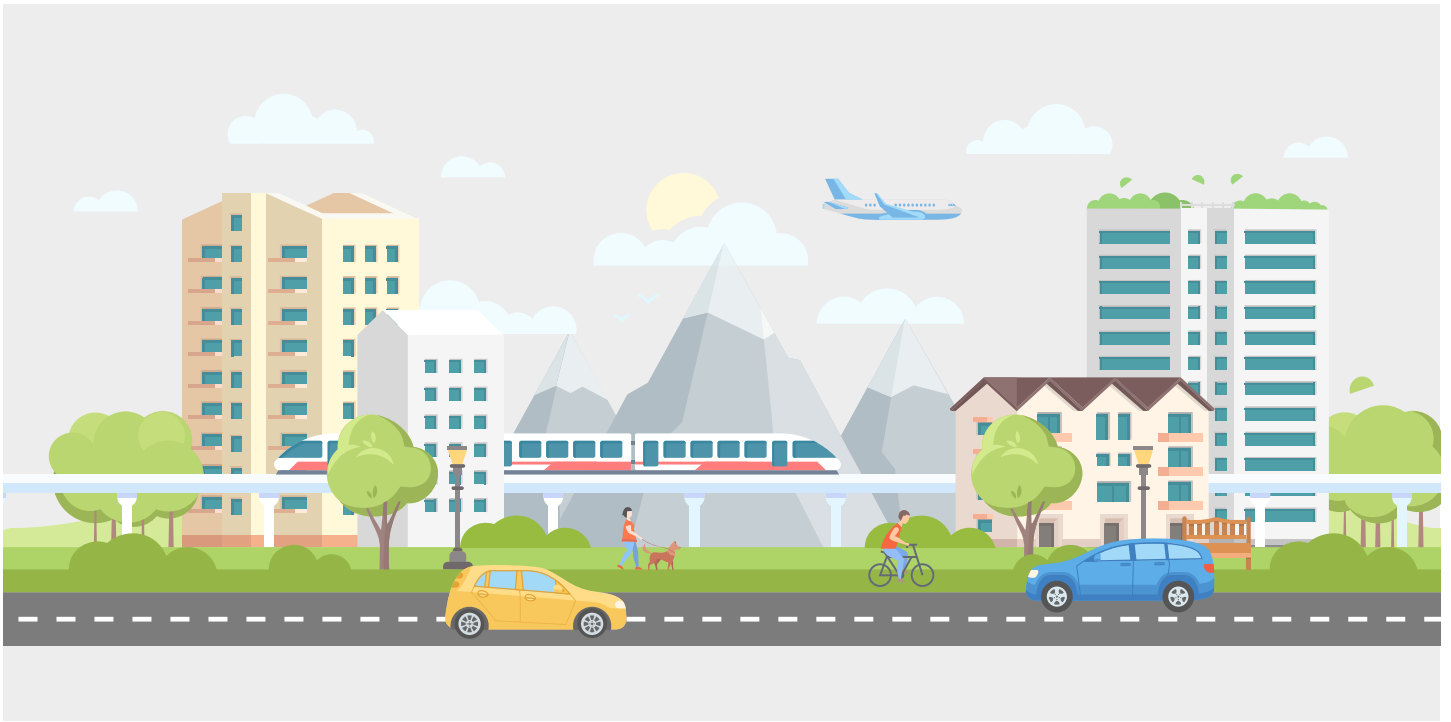
Airborne noise insulation can be achieved by using different types of construction systems.

SINGLE WALLS

In a single wall, the acoustic insulation depends primarily on its surface mass (kg/m^2). Because of this, the general theoretical law enabling calculation of the insulation index R is known as the **mass law**.

In this case, the wall, under the impact of the sound wave, vibrates and transmits the noise to the next-door premises. The mass law provides that, the lighter and more rigid the wall is, the less insulation it will have. It also establishes that the insulation increases by 6 dB when the mass is doubled for a fixed frequency. In actual fact, this is only the case in the interval between 500 and 1000 Hz and up to 45 dB. The mass law is merely theoretical and does not take into consideration other parameters affecting the insulation, such as the **resonance frequency f_r** and the **critical frequency f_c** .

Resonance frequency is the frequency a wall naturally vibrates at when it receives the impact of a sound wave. The direction of the displacement is perpendicular to the surface and causes what is known as the “drum effect”. It depends on the mass and the environmental conditions; i.e. how the wall is attached to the rest of the structure. Normally, f_r falls into the zone of very low frequencies.



When a wall vibrates, deflection waves are produced on its surface. If the incident waves are at the same frequency as the deflection waves, then the transmission of energy is maximum and the insulation minimal. This frequency is known as **critical or coincidence frequency** and depends on the material nature and thickness. Thin walls have a high f_c and thick walls, a low f_c .

DOUBLE WALLS

Acoustic insulation can be increased by using double walls. However, this can be done in the case of lightweight walls, as the heavier (and more insulating) the wall, is, the more difficult it will be to increase the insulation. The solution is to build two single walls and space them a certain distance apart. This assembly will provide greater insulation than a single wall of equivalent mass and represents a mass-spring-mass system.

The factors reducing the insulation in this system are:

- Resonance frequency of the double wall f_0 as of the assembly. This depends on the masses and the spacing distance, and is lower at higher masses and/or distances.
- Critical frequencies of the two walls.
- Stationary waves in the air chamber, causing the “sounding box” effect.

The insulation can be increased by fitting a flexible, absorbent material, such as rock wool, in the chamber, so that the spring effect is increased and the stationary waves are eliminated. Another effective method, particularly for very rigid walls, is to use the diaphragm effect.

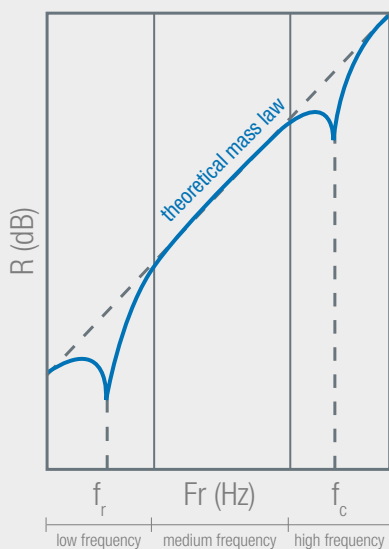
This consists of filling the cavity with a material comprising a thin membrane with very low f_0 , positioned between two spring elements, such as felt or mineral wool.

The spring elements prevent movement of the membrane when it is hit by the sound waves, and this causes greater dissipation of mechanical sound energy with the consequent increased insulation. It is important not to use sheets of polystyrene or other rigid foams which worsen the result from the acoustic viewpoint for the air chamber filling.

PLASTERBOARD WALLS (KNOWN AS LIGHTWEIGHT PARTITIONS)

Plasterboard walls are widely used in hotels, offices, hospitals, housing, etc. The advantage of this system is the possibility of achieving high insulation values with relatively little mass compared with traditional masonry walls. As they are lightweight systems, they have low insulation to low frequencies. To build them, self-supporting steel structures are used, comprising horizontal U-channels and vertical C-profiles of variable width.

Depending on the insulation level required, it is possible to use one or two independent structures. The channel width determines the air chamber between the plates, which are screwed down onto both sides of the structure. The critical frequency f_c is very high (2700 to 3000 Hz), and does not depend on the number of plates fitted.



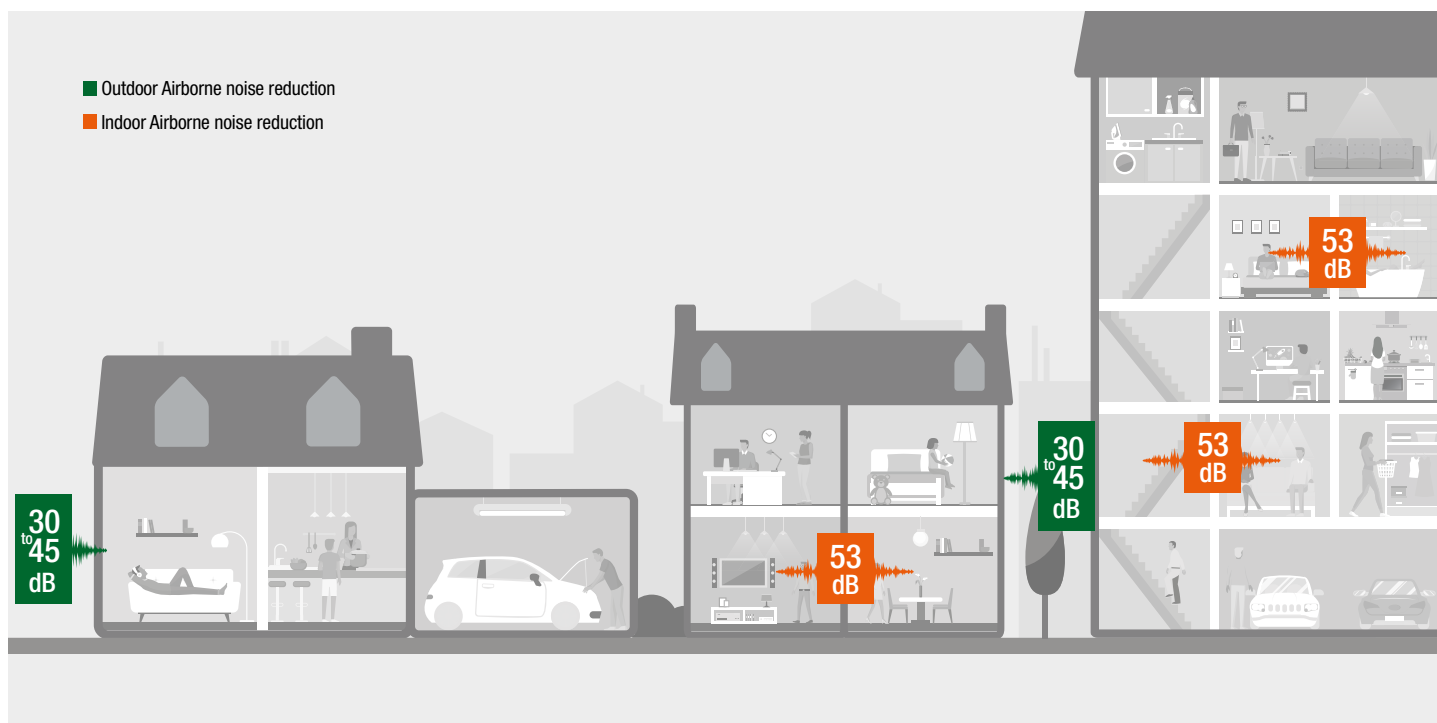
Theoretical mass law

$$R = 20 \cdot \lg(f \cdot m) - 42 \text{ dB}$$

f_r = resonance frequency (Hz)

f_c = coincidence frequency (Hz)

m = mass of the wall (Kg/m^2)



It is important to install materials such as polyester fibre or mineral wools inside the cavity, to increase the insulation.

Use of a viscoelastic membrane with a high surface mass, stick to plasterboards, will cause it to deform upon receiving the impact of the sound wave, reducing the transmission of vibrations and sound.

This system enables the response to low and medium frequencies to be increased, and the system's resonance frequency to be reduced.

11

MEASUREMENT CRITERIA

A building is subjected to a set of noises coming from outside and inside. In order to improve acoustics, it is important to note the following main principles.

The **R_A (dB(A))** or **R_w (dB)** is a value measured on a laboratory. It characterizes the ability to attenuate noise of a construction element (wall, ceiling or roof). This value only considers direct transmission through the element.

The higher this value, the higher the performance.

Soundproofing to airborne noise between 2 rooms is measured in-situ by the **D_{nTA}** or **D_{nTw}** value. This value considers the direct transmission and the flanking.

The higher the value, the more important the performance.

THE SOLUTIONS



TECSOUND® SY and STICKSON, soundproofing membranes, are heavy loaded masses with self-adhesive finish allowing direct application to gypsum plasterboard, greatly reducing the level of noise transmitted without occupying practically any space.



12 IMPACT NOISE



IMPACT NOISE INSULATION in Construction

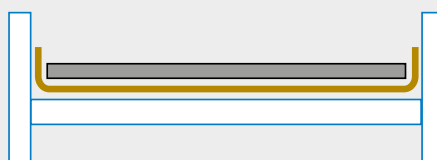
Inside a room, the sources of nuisance can also be caused by an impact transmitting vibration directly and indirectly to the supporting structure (footsteps, ball, furniture...) coming from the upper floor. To reduce the sound energy transmission of impact, the best solution is to intervene at the floor level that is the source of the noise.

Generally, there are two methods for performing this operation:

- Positioning on the surface to be insulated a highly flexible, elastic and resilient material, thick enough for it to function and at the same time act as finishing;
- Disconnecting the surface where the impact is produced on from the rest of the structure using floor underlays.

