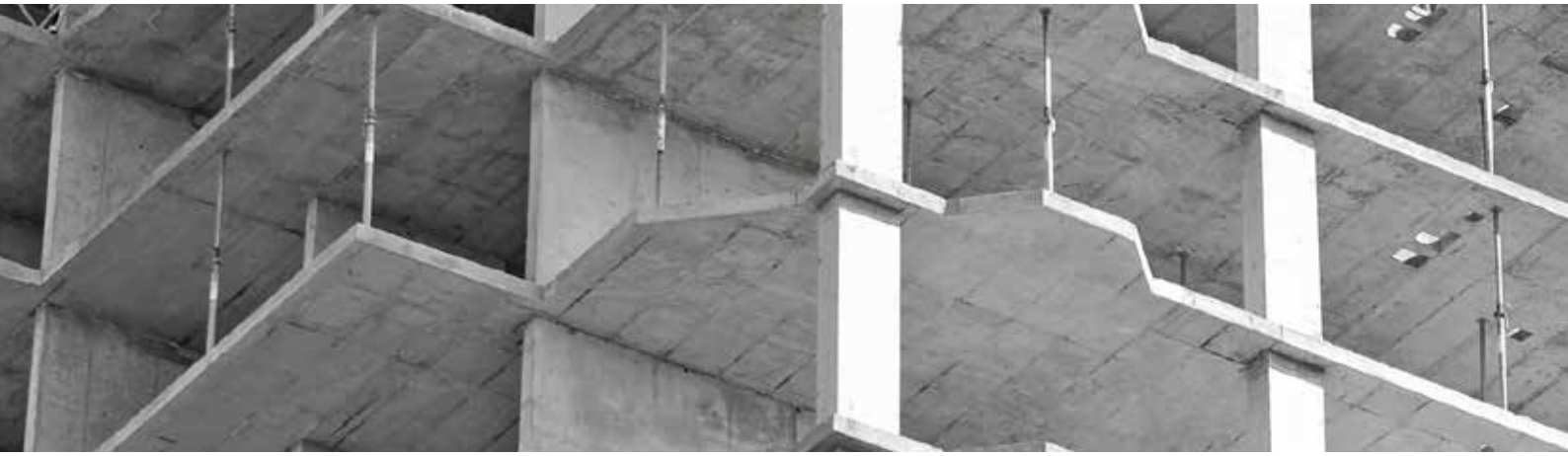
ACOUSTIC INSULATION

in building construction

knowledge matters | world of opportunities | safe solutions

ACOUSTIC INSULATION IN BUILDING CONSTRUCTION



Acoustic insulation guarantees higher living standards

For more than 40 years, Isolgomma has been developing products and solutions for acoustic and thermal-acoustic insulation geared towards improving the quality of life.

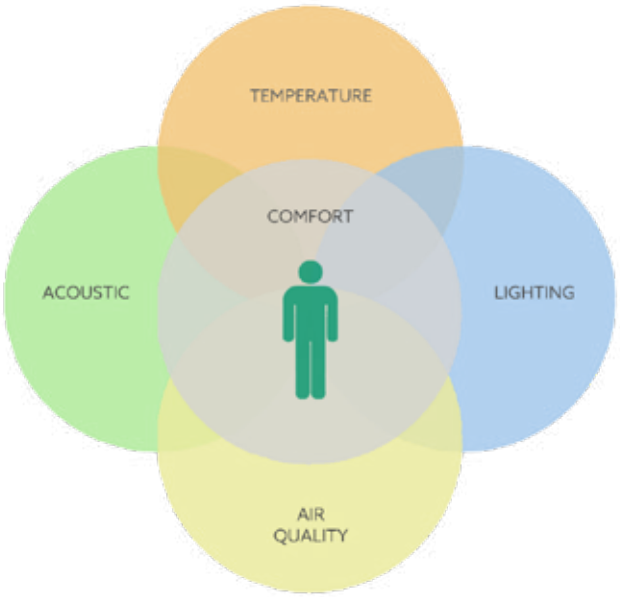
Ever since its foundation in 1972, the launch of innovative products, covered by international patents, the expansion towards new markets and sectors and the achievement of quality certifications have made Isolgomma a well-known and appreciated brand all over the world, result of high experience and continuous research.
We use cutting-edge technologies to create high-performance products providing appropriate solutions for every customer need.
The study and creation of eco-compatible products and the creation of highly performing articles have made Isolgomma a company of excellence both for the Italian and foreign markets in the construction, industry, transport and safety flooring sectors.

Our specialized, dynamic and innovative staff is very attentive to customer needs. Our mission is innovation and eco-sustainability: investing in the development of new solutions and ensuring acoustic comfort for end users and offering eco-compatible solutions created through low environmental impact production processes. The use of advanced technologies, the continuous implementation of production processes and constant research and development activities allow us to create products composed of recycled rubber granules and fibres conferring unique technical characteristics; moreover, we offer global and tailor-made solutions for any soundproofing requirement.
Isolgomma has two laboratories specialized in research, testing and control for the construction and railway sectors, in compliance with the ISO 9001 quality system procedures.