Floor coatings used can be carpeting of varying thickness (L_w up to 30 dB), vinyl products in several layers, or floating parquets L_w up to 20 dB. Underlays are highly resilient, normally water and humidity tight, commonly thin materials to be used between structure and screed or floor coatings. The thickness of the concrete slab also contributes towards improving the acoustic insulation. One cm of concrete is considered to provide a gain of almost 1 dB for the ΔL_w .

It is very important to avoid connection of the floating element at the sides with the walls around the perimeter. This is achieved by bringing the material to the walls above the level the finished flooring will have, and then trimming away the excess.



Bath top effect using underlays and perimeter bands warrants the disconnection between the structure and the floor.



MEASUREMENT CRITERIA

$L'_{nT,w}$ (dB) corresponds to the sound pressure level measured in receiving room by generating an impact noise in the emitting room.

This index is used to check if the construction system meets the requirements of the building standards.

The lower the value, the higher the performance.

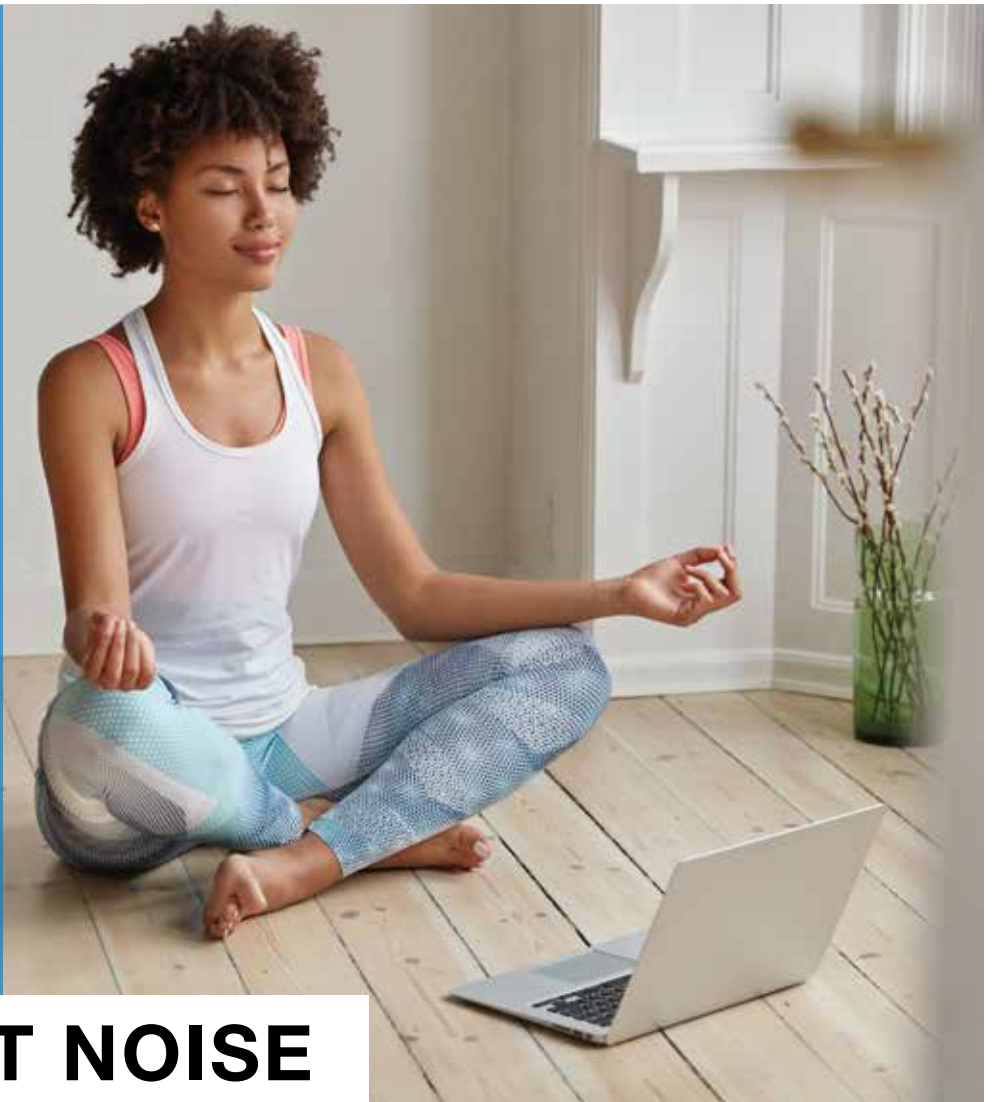
The ΔL_w (dB) corresponds to the impact noise level reduction and characterizes the difference of the impact sound pressure level between slab + floor system and the slab + floor system (with impact insulation material). This index is used to compare the performances between materials / construction systems.

The higher the value, the more effective the solution.

THE SOLUTIONS



VELAPHONE® FIBRE 22 solution, impact noise underlay used under screed or timber floor, allows the noise reduction treatment directly at the source of noise, by dissociating the mechanically linked elements and limit lateral transmissions.



EQUIPMENT NOISE



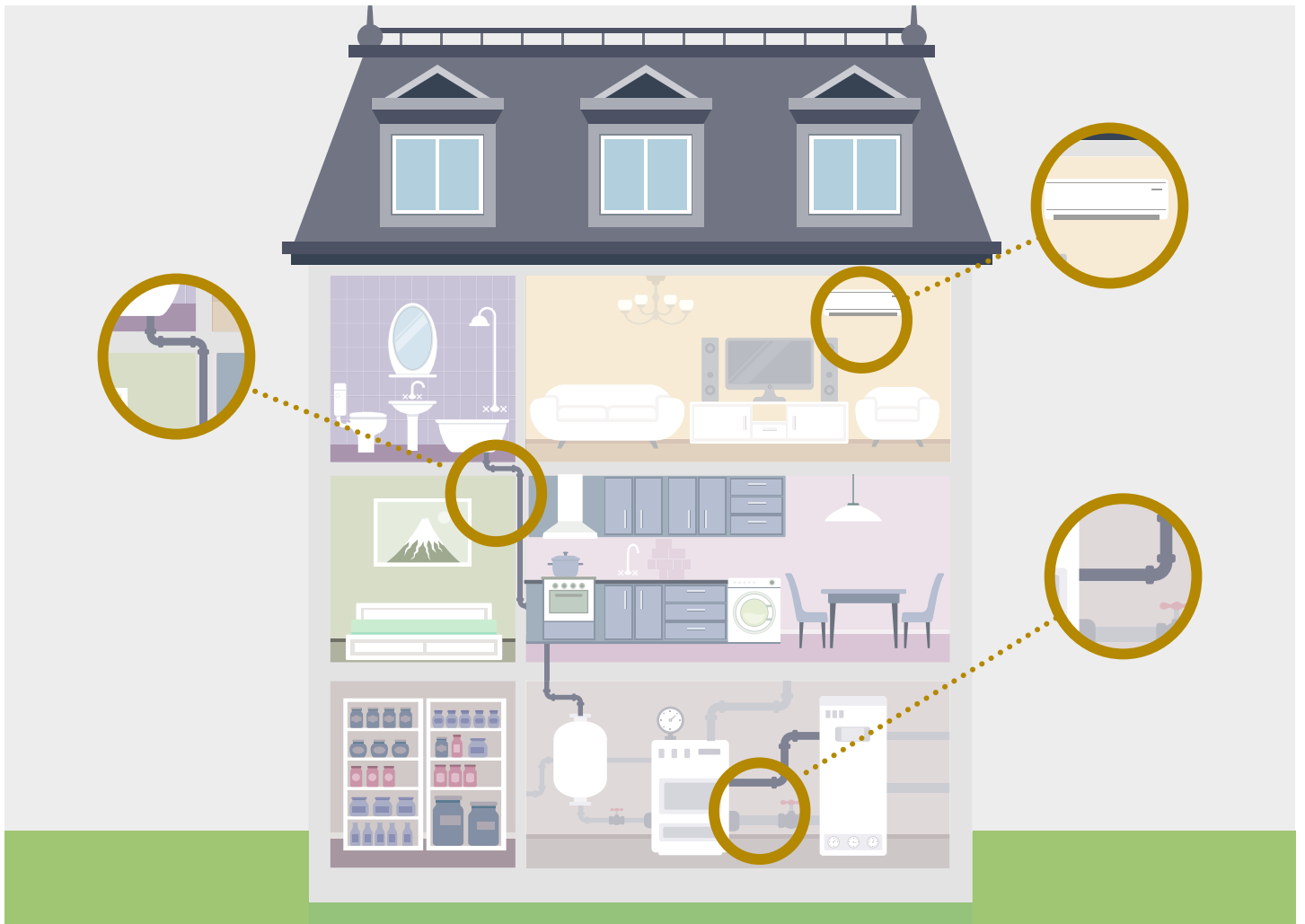
EQUIPMENT NOISE in Construction

Inside a room, sources of noise can also come from continuous or occasional use of equipment: heating (hydraulic network), elevator shafts, air conditioning ducts, air renewal (aeraulic network), wastewater pipes, etc.

Equipment noise has the particularity of combining two categories of noise, sound waves can be transmitted by air (airborne noise) or by vibration of the walls connected to the equipment (structure-borne noise).

Treating the acoustics of equipment noises means acting on two functions simultaneously:

- Isolation by a viscoelastic heavy mass which has the properties of dissipating vibrational energy.
- Absorption of vibrations to dissociate and avoid solidary transmissions.



MEASUREMENT CRITERIA

Equipment noise emitted in the building is characterized by the L_p value expressed in dB (A). L_w indicates level of sound power which is the intrinsic characteristic noise source.

The lower the value, the quieter the equipment.

The Insertion Loss (IL) enables the measurement of the acoustical performance (airborne and structure-borne) of an insulation system on wastewater pipes. The IL is measured by comparing sound pressure measurements before and after enclosing the sound source. IL_A measures the insertion loss factor for airborne sound. IL_{sc} measures the insertion loss factor for structure-borne sound.

The higher the value, the more effective the insulation solution.

THE SOLUTIONS



The **TECSOUND® TUBE** solution is an acoustic complex combining heavy mass and non-woven polyester felt. Specially designed for waste-water pipes insulation, it combines insulation against airborne noise and structural noise caused by solid-state transmissions.



16 ACOUSTIC CORRECTION



SOUND ABSORPTION in Construction

Inside a room, noise propagates throughout the volume and the waves are gradually reflected on the walls until decreasing. For the correct acoustic correction of a room, you must control the reverberation time and the coefficient of sound absorption of the materials constituting the partitions (walls and ceilings). Correcting the acoustics of a room means reducing the reverberation time and improving speech intelligibility. The weather of reverberation varies according to the nature of the constructive elements in the room (tiles, glass, flooring ...). Treating the acoustics of a noisy room also means applying solutions with a high absorptency (high coefficient absorption).

MAIN PURPOSES OF ACOUSTIC CORRECTION USING SOUND ABSORPTION ARE:

- Increasing internal acoustic comfort, reducing background noise.
- Appointing a venue for it to meet specific requirements.
- Ensuring that, from the project stage, a building meets the fundamental acoustic conditions for its purpose, such as a theatre, cinema or auditorium.

The materials used are characterized by having a structure comprised of pores connected to each other and to the outside. Closed-cell structure materials are not admissible as sound-absorbents. The most widely used products on the market can be split into three categories: fibrous materials, open-cell structure foams and perforated or grooved wood-chip panels.

A common open-cell structure foams are polyurethane foams. They are available in various thicknesses and are presented with pyramidal or honeycomb finishes. They are normally used as absorbent elements in walls and ceilings in recording studios and for machinery.



Other materials considered a benchmark when it comes to sound-absorption (construction and industrial sectors) are melamine resin foams. They are also available in various thicknesses and shapes.

Closed-cell structure materials, such as cork or polystyrene, behave opposite of absorbent products. Despite their good behavior as thermal insulators, these materials are lacking in sound absorption characteristics and should not be used as such, particularly in cavities between double walls, as they would reduce the insulation of the system.

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MEASUREMENT CRITERIA

It aims to improve indoor sound quality and reduce the noise level in a room. Reverberation in a room is characterized by time of **reverberation** T_r . To reduce this time, use acoustic absorbent materials.

The lower the value, the higher is the room comfort.

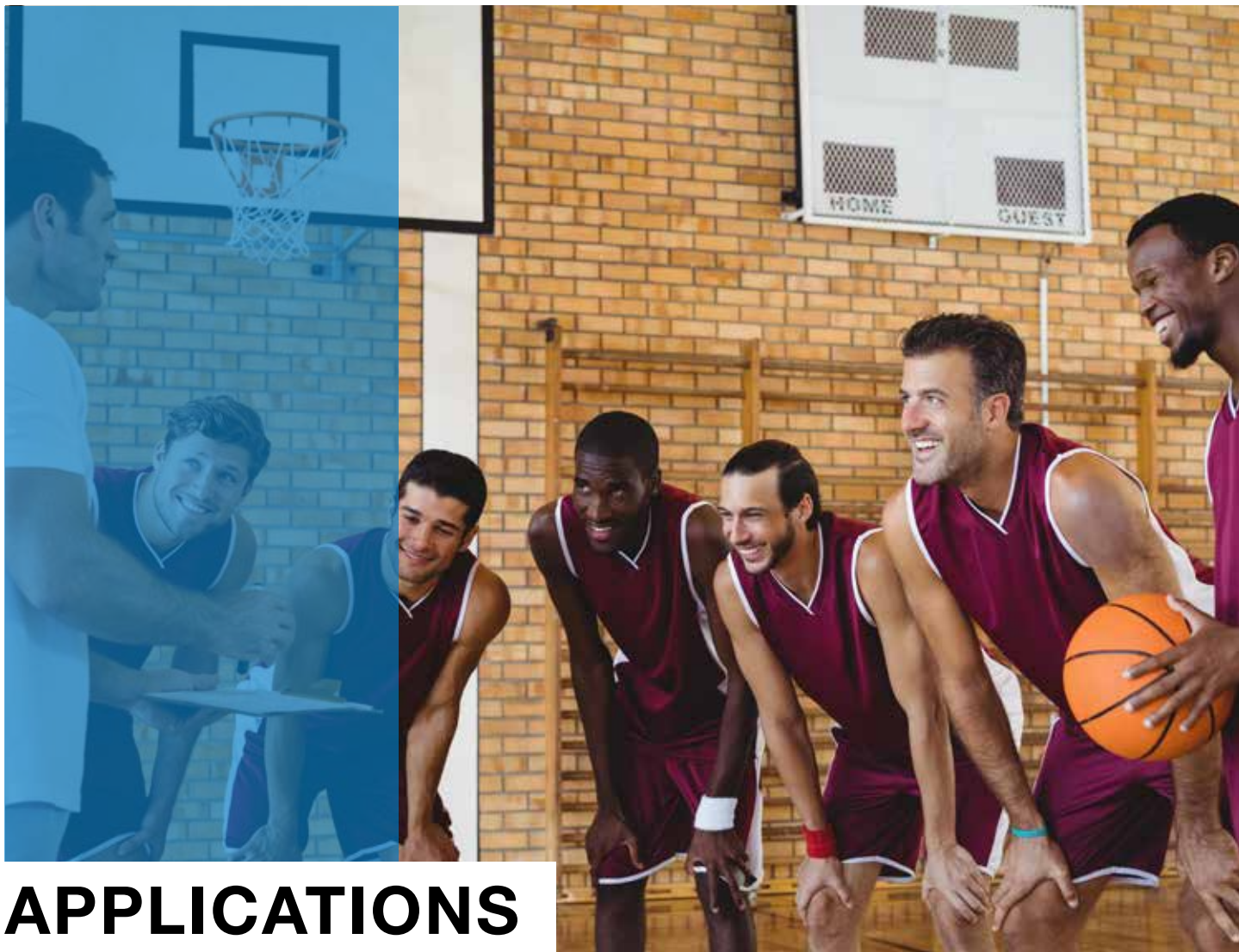
These materials are characterized by their absorption coefficient, coefficient α_w (between 0 and 1).

The closer the value is to 1, the higher is the product absorption.

THE SOLUTIONS



The **SOPRAMINE** solution is an open cell foam with excellent resistance to fire. The open-cell structure enables a significant reduction in the reverberation (sound wave reflected by partitions), by trapping the sounds in the material.



18 APPLICATIONS

Our products and solutions cover a wide range of applications for acoustic insulation and acoustic correction in buildings as well as Industry.

SOUNDPROOFING AND SOUND ABSORPTION

CONSTRUCTION SECTOR, NEW WORKS AND REFURBISHMENT

- Acoustic insulation in vertical walls made of gypsum plasterboard or fibre plasterboards, as well as ceramic brick, concrete blocks etc.
- Acoustic insulation of ceilings.
- Acoustic insulation against impact noise and vibrations in parquet, wooden, and floating floors as well as under mortar screed floors.
- Acoustic insulation of airborne noise in metal and timbered roofs.
- Acoustic insulation of rain-fall noise on metal and timbered roofs.
- Acoustic insulation of waste-water pipes, drainpipes and vents.
- Reduction of reverberation time in a machinery room, home cinema room, open space, restaurant, library, sound-absorbing speakers etc.

INDUSTRIAL SECTOR

- Acoustic insulation of vibrations of steel or aluminium metal plates, for containing engines, compressors, air conditioning units...
- Soundproofing of gutter pipes...
- Damping vibrations in cars, buses, tractors and trains.
- Acoustic insulation of doors, shutter box, etc.
- Sound absorption for industrial cowlings, compressors, generators, electric motors, heating systems, automotive/rail/aircraft soundproofing, treating machine housings and enclosure walls etc.



HOUSE



COLLECTIVE HOUSING



COMMERCE



HOTEL



SCHOOL



HOSPITAL



SPORT CENTER



CONCERT HALL



MUSIC SCHOOL



FACTORY



AIRPORTS



PARKING

SOLUTIONS GUIDE

20







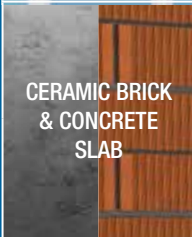








Atlàntida – Cultural Center

Osona (Spain)

Arch.: **Josep Llinàs Carmona**

Product: **Tecsound® SY 70**



	SUPPORT	USE	VERTICAL SURFACE	HORIZONTAL SURFACE	DESIGNATION
NEW CONSTRUCTION		 INTERIOR PARTITIONS	TECSOUND® SY 70	VELAPHONE® FIBRE 22	PI-1
			STICKSON 8 kg	VELAPHONE® FIBRE 22	PI(B)-1
		 PARTITION WALLS	TECSOUND® SY 70	VELAPHONE® FIBRE 22	PM-5
			TECSOUND® 2FT	VELAPHONE® FIBRE 22	PM-2
		 MODULAR PARTITION	TECSOUND® SY 50	-	MP-1
		 CEILING	TECSOUND® SY 50	TECSOUND® FT 75 / TECSOUND® SY 70	FT-2
			-	FIBRO-KUSTIK	FT-3
	REFURBISHMENT		 PARTITION WALLS	TECSOUND® SY 70	VELAPHONE® FIBRE 22
		TECSOUND® FT 75 / TECSOUND® SY 50		-	TR-1*
		TECSOUND® FT 75		-	TR-3
NEW & REFURBISHMENT WORK		 WASTE WATER PIPE	TECSOUND® FT 55 AL	-	BJ-3
			TECSOUND® TUBE	-	BJ-2
NEW CONSTRUCTION		 FLOORS	VELAPHONE® DISCONNECTION BAND	VELAPHONE® FIBRE 22	S-4
				VELAPHONE® FIBRE 22	S-6
			VELAPHONE® CONFORT	VELAPHONE® CONFORT	S-7
				VELAPHONE® CONFORT	S-8

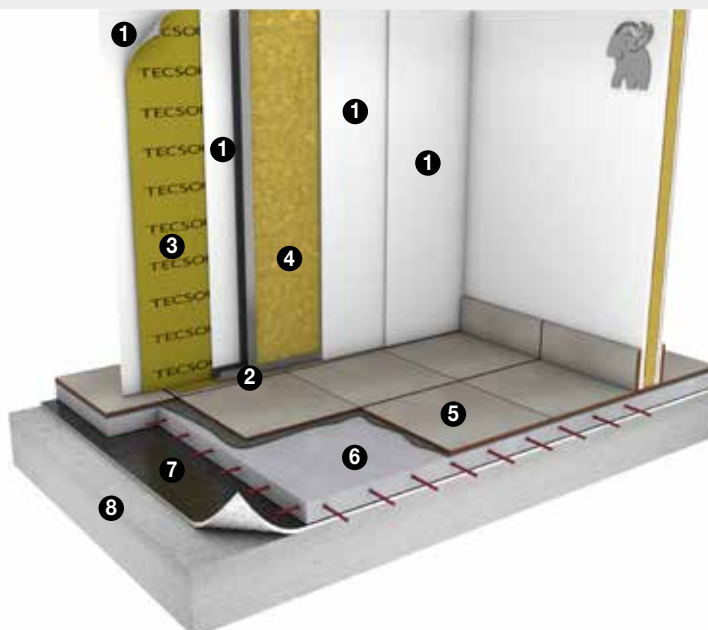
INTERIOR PARTITIONS

PI-1

R_w 56 dB

INTERIOR PARTITIONS

1. 13 mm gypsum plasterboard
2. TECSOUND® S BAND 50
3. TECSOUND® SY 70
4. Mineral wool (thickness: 45 mm; density: 50 kg/m³)
5. Flooring
6. Reinforced mortar screed
7. VELAPHONE® FIBRE 22
8. Support

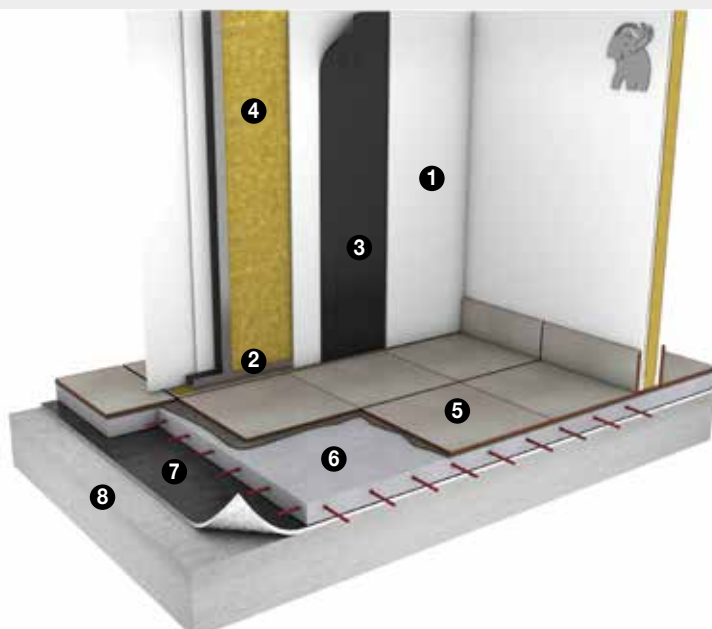


PI(B)-1

R_w 57 dB

INTERIOR PARTITIONS

1. 13 mm gypsum plasterboard
2. TECSOUND® S BAND 50
3. STICKSON 8 kg
4. Mineral wool (thickness: 45 mm; density: 50 kg/m³)
5. Flooring
6. Reinforced mortar screed
7. VELAPHONE® FIBRE 22
8. Support

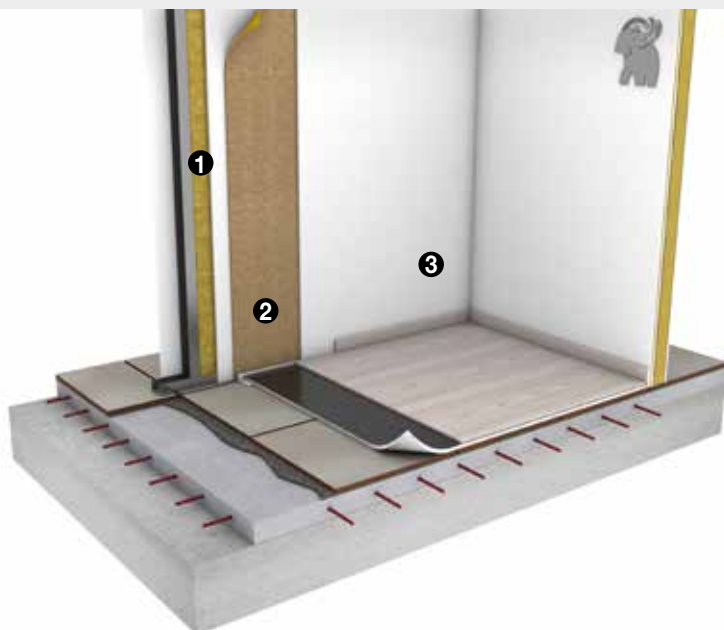


PI-7

R_w 49 dB

INTERIOR PARTITIONS Refurbishment work

1. Existing gypsum partition wall
2. TECSOUND® SY 70 Geo
3. 13 mm gypsum plasterboard



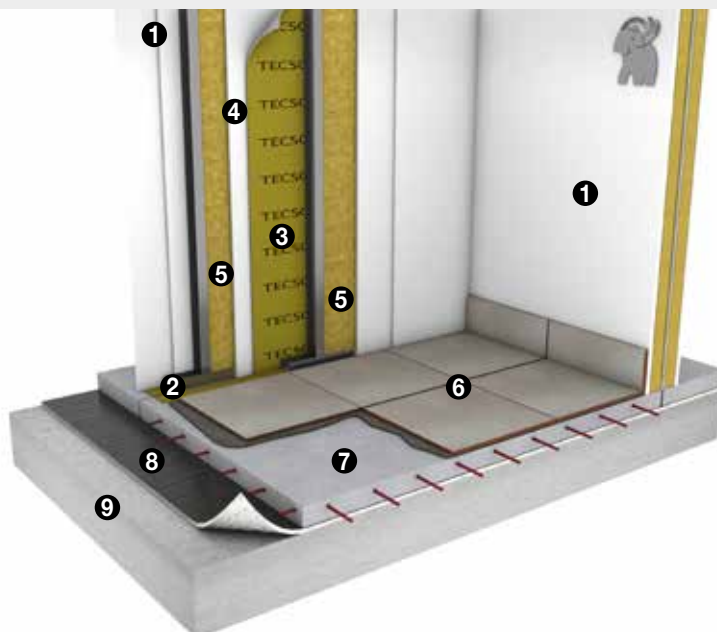
PARTITION WALLS AND MODULAR PARTITIONS

PM-5

R_w 62 dB

PARTITION WALLS

1. 13 mm gypsum plasterboard
2. TECSOUND® S BAND 50
3. TECSOUND® SY 100
4. 13 mm gypsum plasterboard
5. Mineral wool (thickness: 40 mm; density: 20 kg/m³)
6. Flooring
7. Reinforced mortar screed
8. VELAPHONE® FIBRE 22
9. Support