CE
ETA - European Technical Assessment
A+

Living comfort

Comfort within a home, a hotel or a working environment depends on four main parameters: Temperature, Lighting, Air quality and Acoustic. There is a high living comfort only when all these parameters reach an optimal value.
The quality of the air inside a building is influenced by many factors including the volatile organic compounds (VOC) released by the building materials. The use of certified VOC products ensures that there are no harmful emissions that reduce the air quality in the rooms for the users' welfare.
Even a disturbing noise can significantly affect the psychophysical comfort of the individual so to represent one of the most common factors of harmfulness for workplace and home environments. For this reason, a building with high levels of sound insulation is a condition sine qua non to achieve a high standard of living.



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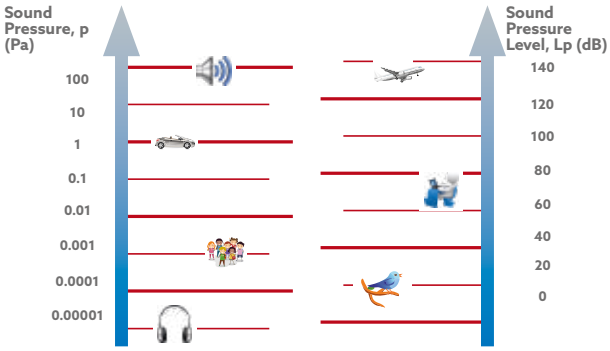
ACOUSTIC INSULATION IN BUILDING CONSTRUCTION

ACOUSTIC BASICS

Sound is a pressure wave, produced by a vibrating object which is propagated in an elastic means with an oscillator mechanism to produce a pressure variation and a particle movement around an equilibrium point.
The sound is propagated through the air (or other physical element) as a longitudinal wave. The sound velocity is a function of the air property and not from the frequency or sound wave shape.

Sound from a pressure unit point of view involves 8 units of magnitude, from 0.00001 Pa up to 100 Pa. This wide range is not practical for acoustical analysis, evaluation and measurement and does not reflect the behaviour and sensibility of the human hearing system.



The sound pressure scale "Lp", compresses all the various pressure levels into a very narrow range of values. This scale allows us to handle values with a maximum of three digits and no decimals.
In the above scale, a small variation in "dB" value corresponds to a large variation of the pressure level "Pa".

EUROPEAN LAWS AND STANDARDS

In Europe minimum requirements concerning acoustical conditions for new dwelling are specified in building regulations. Different acoustic limits define impact sound and airborne insulation, noise levels from technical installations and traffics as well as other acoustical and noise aspects.
Sound classification schemes have been adopted from several countries to satisfy more levels of acoustic quality of dwellings.
Then, acoustic requirements for a dwelling can be specified as the legal minimum requirements or as a specific class in a classification scheme.
Higher classes than the regulatory minimum requirements are requested as an option for new housing. For existing housing, and especially for those restored, it's often not a realistic option to comply with current regulations and thus there is also a need for lower classes to enable specification of performance class for such housing.
The following graphs show different acoustical indexes and levels adopted from European countries.

ACOUSTICAL PARAMETERS		
ISO 717:2013 descriptions for evaluation of field sound insulation	Airborne sound insulation between rooms (ISO 717-1)	Impact sound insulation between rooms (ISO 717-1)
Basic descriptors (single-number-quantities)	R'_w $D_{n,w}$ $D_{nT,w}$	$L'_{n,w}$ $L'_{nT,w}$

PERFORMANCE STANDARDS IMPACT SOUND INSULATION BETWEEN DWELLINGS MAIN REQUIREMENTS EUROPEAN COUNTRIES			
Country	**Descriptor**	**Multi-storey housing dB**	**Row housing dB**
Austria	$L'_{nT,w}$	≤ 48	≤ 43
Belgium	$L'_{nT,w}$	≤ 58	≤ 50
Bulgaria	$L'_{n,w}$	≤ 53	≤ 53
Denmark	$L'_{n,w}$	≤ 53	≤ 53
England & Wales	$L'_{nT,w}$	≤ 62	None
Estonia	$L'_{n,w}$	≤ 53	≤ 53
Finland	$L'_{n,w}$ (4)	≤ 53	≤ 53
France	$L'_{nT,w}$	≤ 58	≤ 58
Germany	$L'_{n,w}$	≤ 53	≤ 48
Ireland	$L'_{nT,w}$	≤ 58	None
North Ireland	$L'_{nT,w}$	≤ 62	None
Latvia	$L'_{n,w}$	≤ 54	≤ 54
Netherlands	$L'_{nT,w} + C_1$	≤ 54	≤ 54
Norway	$L'_{n,w}$ (4)	≤ 53	≤ 53
Poland	$L'_{n,w}$	≤ 58	≤ 53
Portugal	$L'_{nT,w}$	≤ 60	≤ 60
Scotland	$L'_{nT,w}$	≤ 56	None
Spain	$L'_{nT,w}$	≤ 65	≤ 65
Sweden	$L'_{n,w} + C_{1,50\text{-}2500}$	≤ 56	≤ 56
Switzerland	$L'_{nT,w} + C_1$	≤ 58	≤ 50