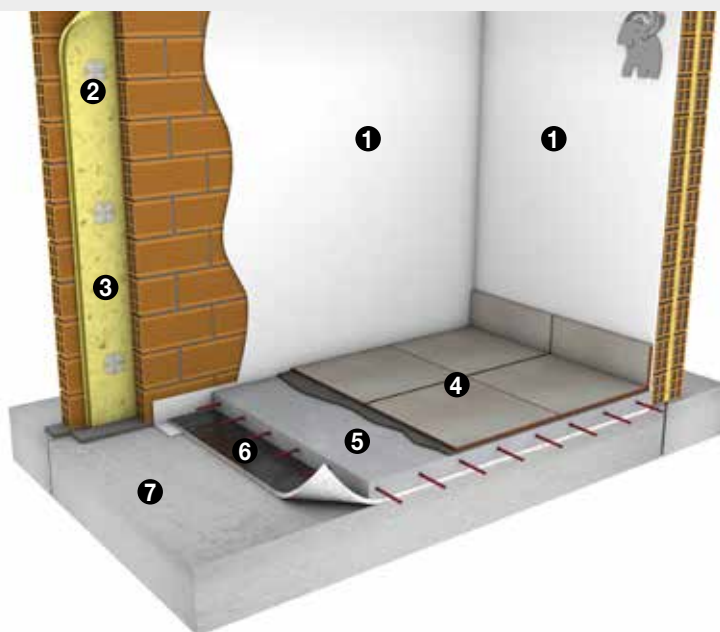


PM-2

R_w 50 dB

PARTITION WALLS

1. Plaster coat (thickness: 1,5 cm)
2. Brick wall (thickness: 7 cm)
3. TECSOUND® 2FT
4. Flooring
5. Reinforced mortar screed
6. VELAPHONE® FIBRE 22
7. Support

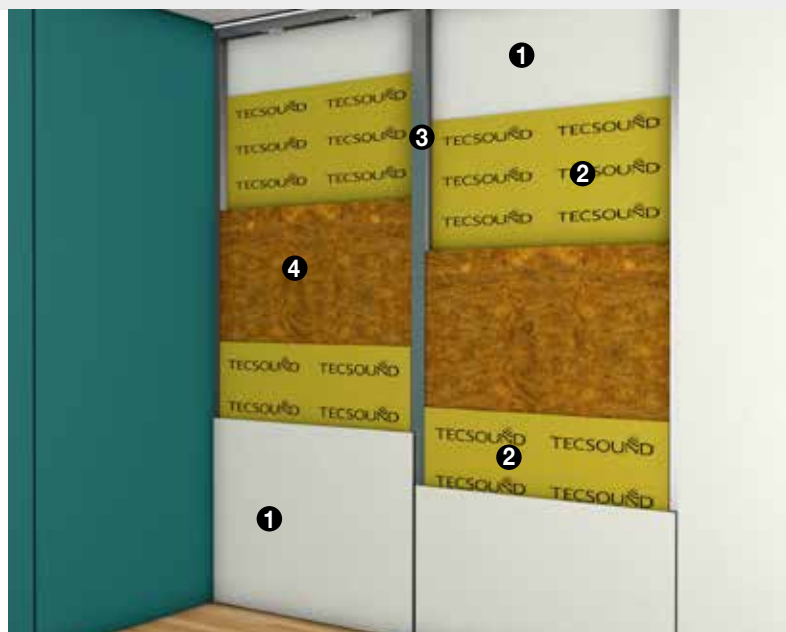


MP-1

R_w 49 dB

MODULAR PARTITION

1. Melamine coated panel
2. TECSOUND® SY50
3. Aluminium structure
4. Mineral wool (thickness: 45 mm / density : 15 kg/m³)



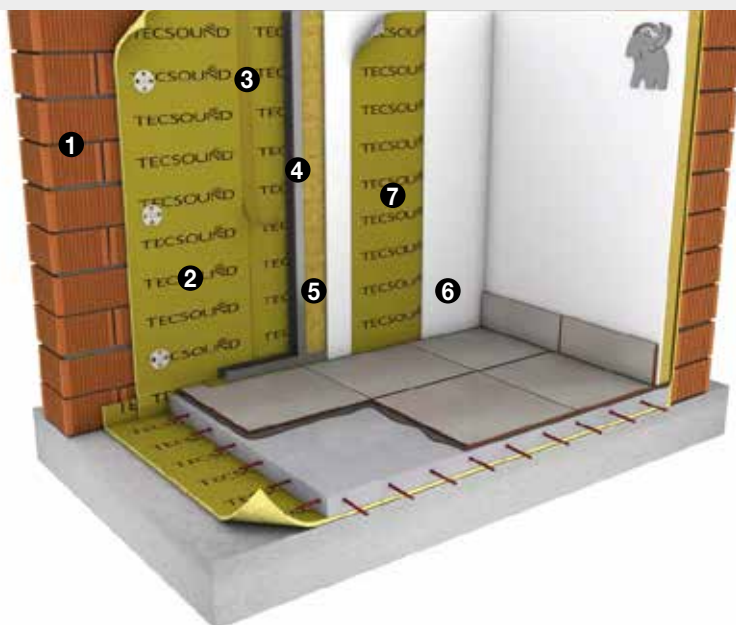
PARTITION WALLS AND MODULAR PARTITIONS - CEILINGS

TR-1

R_w 68 dB

PARTITION WALLS

1. Brick wall
2. TECSOUND® FT 75
3. TECSOUND® S BAND 50
4. Metal Stud
5. Mineral wool (thickness: 45 mm; density: 50 kg/m³)
6. 13 mm gypsum plasterboard
7. TECSOUND® SY 50

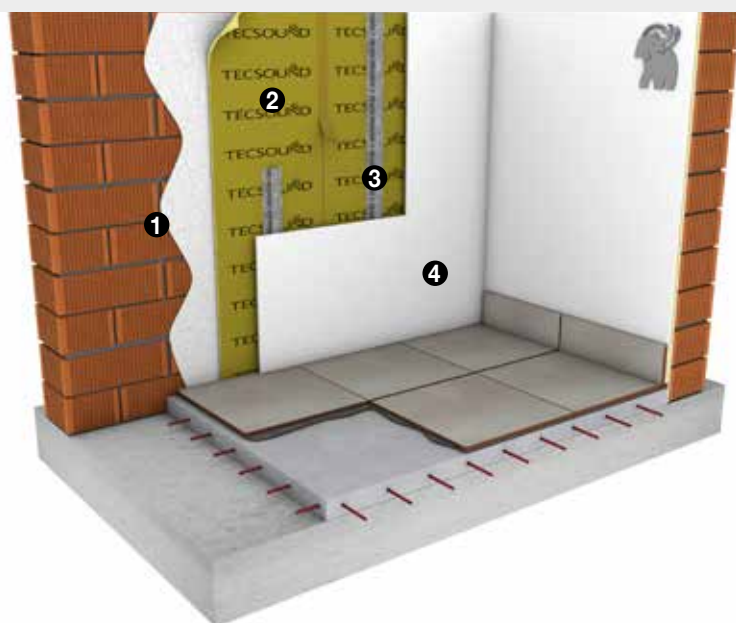


TR-3

ΔR 10 - 12 dB

PARTITION WALLS Refurbishment work

1. Existing partition wall
2. TECSOUND® FT 75
3. Omega profile 30 mm
4. 13 mm gypsum plasterboard

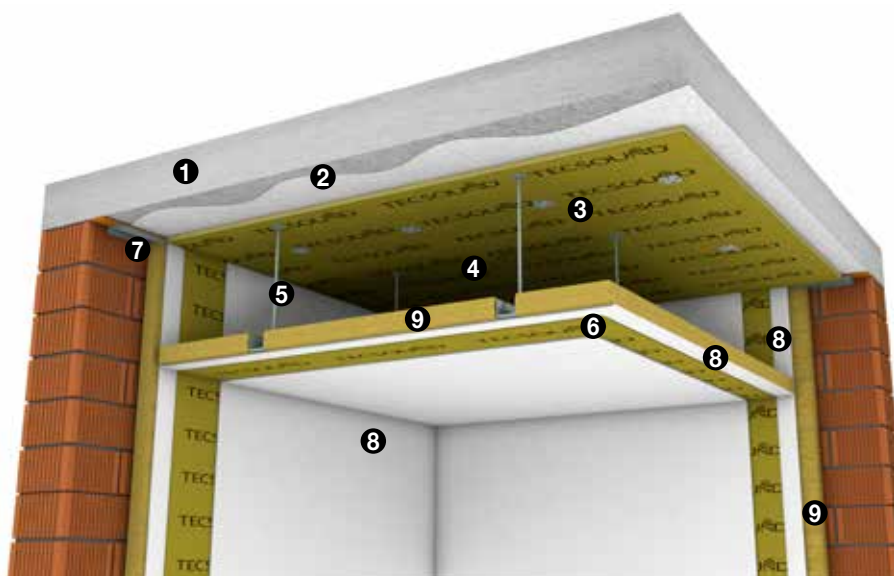


FT-2

R_w Ceiling:
85 dB

CEILINGS

1. Support
2. Plaster coast
3. TECSOUND® FT 75
4. Air cavity (thickness: 200 mm)
5. Dampers
6. TECSOUND® SY 50
7. TECSOUND® S BAND 50
8. 13 mm gypsum plasterboard
9. Mineral wool (thickness: 45 mm; density: 40 kg/m³)



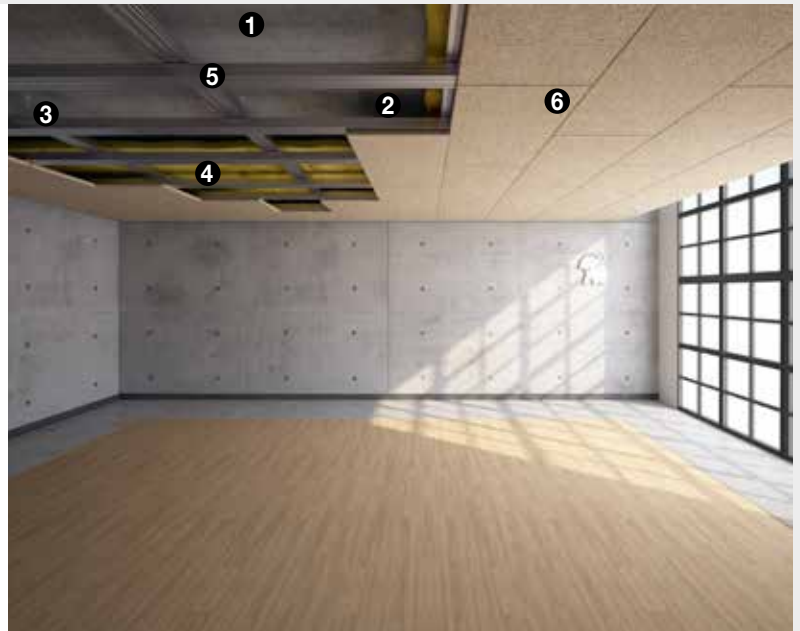
CEILINGS - PIPES AND DUCTS

FT-3

$\alpha_w = 0,80$
(LH) – B

CEILINGS

1. Support
2. Air cavity (thickness: 200 mm)
3. Suspension brackets
4. Glasswool (thickness: 60 mm; density: 30 kg/m³)
5. Metal substructure out of CD profiles
6. FIBRO-KUSTIK