PERFORMANCE STANDARDS AIRBORNE SOUND INSULATION BETWEEN DWELLINGS MAIN REQUIREMENTS EUROPEAN COUNTRIES			
Country	**Descriptor**	**Multi-storey housing dB**	**Row housing dB**
Austria	$D_{nT,w}$	≥ 55	≥ 60
Belgium	$D_{nT,w}$	≥ 54	≥ 58
Bulgaria	R'_W	≥ 53	≥ 53
Denmark	R'_W	≥ 55	≥ 55
England & Wales	$D_{nT,w} + C_{Tr}$	≥ 45	≥ 45
Estonia	R'_W	≥ 55	≥ 55
Finland	R'_W	≥ 55	≥ 55
France	$D_{nT,w} + C$	≥ 53	≥ 53
Germany	R'_W	≥ 53	≥ 57
Ireland	$D_{nT,w}$	≥ 53	≥ 53
North Ireland	$D_{nT,w} + C_{Tr}$	≥ 45	≥ 45
Latvia	R'_W	≥ 54	≥ 54
Netherlands	$R'_W + C$	≥ 52	≥ 52
Norway	R'_W (3)	≥ 55	≥ 55
Poland	$R'_W + C$	≥ 50	≥ 52
Portugal	$D_{nT,w}$	≥ 50	≥ 50
Scotland	$D_{nT,w}$	≥ 56	≥ 56
Spain	$D_{nT,A} \approx D_{nT,w} + C$	≥ 50	≥ 50
Sweden	$R'_W + C_{50\text{-}3150}$	≥ 53	≥ 53
Switzerland	$D_{nT,w} + C$	≥ 52	≥ 55

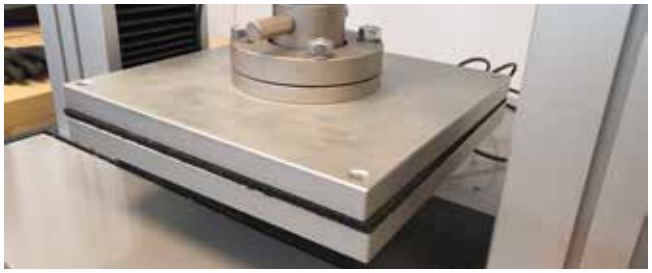
Isolgomma R & D

In June 2008 through a cooperation with Padua University, Isolgomma designed and built it's own internal acoustic laboratory according to ISO 140 standards.

The laboratory allows Isolgomma to perform the following tests:

- Airborne sound insulation index for partition walls, floors and roofs;
- Impact sound insulation index for standardized floor on reinforced concrete slab of 14 cm thickness;
- Impact sound insulation index for beam floor of 25 cm thickness;
- Vibration Testing

In the bottom Laboratory rooms we have an opening frame of 60 cm thickness on which the partition walls are built to conduct the airborne noise insulation test .
At the upper floor we have two rooms: one is equipped with a 14 cm reinforced concrete slab floor, and the other one is equipped with a 25 cm thickness beam floor, which is a typical south Europe region floor construction. The rooms are physically disconnected both vertically and horizontally thanks to elastomeric joints.
The floors and walls dimensions are bigger than 10 m^2. The rooms volumes are bigger than 50 m^3.
The upper rooms for impact sound insulation are closed to avoid any airborne interference.



Besides the acoustic rooms, the laboratory is also equipped with tools for testing small samples.

In particular it is possible to perform tests in compliance with the current technical standards, such as:

- dynamic stiffness EN 29052-1
- thickness and compressibility EN 12431
- compression EN 826
- creep deformation EN 1606
- fire reaction EN 11925-1

Parameters of the acoustic insulation products:

Dynamic stiffness: it's the material's ability to dampen and reduce vibrations. This value is linked to the attenuation of the impact sound level. The reference standard is EN 29052-1. Smaller is the value, better is the insulating product.

Deformation under screed: the impact sound insulation product, acting as a spring, must be loaded up; to work optimally, during the construction of the screed, the product must have a yielding between 10% and 30%.

Viscous sliding or creep: the impact sound insulation product must maintain its elastic characteristics over the long term; after initial settling and the screed drying, it must grant stability over the years.

Impact sound reduction: it is the property of the product used under the screed or underfloor to reduce the impact noise, by its elastic and damping properties. It is measured in the laboratory according to EN ISO 10140.

Airborne sound insulation: for airborne insulation products this is the basic parameter and refers to the entire structure tested. It is tested in the laboratory according to EN ISO 10140.

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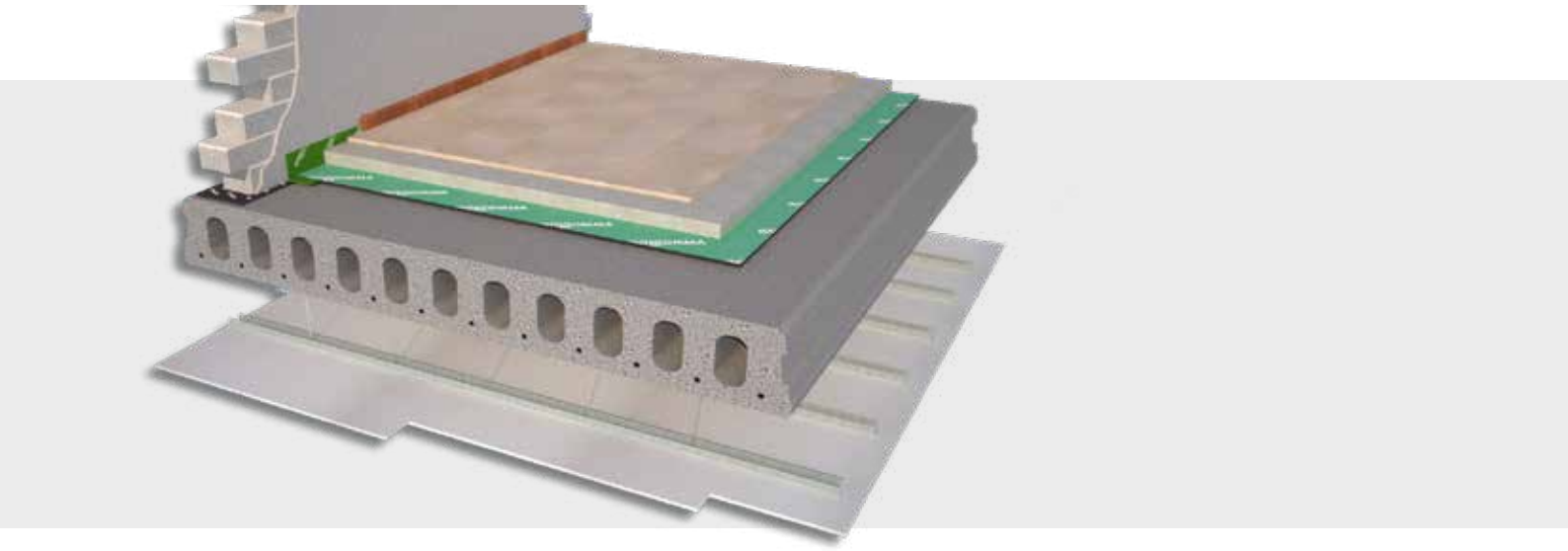
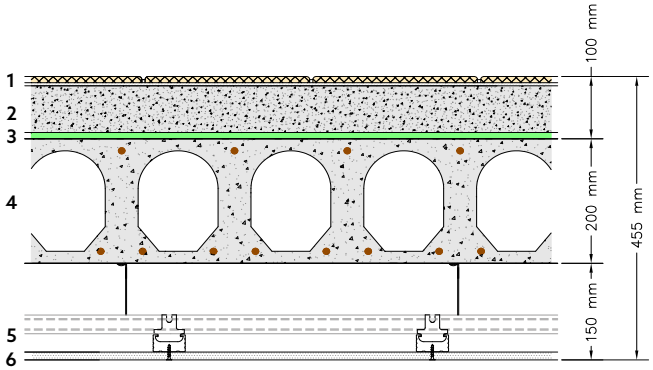
ACOUSTIC INSULATION IN BUILDING CONSTRUCTION
HOLLOW CORE SLAB



Typical floors in multi-story apartment buildings

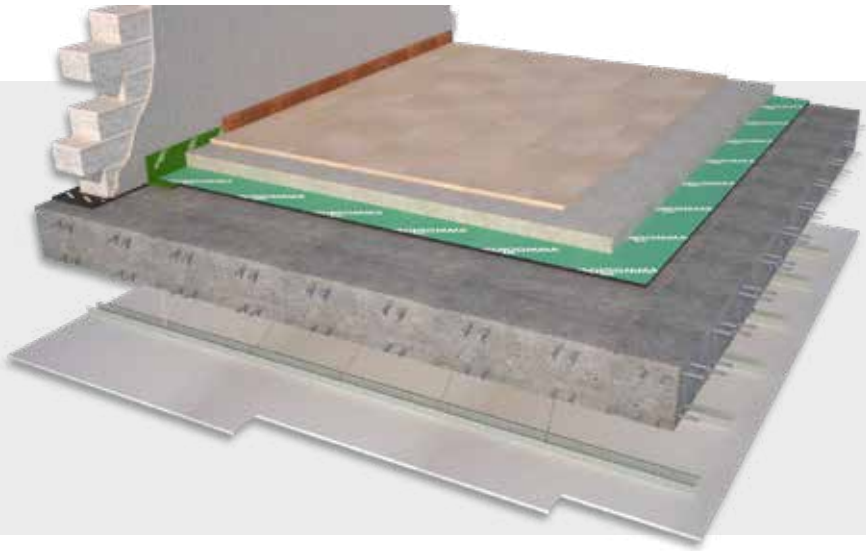
Hollow core slab is a common floor used in building construction. The acoustic behaviour is similar to a concrete slab and the correct solution to reduce the impact noise is the floating screed. With this system the acoustic material is laid down on the floor as a "spring" and the floating screed is built on this one, and become the "mass". The result is a good mitigation with an acoustic performance that can increase in function of the type of acoustic insulation, the thickness and type of screed used.