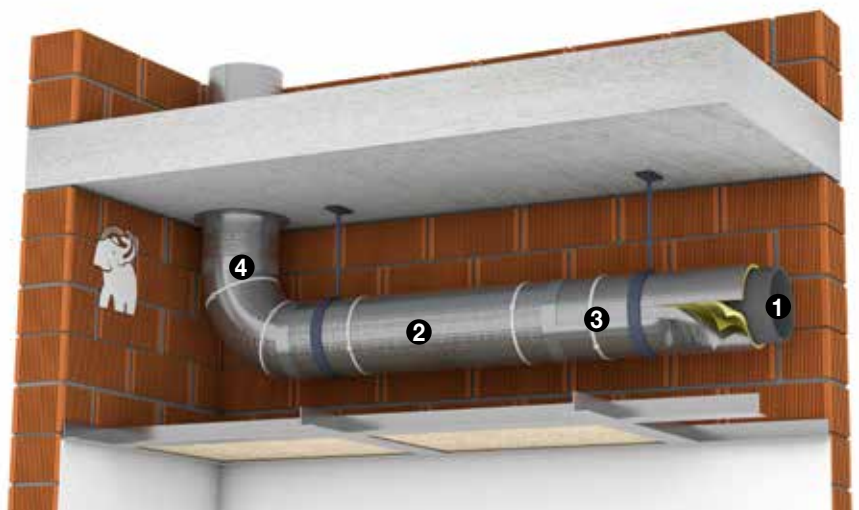


BJ-3

ILa,n 11 dB

DRAINPIPES AND DUCTS

1. Waste-water pipe
2. TECSOUND® FT 55 AL
3. Plastic flange
4. Aluminium tape

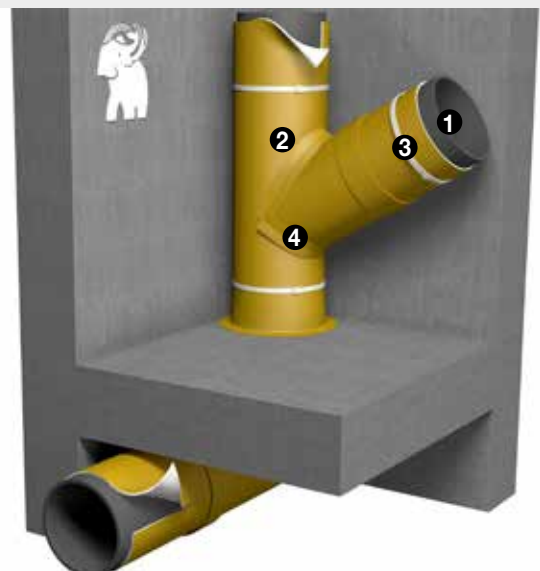


BJ-2

ILa,n 14 dB

DRAINPIPES AND DUCTS

1. Waste-water pipe
2. TECSOUND® TUBE
3. Plastic flange
4. TECSOUND® S50 band 50



FLOORS

S-4

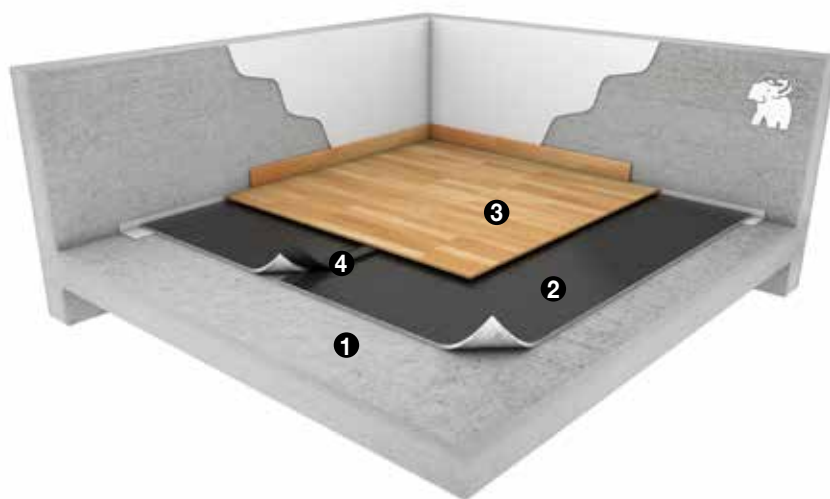
FLOATING WOOD FLOORING

ΔL_w 21 dB

$L_{nT,w}$

< 60 dB

1. Support
2. VELAPHONE® FIBRE 22
3. Parquet
4. VELAPHONE® DISCONNECTION BAND



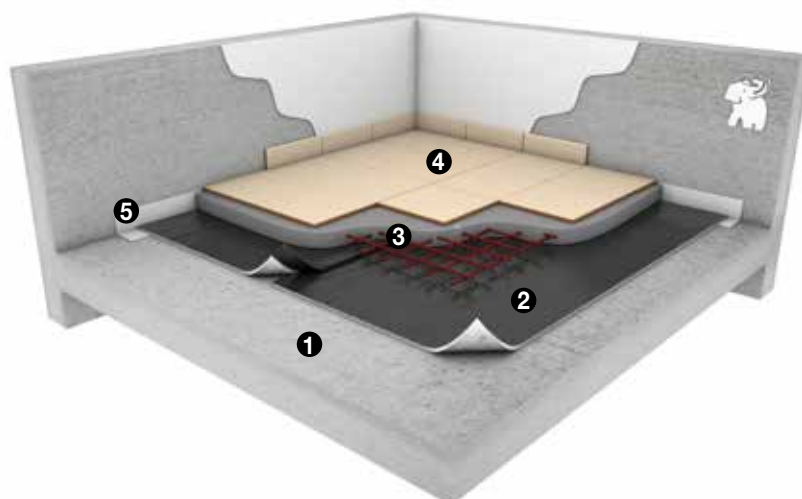
S-6

FLOATING SCREED

ΔL_w 22 dB

R_w 58 dB

1. Support
2. VELAPHONE® FIBRE 22
3. Reinforced mortar screed
4. Flooring
5. VELAPHONE® DISCONNECTION BAND

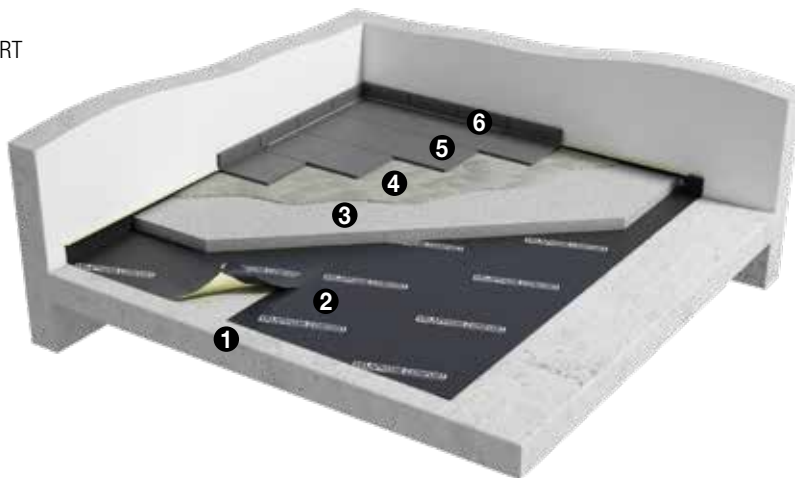


S-7

ΔL_w 19 dB
 R_w 58 dB

FLOATING SCREED

1. Support
2. Thin Acoustic Underlay VÉLAPHONE® CONFORT
3. Floating screed
4. Tile adhesive
5. Flooring
6. Flexible mastic bead sealant

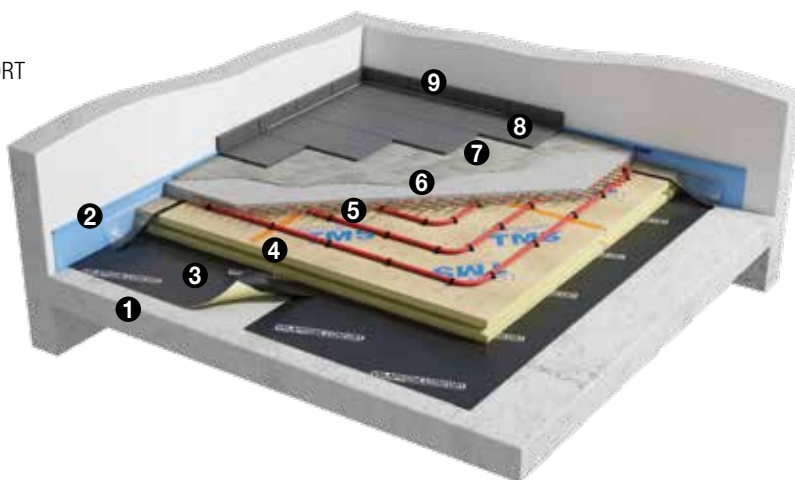


S-8

ΔL_w 20 dB
 R_w 59 dB

UNDER FLOATING SCREED WITH UNDERFLOOR HEATING SYSTEM

1. Support
2. Disconnection tape Efirive
3. Thin Acoustic Underlay VÉLAPHONE® CONFORT
4. Thermal insulation TMS®
5. Underfloor heating system, if applicable
6. Floating screed
7. Tile adhesive
8. Flooring
9. Flexible mastic bead sealant



PRODUCT RANGE



AIRBORNE NOISE INSULATION



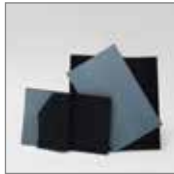
TECSOUND®



TECSOUND® SY



TECSOUND® SY GEO



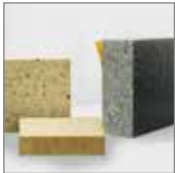
STICKSON



TECSOUND® FT



TECSOUND® 2FT



SOPRAFOAM AGGLO



IMPACT NOISE INSULATION



VELAPHONE®
FIBRE 22



VELAPHONE®
CONFORT



SOPRAFOAM
AGGLO



EQUIPMENT NOISE INSULATION



TECSOUND®
FT 55 AL



TECSOUND®
TUBE



ACOUSTIC CORRECTION



SOPRAMINE



FIBRO-KUSTIK SOLO



FIBRO-KUSTIK DUO

AIRBORNE NOISE INSULATION



Cruise ship terminal

Sevilla Port (Spain)

Arch.: **Hombre de Piedra y Buro 4**

Product: **Tecsound® SY70**



TECSOUND®

TECSOUND® is a viscoelastic, high density polymer based and highly adaptable membrane providing good levels of soundproofing in different construction elements without increasing thickness.

APPLICATIONS

- Airborne noise insulation for vertical surfaces with low surface mass (lightweight partitions or panels in various materials).
- Airborne noise insulation for ceilings and roofs.
- Reduction of impact noise level in floating floors.
- Damping of impact noise produced by atmospheric agents in metals roofs.
- In combination with sound-absorbent materials, it results in products with high acoustic performance characteristics.
- Its applications in the industrial sector range from machine enclosures, drainpipes, acoustic damping of metal sheets, etc.

INSTALLATION

The installation of the insulation systems with TECSTOUND® must be carried out by experienced staff.

Metal deck sound insulation:

- Extend the roll over the substrate progressively, fleece upwards, with an overlap of at least 5 cm;
- If TECSTOUND® is installed directly on top of the steel deck, the membrane must be applied perpendicular to the direction of the deck profile;
- In case of a mechanically fixed insulation and waterproofing systems, specifications of type and number of fasteners needed must be respected.

STANDARDS AND CERTIFICATIONS

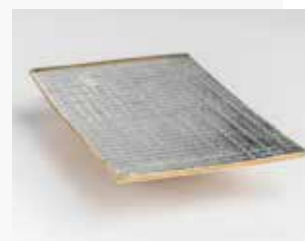
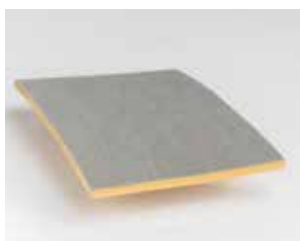
Laboratory tests reports in compliance with ISO 140-1, EN ISO 140-3, EN ISO 10140, EN ISO 140-18 and EN ISO 717/1 standards.

- Quality system in accordance with the ISO: 9001 and ISO:14001 standards

Synthetic soundproofing membrane and vibration damping membrane

Code	Product	Weight (kg/m²)	Thickness (mm)	Roll (m)	m²/Pallet
00070808	TECSOUND® 35	3.5	1.75	8 m x 1.22 m	234.24 m²
00070820	TECSOUND® 50	5	2.5	6 m x 1.22 m	175.68 m²
00070843	TECSOUND® 70	7	3.5	5 m x 1.22 m	146.4 m²
00070842	TECSOUND® 100	10	5	4 m x 1.2 m	100.8 m²

TECSOUND is available in variety finishes such as : aluminum, non-woven polypropylene and non-woven polyester.