Product	$L_{n,w}$ (dB)	R_w (dB)
Sylpro 6 AD	59	57
Roll 5	56	58
Roll 7	54	58
Roll 10	52	58
Grei 5	52	58
Grei 8	51	58
Upgrei	49	59



1. Floor finishing, 10 mm thickness
2. Sand and cement floating screed, 75 mm thickness
3. Acoustic insulation in rolls
4. Hollow core slab, 200 mm thickness
5. Metal frame with air cavity
6. Plasterboard layer, 12,5 mm thickness

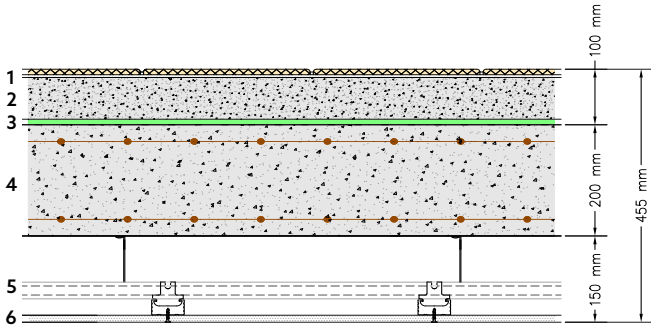
CONCRETE SLAB



High performance solution for new building

The concrete slab is the structural solution to get the best engineering performance, and in the field of the acoustic in building construction, this type of floor is a good element to start a very insulated floor. The mass and stiffness of concrete slab help to reduce the passage of noise wave; to get the level of acoustic comfort and to respect the law, the solution used is the floating screed. In this case, the combination of concrete slab with the acoustic mat and screed become the top of the solution for obtaining a quality building.

Product	$L_{n,w}$ (dB)	R_w (dB)
Sylpro 6 AD	56	59
Roll 5	53	60
Roll 7	51	60
Roll 10	49	60
Grei 5	49	60
Grei 8	48	60
Upgrei	46	61



1. Floor finishing, 10 mm thickness
2. Sand and cement floating screed, 75 mm thickness
3. Acoustic insulation in rolls
4. Concrete slab, 200 mm thickness
5. Metal frame with air cavity
6. Plasterboard layer, 12,5 mm thickness

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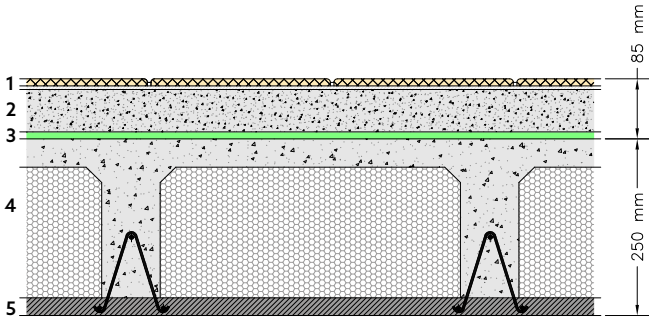
ACOUSTIC INSULATION IN BUILDING CONSTRUCTION
BEAM AND BLOCK SLAB

The lightweight slab

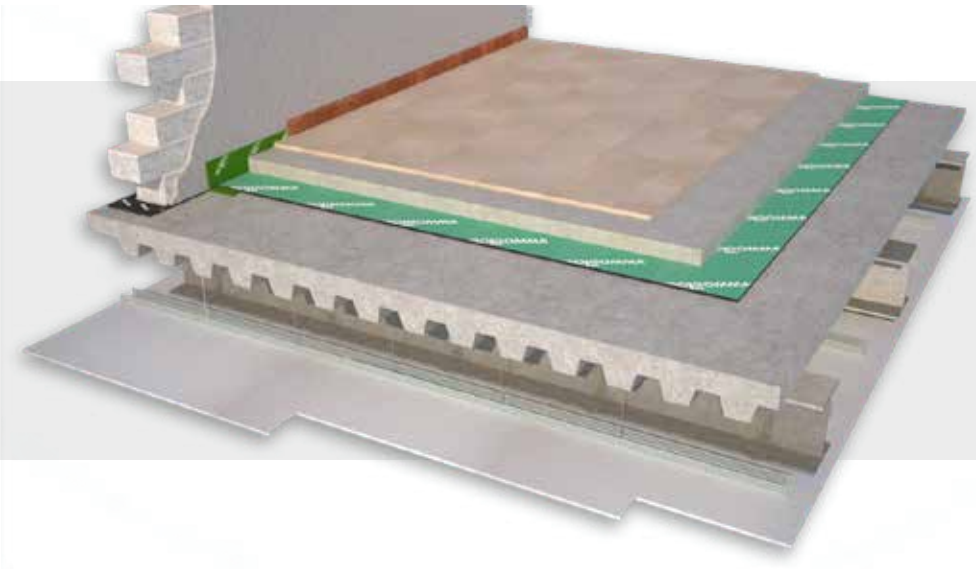
The beam and block or the predalle floor is used in the Mediterranean area with blocks of hollow clay and cement or in other European countries with different forms of lightening: polystyrene, concrete blocks, plastic formwork etc. They are a type of floor which are part of the category of heavy floors, so the ideal insulation method is the floating screed. The performance obtained from the point of view of impact noise and airborne noise is good, very close to the previous floors, depending on the floor, the thickness of the screed and the type of impact sound used.