PROPERTIES

- > Acoustic insulation throughout the frequency range.
- > Easy to handle and cut with a knife or scissors.
- > High performance acoustic insulation combined with pliable components (gypsum, plasterboard, carrier board etc.)
- > High sound damping capacity on metal surfaces, thus improve insulation to rainfall noise on metal decks.
- > May act as a vapor control layer.
- > Flexible and adaptable to uneven surfaces.
- > High elongation capacity.
- > Fire rating: B-s2, d0. In other words, it does not contribute to the fire (it does not spread the flames, it does not drop and it does not give of molten particles).
- > Static service temperature : from -10°C up to 60°C.
- > Excellent ageing-resistance.
- > Rot-proof.
- > Admits all habitual types of construction supports (gypsum plasterboard, metal, carrier board, plastics).



TECSOUND® SY

TECSOUND®SY is the self-adhesive version of TECSOUND® membrane. Once peeled off the removable film it can be applied straight onto most surfaces. Dimensions designed specially for application on gypsum plasterboards.

APPLICATIONS

- Specially for gypsum plasterboard applications.
- Airborne noise insulation in vertical surfaces with low surface mass (lightweight partitions or panels in various materials).
- Airborne noise insulation in ceilings.
- In combination with sound-absorbent materials, it results in products with high acoustic performance characteristics.

INSTALLATION

The installation of the insulation systems with TECSOUND® SY must be carried out by experienced staff.

Partition walls sound insulation:

- Align the membrane on the substrate and remove progressively the protective silicone protection film;
- During the fitting, press all over to ensure a good bonding;
- Overlap 5 cm both lengthwise and crosswise;
- For application in between plasterboards, it is recommended to adhere first TECSOUND® SY to the second skin boards.

STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with EN ISO 140-1, EN ISO 140-3, EN ISO 10140 and EN ISO 717/1 standards.

- Quality system in accordance with the ISO: 9001 and ISO:14001 standards



PROPERTIES

- > Acoustic insulation throughout the frequency range.
- > Easy to handle and cut with a knife or scissors.
- > High performance acoustic insulation combined with pliable components (gypsum, plasterboard, carrier board etc.)
- > Flexible and adaptable to uneven surfaces.
- > High elongation capacity.
- > Fire rating: B-s2, d0. In other words, it does not contribute to the fire (it does not spread the flames, it does not drop and it does not give off molten particles).
- > Static service temperature : from -10°C up to 60°C.
- > Excellent ageing-resistance.
- > Rot-proof.
- > Admits all habitual types of construction supports (gypsum plasterboard, metal, carrier board, plastics).

Self-adhesive, synthetic soundproofing membrane

Code	Product	Weight (kg/m²)	Thickness (mm)	Sheet (m)	m²/Pallet
00070834	TECSOUND® S LAM 35	3.5	1.75	1.0 m x 1.2 m	213.5 m²
00070813	TECSOUND® S LAM 50	5	2.5	1.0 m x 1.2 m	180 m²
00070826	TECSOUND® SLAM 100	10	5	1.0 m x 1.2 m	90 m²

Code	Product	Weight (kg/m²)	Thickness (mm)	Roll (m)	m²/Pallet
00070840	TECSOUND® SY 35	3.5	1.75	8.05 m x 1.22 m	234.24 m²
00070807	TECSOUND® SY 50	5	2.5	6.05 m x 1.22 m	177.14 m²
00070828	TECSOUND® SY 70	7	3.5	5.05 m x 1.22 m	147.86 m²
00070830	TECSOUND® S 100	10	5	4 m x 1.20 m	100.8 m²



TECSOUND® SY GEO

TECSOUND®SY GEO is declined version of TECSOUND® SY. Upper face is covered with a polyester non-woven veil that allows the adhesion of foams, fibers or panels of different materials (gypsum boards, wood, metal, plastics, etc.) while the lower face has self-adhesive finishing, once peeled off the removable film it can be applied straight onto most surfaces.

APPLICATIONS

- Increases airborne noise insulation on vertical surfaces with low surface mass (plasterboard partitions, timber partitions) in refurbishment works
- Soundproofing against airborne noise in ceilings and lightweight roofs.
- Combined with sound-absorbent materials, it offers solutions with high acoustic performance
- Allows two ways of fixing the plasterboard lining:
 - Apply adhesive mortar pads
 - Fix mechanically by using screws

INSTALLATION

The installation of the insulation systems with TECSOUND® SY GEO must be carried out by experienced staff.

Existing partition walls sound insulation:

- Align the membrane on the substrate and remove progressively the protective silicone protection film;
- During the fitting, press all over to ensure a good bonding;
- Overlap 5 cm both lengthwise and crosswise;
- Final plasterboard layer (wall lining) can be either screwed or adhered using mortar pads.



STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with EN ISO 140-1, EN ISO 140-3, EN ISO 10140 and EN ISO 717/1 standards.

- Quality system in accordance with the ISO: 9001 and ISO:14001 standards

Self-adhesive, soundproofing membrane for sound insulation to airborne noise of interior partitions

Code	Product	Weight (kg/m ²)	Thickness (mm)	Roll (m)	m ² /Pallet
00155138	TECSOUND® SY 70 GEO	7	3.5	2.6 x 1.22 m	114.19 m ²
00151556	TECSOUND® SY 70 GEO	7	3.5	5,05 x 1,22 m	147,86 m ²



PROPERTIES

- > Improve of airborne noise insulation by 9 dB using a 13-mm enhanced gypsum plasterboard.
- > Reduction by 45% of the noise perception.
- > Save space in your refurbishment projects with maximum efficiency.
- > Easy and fast installation. Zero air-drying time as no glue is needed.
- > Allows direct application on dry wall existing partitions.
- > No need for special tools.



STICKSON

STICKSON range is composed of self-adhesive viscoelastic loaded bitumen mass used for vibration damping and reinforcement of airborne noise insulation without increasing thickness. Once peeled off the removable film it can be applied straight onto most surfaces. STICKSON is available on sheets (up to 10 kg/m²) and rolls (up to 5 kg/m²) and can be cut to size into stripes or pieces.

APPLICATIONS

- Reduction of impact noise when impacting parts and metal sheets, metal casings, collecting channels, hoppers, conveyor systems, crushers etc.
- Dissipation of vibrational energy in a metal structure such as the machine casing, pellet transport tubes, ventilation or exhaust ducts etc.
- Acoustic reinforcement of a surface by eliminating insulation loss at the level of critical frequencies of the materials.
- Vibration damping through the application of patches on all metal shapes, such as tubs, stainless steel basins, metal desks and drawers with specific shapes etc.
- Increase in the sound reduction index through the mass effect on drywall, steel, aluminium or particleboard partitions, roof panels, cladding, PVC carpentry etc.

INSTALLATION

The installation of the insulation systems with STICKSON must be carried out by experienced staff.

Partition walls sound insulation:

- Align the membrane on the substrate and remove progressively the protective silicone protection film;
- During the fitting, press all over to ensure a good bonding.

STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with EN ISO 140-1, EN ISO 140-3, EN ISO 10140 and EN ISO 717/1 standards.

- Quality system in accordance with the ISO: 9001 and ISO:14001 standards

Self-adhesive, bitumen soundproofing and vibration damping membrane

Code	Product	Weight (kg/m ²)	Thickness (mm)	Roll (m)	m ² /Pallet
00101966	STICKSON 3kg/m²	3	2.4	10 x 1.03 m	300 m ²
00101661	STICKSON 5kg/m²	5	3.5	10 x 1.03 m	300 m ²

Code	Product	Weight (kg/m ²)	Thickness (mm)	Sheet (m)	m ² /Pallet
00118500	STICKSON 3 kg	3	2.4	1000 x 1030 mm	309 m ²
00104930	STICKSON 3 kg	3	2.4	1200 x 1030 mm	370 m ²
00118501	STICKSON 5 kg	5	3.5	1000 x 1030 mm	260 m ²
00104931	STICKSON 5 kg	5	3.5	1200 x 1030 mm	247,2 m ²
00118806	STICKSON 8 kg	8	5.25	1000 x 1030 mm	128.75 m ²
00104932	STICKSON 8 kg	8	5.25	1200 x 1030 mm	154.5 m ²
00118807	STICKSON 10 kg	10	6.3	1000 x 1030 mm	103 m ²
00104933	STICKSON 10 kg	10	6.3	1200 x 1030 mm	123.6 m ²



PROPERTIES

- > Acoustic insulation throughout the frequency range.
- > Available on sheets (up to 10 kg/m²) and rolls (up to 5 kg/m²)
- > Easy to handle and cut.
- > Tailor-made dimensions. Can be cut to size into stripes or pieces.
- > High performance acoustic insulation combined with pliable components (gypsum, plasterboard, carrier board, etc.)
- > Admits all habitual types of construction supports (gypsum plasterboard, metal, carrier board, plastics)



TECSOUND® FT

TECSOUND® FT is a soundproofing complex including a porous felt and the TECSOUND® synthetic membrane to be used in different construction elements both horizontal and vertical.

APPLICATIONS

- Soundproofing of horizontal (ceilings) and vertical enclosures, where high acoustic insulation against transmission of airborne noises is required.
- Airborne noise insulation in vertical surfaces.
- Airborne noise insulation in ceilings.
- Reduction of impact noise level in all types of floors and crossbeams.
- Its main applications include new construction and refurbishment work, industries, cinemas, theatres, sports complexes, night clubs, bars, restaurants, hotels, shopping centres, etc.

INSTALLATION

The installation of the insulation systems with TECSOUND® FT must be carried out by experienced staff.

Partition walls sound insulation:

- Apply the adhesive to both substrate and soundproofing complex surfaces being bonded;
- Press the two surfaces together and apply firm pressure with a hand rubber roller;
- The product could be installed mechanically fastened using plastic or PVC fasteners;
- Install the complex placing the edges of contiguous rolls butt joint. Assure that the joints are always sealed correctly.

STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with EN ISO 140-1, EN ISO 140-3, EN ISO 140-6, EN ISO 140-8, EN ISO 10140 and EN ISO 717/1/2 standards.

- Quality system in accordance with the ISO: 9001 and ISO:14001 standards

Soundproofing complex for sound insulation to airborne noise of masonry partitions and false ceilings

Code	Product	Weight (kg/m ²)	Thickness (mm)	Roll (m)	m ² /Pallet
00070801	TECSOUND® FT 40	4.1	12	6 m x 1.20 m	86.4 m ²
00070805	TECSOUND® FT 55	5.6	12.5	5.50 m x 1.20 m	79.2 m ²
00070802	TECSOUND® FT 75	7.6	14	5.50 m x 1.20 m	79.2 m ²



PROPERTIES

- > High performance acoustic insulation, combined with all types of building systems.
- > Easy handling and application.
- > Joins easy to execute.
- > Excellent ageing-resistance.
- > Rot-proof.
- > Static service temperature: from -10°C up to 60°C.



TECSOUND® 2FT

TECSOUND® 2FT is a soundproofing complex including TECSOUND® synthetic membrane placed between two porous felts to be used in different construction elements both horizontal and vertical.

APPLICATIONS

- Soundproofing of horizontal (ceilings) and vertical enclosures, where high acoustic insulation against transmission of airborne noises is required.
- Specially recommended in partition walls.
- Airborne noise insulation in vertical surfaces.
- Airborne noise insulation in ceilings.
- Its main applications include new construction and refurbishment work, industries, cinemas, theatres, sports complexes, night clubs, bars, restaurants, hotels, shopping centres, etc.

INSTALLATION

The installation of the insulation systems with TECSOUND® 2 FT must be carried out by experienced staff.

Partition walls sound insulation:

- Apply the adhesive to both substrate and soundproofing complex surfaces being bonded;
- Press the two surfaces together and apply firm pressure with a hand rubber roller;
- The product could be installed mechanically fastened using plastic or PVC fasteners;
- Overlap contiguous rolls 5 cm, both vertically and horizontally.

STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with EN ISO 140-1, EN ISO 140-3, EN ISO 10140 and EN ISO 717/1 standards.

- Quality system in accordance with the ISO: 9001 and ISO:14001 standards



PROPERTIES

- > High performance acoustic insulation, combined with all types of building systems.
- > Easy handling and application.
- > Joins easy to execute.
- > Excellent ageing-resistance.
- > Rot-proof.
- > Static service temperature: from -10°C up to 60°C.

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Soundproofing complex for sound insulation to airborne noise of masonry partitions

Code	Product	Weight (kg/m ²)	Thickness (mm)	Rolls (m)	m ² /Pallet
00070794	TECSOUND® 2FT 80	8.2	24	5.50 x 1.20 m	39.6 m ²

EQUIPMENT NOISE INSULATION



Fondation LUMA – Arles (France)

Arch.: Frank Gehry

Product: Tecsound®S 100





TECSOUND® FT 55 AL

TECSOUND® FT 55 AL is a soundproofing complex comprising a porous felt and the TECSOUND® synthetic membrane, coated on the outside with a reinforced aluminium foil.

APPLICATIONS

- Increases acoustic insulation of the pipe it is applied to, its effect based on the association of an absorbent element and a highly elastic, high density insulating membrane;
- Sound insulation of drainpipes;
- Sound insulation of air conditioning vents;
- Soundproofing of booths to the sound-insulation of machine-room, cowling of engines and compressors.

INSTALLATION

The installation of the insulation systems with TECSOUND® FT AL must be carried out by experienced staff.

Pipes sound insulation:

- Measure the circumference of the pipe to be insulated, adding 5 cm for the overlap;
- Wrap the pipe so that the textile felt is in contact with its surface;
- Fix the insulation using plastic ties every 25-30 cm.
- Always seal the joints and overlaps correctly.

STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with EN ISO 140-1, EN ISO 140-3, EN ISO 10140, EN 20140-2, EN ISO 717/1, EN 14366 and ISO 15665 standards.

- Quality system in accordance with the ISO: 9001 and ISO:14001 standards

Soundproofing complex for equipment noise and airborne noise insulation

Code	Product	Weight (kg/m ²)	Thickness (mm)	Roll (m)	m ² /Pallet
00070804	TECSOUND® FT 55 AL	5.5	12.5	5.50 m x 1.20 m	79.2 m ²

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TECSOUND® TUBE

TECSOUND® TUBE is a complex made of TECSOUND® membrane bonded to a high tenacity non-woven polyester mat. TECSOUND® TUBE is specially designed for soundproofing of wastewater pipes in residential buildings.

APPLICATIONS

- Soundproofing of wastewater pipes;
- Reduction of structure-borne noise along the duct.

INSTALLATION

The installation of the insulation systems with TECSOUND® TUBE must be carried out by experienced staff.

Pipes sound insulation:

- Measure the circumference of the pipe to be insulated, adding 5 cm for the overlap;
- Wrap the pipe so that the non-woven felt is in contact with its surface;
- Fix the insulation using plastic ties every 25-30 cm.
- Always seal the joints and overlaps correctly.

STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with EN 14366 standard.

- Quality system in accordance with the ISO: 9001 and ISO:14001 standards.

Soundproofing complex for equipment noise insulation

Code	Product	Weight (kg/m ²)	Thickness (mm)	Roll (m)	m ² /Pallet
00115472	TECSOUND® TUBE	3.75	4.75	8 m x 0.4 m	240 ml



PROPERTIES

- > High performance airborne and structure-borne noise insulation in pipes. IL 13-15 dBA .
- > Easy handling and application. Easy to handle and cut.
- > Joins easy to execute.
- > Excellent ageing-resistance.
- > Rot-proof.
- > Static service temperature: from -10°C up to 60°C.



PROPERTIES

- > High performance airborne and structure-borne sound insulation in pipes. IL 13-15 dBA.
- > Low thickness which helps its installation and makes it suitable for refurbishing and framing pathways.
- > Does not crack or break at low temperatures.
- > Flexible and adaptable to elbows and bifurcations.
- > Excellent ageing resistance.
- > Easy to handle and cut.
- > Rot-proof.

AIRBORNE NOISE & IMPACT NOISE INSULATION



Philharmonic Concert Hall

Szczecin (Poland)

Arch.: **Barozzi Veiga**

Product: **Tecsound® 100**





SOPRAFOAM AGGLO

SOPRAFOAM AGGLO is a porous material composed of agglomerated recycled polyurethane high-density flexible foams (polyether and polyester-based).

The product is available in various densities and colors. It is produced in sheets of various thicknesses and cut to sized dimensions. If required, an adhesive layer can be laminated as finishing. Other various surface treatments (adhesives, protective films, lamination with heavy masses etc.) are also possible.

APPLICATIONS

- Sound absorption for industrial and machine casing, compressors, generators, electric motors, heating systems, vehicle soundproofing, treating machine housings and enclosure walls etc.
- Vibration damping.
- Boosting airborne noise insulation, for home cinema rooms, discotheque walls, monitoring rooms etc.
- Handling impact noise, under sound-insulation layers or floating floors etc.
- Protection for sports structures, furniture, bracing etc.

INSTALLATION

The installation of the insulation systems with Soprafoam Agglo must be carried out by experienced staff.

Sound insulation:

- Application temperature at application must be between 15 and 30°C;
- Supports must be prepared beforehand;
- After removing the protective film from the adhesive, apply uniform pressure to the entire surface to prevent the formation of air bubbles.

STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with EN ISO 10140 standard.

- Quality system in accordance with the ISO: 9001 standard.

Soundproofing agglomerated foam

Code	Product	Density (kg/m³)	Thickness (mm)	Length & width	m²/Pallet
00116948	SOPRAFOAM AGGLO A80	80 +/- 20%	10	1550 x 1030 mm	191.58 m²
00119188			20		95.72 m²
00119189			30		63.86 m²
00111978			40		47.89 m²
00119190			50		38.31 m²
00119191	SOPRAFOAM AGGLO A120	120 +/- 20%	10	1550 x 1030 mm	191.58 m²
00119192			20		95.72 m²
00119193			30		63.86 m²
00119194			40		47.89 m²
00119195			50		38.31 m²

*Other dimensions available upon request

PROPERTIES

- > Permanent elasticity.
- > Constant mechanical properties.
- > Excellent tensile strength.
- > Resistant to oils, UV and solvents.
- > Ageing through humidity: 8 days at 70°C and 100% relative humidity: no change.
- > Thermal insulation power - heat conductivity 0,038 W/m-K.

IMPACT NOISE INSULATION



Olympic House - IOC Head Quarters
Lausanne (Switzerland)

Arch.: 3xn

Product: Tecsound® Tube



VELAPHONE® FIBRE 22

VELAPHONE® FIBRE 22 is an impact noise insulation layer for floors, comprising a high tenacity, polyester-based non-woven felt laminated to a bituminous protection. It offers an impact noise insulation of ΔL_w 22 dB.

APPLICATIONS

- Under loads of up to 500 kg/m².
- Impact noise underlay for:
 - Floating parquet flooring
 - Tile flooring used under 5 cm (325g/m²) reinforced mortar screed or under 6 cm non-reinforced mortar screed

INSTALLATION

The installation of the insulation systems with VELAPHONE® FIBRE 22 must be carried out by experienced staff.

- Apply loosely on a dry support (fleece facing downwards). The edge overlap is sealed with the adhesive strip; end lap must be sealed with 5 cm tape;
- In perimeters and joints with vertical surfaces, the VELAPHONE® FIBRE 22 self-adhesive disconnection bands must be installed.
- It must be protected until the final upper layer has been applied.

STANDARDS AND CERTIFICATIONS

In compliance with the standard NF P 61-203.

Laboratory tests reports in compliance with EN ISO 140-1, EN ISO 140-3, EN ISO 140-6, EN ISO 140-8, EN ISO 20140-2, EN ISO 717/1/2 standards.

- Quality system in accordance with the ISO: 9001 and ISO: 14001 standards.

Impact noise underlay

Code	Product	Weight (kg/m ²)	Thickness (mm)	Roll (m)	m ² /Pallet
00101689	VELAPHONE® FIBRE 22	0,560	3.4	20 m x 1 m	16 rolls/pallet 320 m ²



PROPERTIES

- > High impact noise insulation capacity.
- > High resistance to compression and tearing.
- > Durability and stability with the ageing.
- > Easy and quick to install.
- > Unrolled in the direction it is installed.
- > Self-adhesive tape incorporated, for the most secure installation and overlap.
- > Waterproof.
- > High resistance to water vapour.
- > Rot-proof.
- > Resistant to the majority of chemical agents.
- > Tested product, millions of m² installed.



DOCUMENTATION



CHECK THE **VELAPHONE®** RANGE BROCHURE FOR MORE INFORMATION ON SOPREMA IMPACT NOISE INSULATION SOLUTIONS.





VELAPHONE® CONFORT

VELAPHONE® CONFORT is an impact noise soundproofing underlayer made of fiberglass mat bonded on a bitumen-coating. The bitumen coated topside is protected by a plastic film. It works under concrete screed, grouting tiles floors and parquet. It offers an impact noise insulation of ΔL_w 19 dB.

APPLICATIONS

- It can be used in new construction and refurbishment.
- Impact noise insulation under floating parquet floors.
- Impact noise insulation under a floating screed.
- Impact noise insulation under heated floors in association with a TMS insulation (rigid polyurethane foam) on residential housing.

INSTALLATION

The installation of the insulation systems with VELAPHONE® CONFORT must be carried out by experienced staff.

- Apply loosely on a dry support (fleece facing downwards). The edge overlap is sealed with the adhesive strip; Endlap must be sealed with 5 cm tape.
- In perimeters and joints with vertical surfaces, the VELAPHONE® self-adhesive disconnection bands must be installed.
- It must be protected until the final upper layer has been applied.

STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with EN ISO 140-1, EN ISO 140-3, EN ISO 140-6, EN ISO 140-8, EN 20140-2 and EN ISO 717/1/2 standards.

- Quality system in accordance with the ISO: 9001 and ISO: 14001 standards

Impact noise underlay for heated floors

Code	Product	Weight (kg/m ²)	Thickness (mm)	Roll (m)	m ² /Pallet
00033839	VELAPHONE® CONFORT	0,645	2.5	20 m x 1 m	30 rolls/pallet 600 m ²



PROPERTIES

- > Excellent resistance to tearing.
- > Ease of installation.
- > Stability of acoustic performance over time.
- > Integrated cover strip to prevent grout penetration and enable coverage without excess thickness.
- > Compatible with a heated floor.

ACOUSTIC CORRECTION

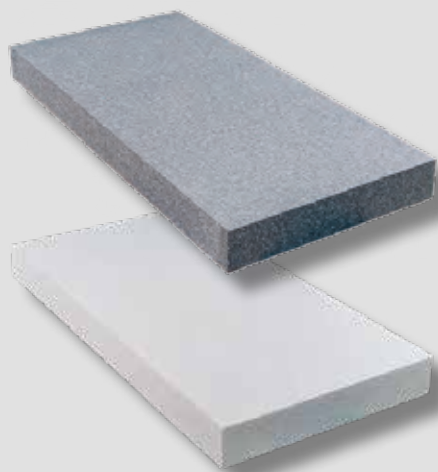


ISM Berlin-Mahlsdorf School –
Berlin (Germany)

Arch.: **NKBAK**

Product: **Fibro-kustik Solo**

Crédits: **Thomas Mayer, Neuss**



SOPRAMINE

SOPRAMINE is an open-cell absorbent foam made of melamine foam, with exceptional sound absorption qualities. SOPRAMINE is available in light grey (G+ version) and white (B version). A diversity of surface treatments (adhesives, protective films, lamination with heavy masses etc.) are also possible.

APPLICATIONS

- Sound absorption for industrial cowling, compressors, generators, electric motors, heating systems, automotive/rail/aircraft soundproofing, treating machine housings and enclosure walls etc.
- Reduction of reverberation time in a machinery room, home cinema room, open space, restaurant, library, sound-absorbing speakers etc.

INSTALLATION

The installation of the insulation systems with Sopramine must be carried out by experienced staff.

Acoustic correction:

- Application temperature at application must be between 15 and 30°C;
- Supports must be prepared beforehand;
- Spiral fixations are available for suspended baffles;
- The products must be stored in closed, dry areas, not subject to great variations in temperature or hygrometry.

STANDARDS AND CERTIFICATIONS

Laboratory tests reports in compliance with ISO 354 standard.



PROPERTIES

- > Reference sound absorption material.
- > Easy cutting and integration.
- > Good fire rating and chemical agents resistance.
- > Excellent thermal properties.

Sound-absorption foam for acoustic correction

Code	Product	Weight (kg/m ²)	Thickness (mm)	Board (mm)	m ² /Pallet
00117538	SOPRAMINE G+	9 +/-1.5	40	600 x 600 mm	21.6 m ²
00117541			50		17.28 m ²
00117545			60		14.4 m ²
00117540			40	1200 x 600 mm	23.04 m ²
00117544			50		17.28 m ²
00117547			60		14.4 m ²
00117539			40	1200 x 300 mm	21.6 m ²
00117543			50		17.28 m ²
00117546			60		14.4 m ²

*Other dimensions available upon request

Code	Product	Weight (kg/m ²)	Thickness (mm)	Board (mm)	m ² /Pallet
00117527	SOPRAMINE B	7,5 +/-2	40 mm	600 x 600 mm	21.6 m ²
00117531			50 mm		17.28 m ²
00117535			60 mm		14.4 m ²
00117530			40 mm	1200 x 600 mm	23.04 m ²
00117534			50 mm		17.28 m ²
00117537			60 mm		14.4 m ²
00117529			40 mm	1200 x 300 mm	21.6 m ²
00117533			50 mm		17.28 m ²
00117536			60 mm		14.4 m ²

*Other dimensions available upon request





FIBRO-KUSTIK

The FIBRO-KUSTIK SOLO range consists of slabs based on wood wool and a mineral binder, this solution is used for its aesthetic and acoustic properties.

The FIBRO-KUSTIK DUO range is an acoustic complex composed of a wood wool slab and a mineral wool. This solution is used for its properties aesthetic, thermal and acoustic.

APPLICATIONS

Due to their open porosity structure, the panels achieve very good sound absorption values for different types of applications inside the building.