Product	$L_{n,w}$ (dB)	R_w (dB)
Sylpro 6 AD	61	56
Roll 5	58	56
Roll 7	56	56
Roll 10	54	56
Grei 5	54	56
Grei 8	53	56
Upgrei	51	57



1. Floor finishing, 10 mm thickness
2. Sand and cement floating screed, 75 mm thickness
3. Acoustic insulation in rolls
4. Beam and block slab, 250 mm thickness

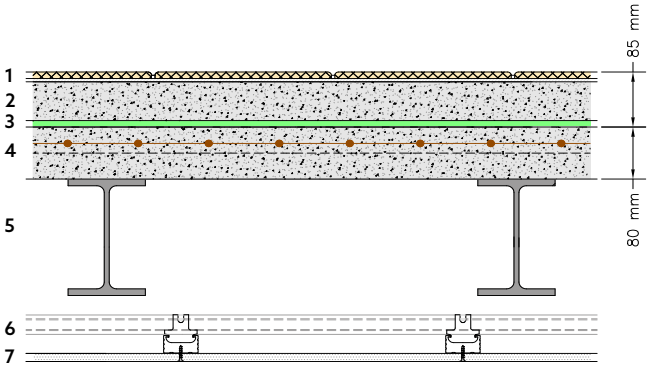
STEEL SLAB



The floor for modern building

The steel floor is a solution used in new modern buildings, such as skyscrapers, shopping and business centers, offices and similar.
The need in these contexts remains the one of guaranteeing high acoustic comfort in order to obtain silent living and working environments.
This type of floor has characteristics of lightness and flexibility, so that acoustically they must be treated in profundity. Their composition can be very complex so each case must be analyzed individually.
Typically the solution to reduce the impact noise passes through the use of the floating screed, which remains the starting point for giving the acoustic insulation to this floor.

Product	$L_{n,w}$ (dB)	R_w (dB)
Sylpro 6 AD	62	55
Roll 5	60	55
Roll 7	58	55
Roll 10	56	55
Grei 5	56	55
Grei 8	55	55
Upgrei	52	55



1. Floor finishing, 10 mm thickness
2. Sand and cement floating screed, 75 mm thickness
3. Acoustic insulation in rolls
4. Corrugated metal floor decks and concrete, 80 mm thickness
5. Steel beams (air cavity), 200 mm thickness
6. Metal frame with air cavity
7. Plasterboard layer, 12.5 mm thickness

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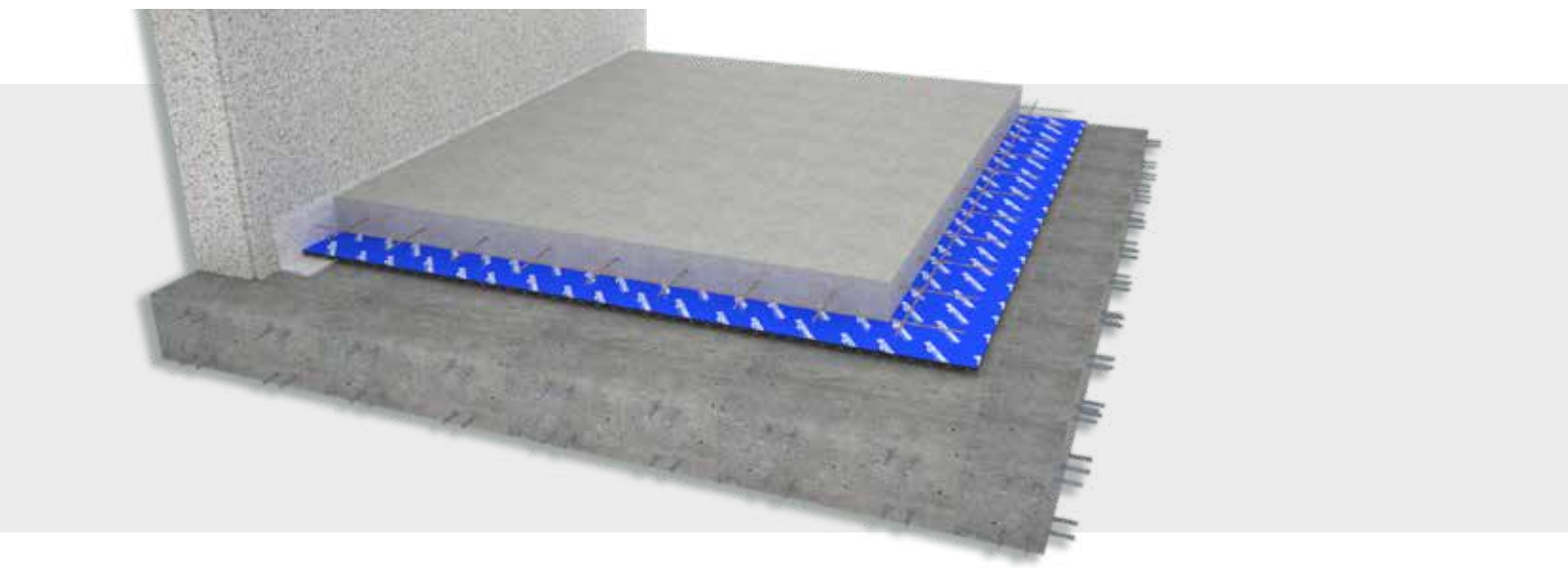
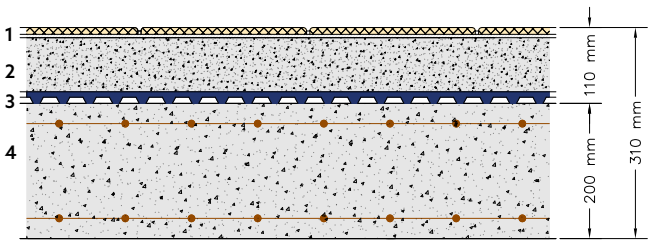
ACOUSTIC INSULATION IN BUILDING CONSTRUCTION
UNDER SCREED FOR HIGH LOAD SPECIAL STRUCTURES