The characteristic texture of wood wool panels also offers many creative possibilities.

INSTALLATION

The installation of the insulation systems with Fibro-kustik must be carried out by experienced staff.

Ceilings:

- Fibro-Kustik boards can be screwed directly onto metal or wooden substructures with direct mounting;
- Various rail or clip systems can be used for inlay or concealed mounting.

STANDARDS AND CERTIFICATIONS

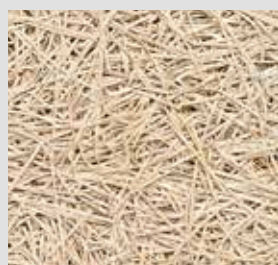
In compliance with the standards EN 13168 and EN 13964.

- Quality system in accordance with the ISO: 9001 standards



PROPERTIES

- > Wood wool of natural origin: renewable raw materials.
- > Ecological, sustainable and responsible: the wood is pefc certified.
- > Fine (2 mm) and Superfine (1 mm) fiber structure.
- > Different types of edges.

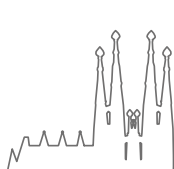


1 mm



2 mm

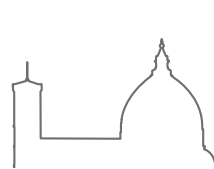
AVAILABLE IN 4 VARIANTS



Barcelona SOLO & DUO

Reaction to fire B-s1, d0 with difficult to ignite.

Super fine wood wool (approx. 1 mm).



Florence SOLO & DUO

Reaction to fire A2-s1, d0 non-combustible.

Super fine wood wool (approx. 1 mm).



Berlin SOLO

Reaction to fire B-s1, d0 with difficult to ignite.

Fine wood wool (approx. 2 mm).



Paris SOLO

Reaction to fire A2-s1, d0 non-combustible.

Fine wood wool (approx. 2 mm).

FIBRO-KUSTIK SOLO Homogeneous acoustic slabs in wood wool.

FIBRO-KUSTIK DUO Thermal and acoustic complex composed of a wood wool slab and a mineral wool. Super fine wood wool.

Decorative and sound-absorption wood wool panels

Range	Caracteristics	Thickness (mm)	Formats (mm)	Mounting	Acoustic Absorption
SOLO	Aesthetical and acoustic slab	15, 25 & 35	600 x 600/1200/2000	Demountable and non-demountable	α_w up to 0,8
DUO	Aesthetical slab with acoustic and thermal performances	50, 75, 100, 125 & 150	600 x 1200 (50 mm); 600 x 2000	Non-demountable	α_w up to A class (0,9-1)

AUXILIARY PRODUCTS

46

La Seine musicale

Boulogne (France)

Arch.: **Jean de Gastines/ Shigeru Ban**

Product: **Tecsound® S 100**





TECSOUND® S BAND

TECSOUND® S Band is a synthetic tape made of TEC SOUND® membrane, with a built-in self-adhesive layer enabling it to be applied straight onto metals structures subject to vibrations.

APPLICATIONS

- Damping of vibrations of the metal structure in gypsum plasterboards partitions

Self-adhesive, synthetic soundproofing tape

Code	Product	Weight (kg/m ²)	Thickness (mm)	Roll (m)	m ² /Box
00070827	TECSOUND® S50 BAND 50	5	2.5	6 m x 0.05 m	144 ml

VELAPHONE DISCONNECTION BANDS

VELAPHONE® tapes are self-adhesive polyethylene foam disconnection tapes, closed-cell, used to prevent the transmission of impact noise between floating floors and vertical surfaces and structural elements.

Code	Product	Description	Application	Presentation
00011275	VELAPHONE® DISCONNECTION SELF-ADHESIVE BANDS	Polyethylene foam, closed-cell, self-adhesive tapes	Impact noise insulation for flooring	50 m x 145 mm x 3 mm Box with 4 rolls: 200 m

FASTENERS

Fasteners PT-H are composed by polypropylene sleeve and reinforced glass fiber expansion pin. They are used to anchor soundproofing complex to the support.

APPLICATIONS

The anchors are to be used only as multiple fixing for the anchorage of bonded external thermal insulation composite systems (ETICS) according to ETAG 004 in concrete and in masonry.

Code	Product	Application	Presentation
00071426	FASTENERS PT-H 70	Fixing of the Tecsound FT, Tecsound 2FT	Box with 250 units
00071427	FASTENERS PT-H 90		
00071428	FASTENERS PT-H 120		

SOPRAMINE SPIRAL LOOP FASTENERS

Fasteners Spiral loop fasteners are specially developed for the suspension of Sopramine elements.

APPLICATIONS

Spiral anchors are used for ceiling applications by suspension cables and adjustable suspensions hooks (parts not supplied).

INSTALLATION

Installation recommendations depending of the configuration of the space to be treated. Distance between Sopramine panels 600 mm front spacing/ 900 mm lateral spacing/900 mm ceiling space.

Code	Product	Application	Presentation
00158293	Sopramine SCL S	Ceiling fasteners for Sopramine	20 units/box
00158294			100 units/box
00158295	Sopramine SCL L		50 units/box
00158296			250 units/box

ACOUSTIVIBE CDC

ACOUSTIVIBE CDC is soundproof anchoring system for ceilings.

APPLICATIONS

- The anchors are used on structures of concrete structural slab, of steel with concrete or any structures other than wood in which the ceiling is suspended.
- Prevent the transmission of vibrations from the structure to the suspended ceiling.

INSTALLATION

There is no specific surface preparation required other than to ensure that the structure can hold the suspended ceiling.

The ACOUSTIVIBE CDC is installed every 122 cm in both directions. First, drill a hole with the ACOUSTIVIBE CDC drill bit.

The ACOUSTIVIBE CDC drill bit is already calibrated to have the correct dimension and length if the drilling is done until the drill bit shoulder reaches the perforated surface.

Then, place the ACOUSTIVIBE CDC in the cleaned hole and complete the installation by tapping the bottom of the pin with the installation tool using a hammer or an impact drill while the installation tool is placed on the drill bit.

Attach the wires of the suspended ceiling to the ACOUSTIVIBE CDC perforated pin.



Soundproof anchoring system for ceilings

Code	Product	Application	Presentation
00021723	ACOUSTIVIBE CDC	FOR CONCRETE SLAB INSTALLATIONS	100 units

ACOUSTIVIBE WDC

ACOUSTIVIBE WDC is soundproof anchoring system for ceilings.

APPLICATIONS

- The anchors are used on structures of full-surface wooden structures of mill floor or CLT types in which the ceiling is suspended.
- The can also be used with wooden girders or joists when using a suspended ceiling with acoustical tiles.
- Prevent the transmission of vibrations from the structure to the suspended ceiling.

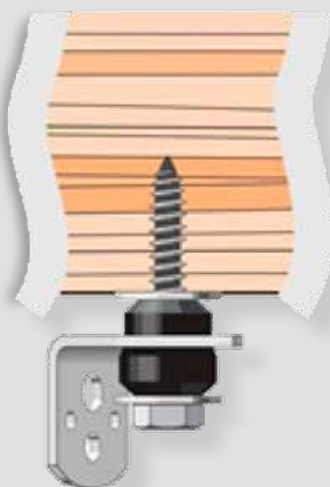
INSTALLATION

There is no specific surface preparation required other than to ensure that the structure can hold the suspended ceiling.

The ACOUSTIVIBE CDC is installed every 122 cm in both directions.

Screw the ACOUSTIVIBE WDC wood screw into the wood decking.

Attach the wires of the suspended ceiling to the ACOUSTIVIBE WDC perforated pin.



Soundproof anchoring system for ceilings

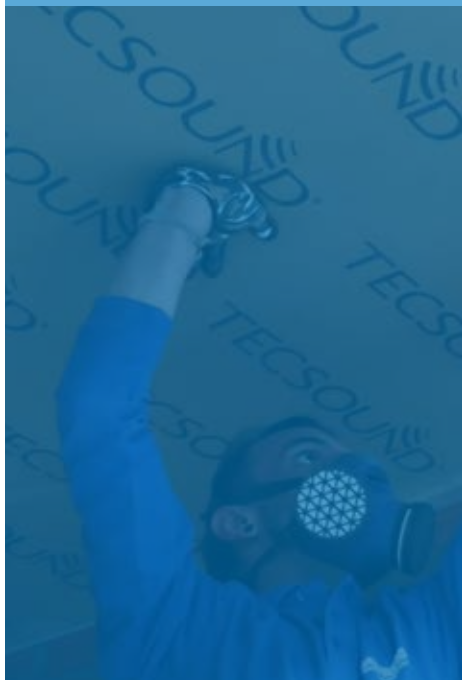
Code	Product	Application	Presentation
00021727	ACOUSTIVIBE WDC	FOR INSTALLATIONS UNDER WOOD DECKING INSTALLATIONS	100 units

INSTALLATION



TECSOUND TUBE

- Measure the circumference of the pipe adding 5 cm for the overlap. Cut the required amount of TECSOUND®TUBE with a maximum length of 1 m for an easy handling.
- Wrap the product around the pipe so that the polyester fleece is in contact with the waste-pipe surface and overlap the edges lengthwise. Start from the bottom of the pipe and go up. Crosswise edges are butt joint.
- Fix the strips that are now wrapping the pipes using plastic cable ties every 30-40 cm.



TECOSUND FT

- Prior to installing the membrane, contact adhesive must be applied to both the substrate and the soundproofing complex.
- Left to dry according to the instructions of the adhesive manufacturer before bonding the two surfaces.
- Pressure must be exerted on all the points to ensure a correct adherence.
- Anchors are required to avoid a peeling off (number of fixings on walls: 4 units/m², on ceilings: 5 units/m²). Plastic or PVC fasteners PT-H FASTENERS must be used.
- Overlap 5 cm both lengthwise and crosswise.



TECSOUND SY GEO

- Spread the roll on the back of the gypsum plasterboard and adjust it to the plasterboard borders.
- Fold the roll in half and remove the protective silicone coated film and bond the soundproofing membrane to the plasterboard.
- Proceed with the other half.
- Apply the adhesive (spray or contact glue) on both TECSOUND SY GEO and the surface of the existing wall to be adhered. Follow the glue manufacturer's instructions regarding quantities and touch-to-dry time
- Adhere the soundproofing lining to the existing wall.



REFERENCE JOBS



Glacéo – Indoor ice rink

Louviers (France)

Arch.: **Agence Chabanne**

Product: **Tecsound® 50**

- **Congress Hall (Spain)**
– Arch. Guillermo Vázquez Consuegra
- **Palasport Olímpic Torino (Italy)**
– Arch. Arata Isozaki
- **City of Culture Santiago de Compostela (Spain)**
– Arch. Peter Eisenman
- **Caja Magica - Madrid (Spain)**
– Arch. Dominique Perrault
- **Olympic Media Centre London (United Kingdom)**
– Arch. Allies and Morrison
- **CCIB Convention Centre - Barcelona (Spain)**
– Arch. Herzog & De Meuron
- **Exhibition centre Pavillion - La Fira Barcelona (Spain)**
– Arch. Toyo Ito
- **IKEA Tempe Sidney (Australia)**
- **The Copper Box Arena London (UK)**
- **Prime Minister Offices Brunei (Brunei)**
- **Manila Airport (Philippines)**

- Congress Hall Port Aventura
- Hotel Far West Port Aventura
- Hotel Madrid Reina Victoria - Madrid (Spain)
- Hotel NH Constanza - Barcelona (Spain)
- Tarraco Arena Plaza - Tarragona (Spain)
- Production Centre Vicinay Cadenas Sestao
- Technogym Production Centre (Italy)
- Congress Hall - Oran (Argelia)
- Philharmonic Concert Hall Szczecin (Poland)
- Niemeyer Center - Aviles (Spain)
- Olympic House - Sede Del Coi (France)
- Luma - Arles (France)
- Grand Theater of Rabat - Rabat (Morocco)
- Arch. Zaha Hadid Architecte
- Patek Philippe Office - Geneva (Switzerland)
- Arch. Frisk de Marignac Pidoux / Frei Stefani
- Siemens Office - Casablanca (Morocco)
- Chulalongkorn University - Bangkok (Thailand)
- Bat Yam Residences - Bat Yam (Israel)
- Chatillon Rail station - Paris (France)
- Arch.Périphériques Architectes
- Sanofi Head Office - Paris (France)
- Nestlé France Head Office - Paris (France)
- Oracle Head Office - Paris (France)
- European Parliament - Strasbourg (France)
- Renzo Piano Building Workshop

FIBES, Palacio de Congresos (Sevilla)
— Arch. Vazquez Consuegra



SOPREMA Group at your service

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E-mail : contact@tecsound.fr

Any technical questions related to the implementation of our products?

Contact our Technical Service
Tel. : +33 (0) 3 88 02 11 79

All the information is available on our website

www.tecsound.fr



www.soprema.com



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