Floating screed solution for high load

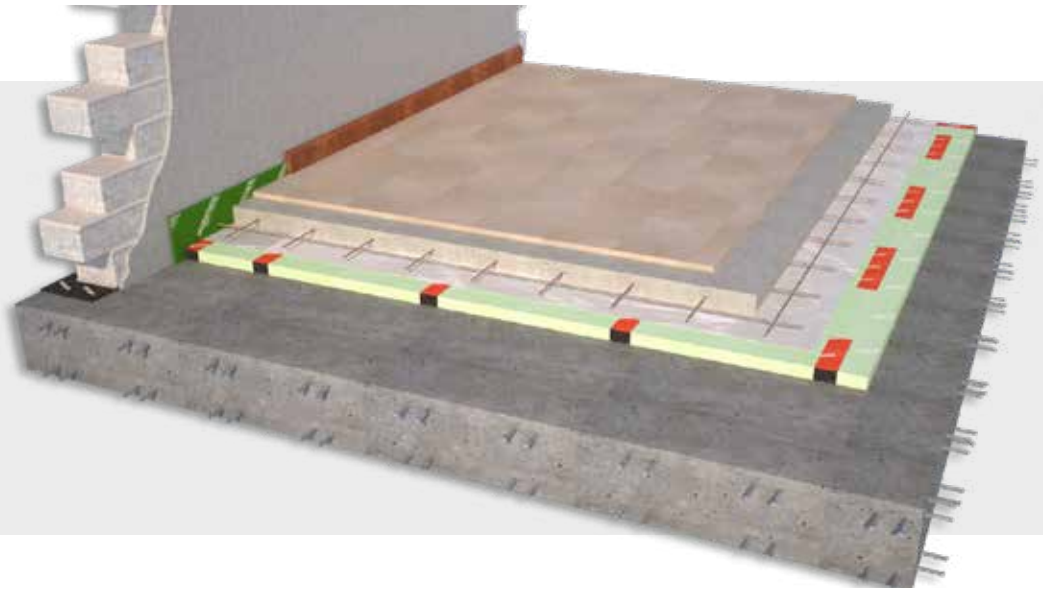
In particular cases the acoustic performances and the high loads have to be combined. This is typical when we are in supermarkets, warehouses, gyms, parkings or when there is a fusion of various types of activities like the previous ones with residential building.
The problem is to get the acoustic targets with a very thick screed, or with an important dynamic load. In this case it is possible to solve the situation with a resilient layer with an high mass and a structure designed to resist to the high weighs.

Product	$L_{n,w}$ (dB)	R_w (dB)
Sylpro 8 AD	56	58
Sylpro 10 AD	55	58
Point	49	59



1. Floor finishing, 10 mm thickness
2. Sand and cement floating screed, 90 mm thickness
3. Acoustic insulation supplied in panels
4. Concrete slab, 200 mm thickness

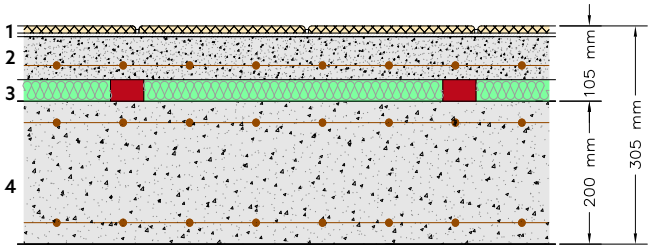
ACOUSTIC FLOATING FLOORS SYSTEM



High performance solution for new buildings

When you are designing or building a new house the focus is to create a thing with the best standards. In case of acoustic insulation, in particular in floor system, the floating screed combined to a massive floor as the concrete slab can be a good solution: an important improvement is to use a material thicker than the typical resilient mat, with a particular structure born to reduce the vibration in industrial machinery. This combination permits to have the best acoustic confort in terms of impact insulation.

Product	$L_{n,w}$ (dB)	R_w (dB)
Highmat 20	40	61
Highmat 30	38	61



1. Floor finishing, 10 mm thickness
2. Sand and cement floating screed, ≥60 mm thickness
3. Acoustic and thermal insulation in panels
4. Concrete slab, 200 mm thickness

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BUILDING CONSTRUCTION - UNDER SCREED
UPGREI

High performance under screed acoustic and thermal insulation

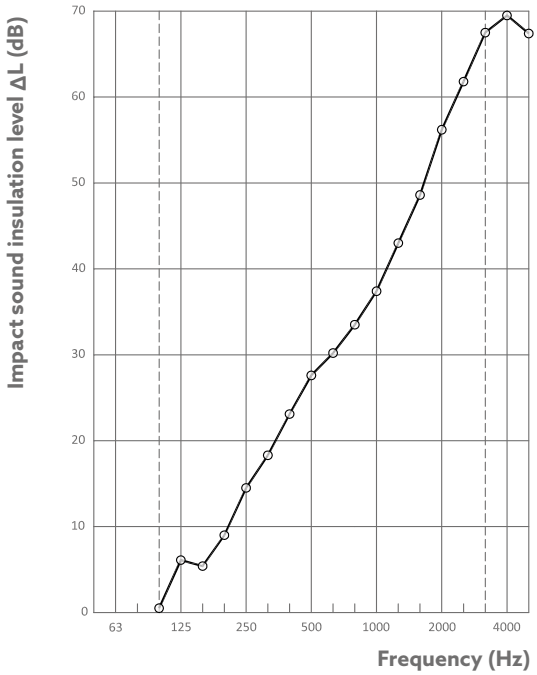
UPGREI is a product for high performance in acoustic insulation, developed with cutting-edge technologies, for applications using floating screeds. Upgrei uses a special type of EPDM rubber that exploits the tried and tested Grei technology, coupled with a polyester fibre layer.
The combination of these two materials gives the product excellent acoustic, thermal and mechanical properties.
Upgrei is also ideal for impact sound insulation of wooden floors, especially when high acoustic performance is required.
The extremely resistant and flexible mat adapts perfectly to the underlying surface and - thanks to the self-adhesive joining edge - allows a perfect connection of the edges of the rolls without having to use adhesive tape. As a result, the product can be applied easily and precisely, in a much shorter time.

APPLICATION FIELDS

- Acoustic and thermal insulation of floating floors
- Acoustic and thermal insulation of high thickness screeds
- Applications on floors where a high acoustic performance is required

Technical features		Norm	UPGREI
Thickness	mm	EN 12431	10
Dimensions	m	EN 822	1,04 x 5
Mass per unit area	kg/m^2	EN 1602	2,65
Dynamic stiffness (s')	MN/m^3	EN 29052-1	≤18
Impact sound pressure level attenuation (ΔL_w)	dB	EN ISO 10140 EN ISO 717-2	≥25
Thermal conductivity coefficient λ	W/m K	EN 12667	0,047
Compressibility c	mm	EN 12431	≤2,1

IMPACT SOUND INSULATION ISO 10140 AND 717-2



..... range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	ΔL dB
100	0,5
125	6,1
160	5,4
200	9,0
250	14,5
315	18,3
400	23,1
500	27,1
630	30,2
800	33,5
1000	37,4
1250	43,0
1600	48,6
2000	56,2
2500	61,8
3150	67,5
4000	69,5
5000	67,4

$\Delta L_w \geq 25$ dB

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the impact noise insulation.

Calculation composition:
- 140 mm concrete slab
- 10 mm UPGREI
- 50 mm sand & cement floating screed

Total thickness 200 mm

ACCESSORIES

PROFYLE - PROFYLE FLAT

0,8 - 1,2 m per m² of floor surface

PROFYLE CORNER

STIK

0,1 m per m² of floor surface

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GREI

Acoustic insulation for under screed

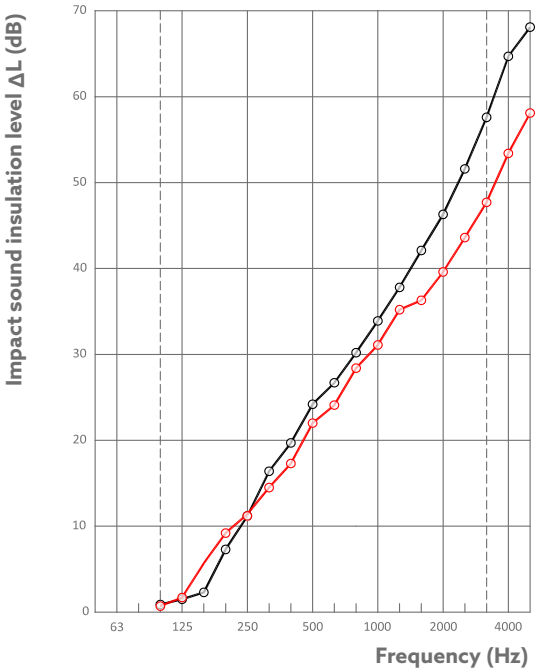
GREI is a product range for acoustic insulation of floors and was developed for the construction of high-quality slabs guaranteeing excellent insulation performances.
The use of a special EPDM rubber combined with a specific patented production process guarantees a product with superior mechanical and acoustic properties, making it ideal for impact noise insulation on all types of slabs.
The extremely resistant and flexible mat adapts perfectly to the underlying surface and - thanks to the self-adhesive overlap - allows for joining the edges of the rolls without having to use adhesive tape. As a result, the product can be applied easily and precisely, in a much shorter time.

APPLICATION FIELDS

- Floor slabs with floating floor
- High thickness screeds

Technical features		Norm	GREI	
Thickness	mm	EN 12431	5	8
Dimensions	m	EN 822	1,04 x 5	
Mass per unit area	kg/m²	EN 1602	2,4	2,9
Dynamic stiffness (s')	MN/m³	EN 29052-1	≤26	≤17
Impact sound pressure level attenuation (ΔL_w)	dB	EN ISO 10140 EN ISO 717-2	≥23	≥24
Thermal conductivity coefficient λ	W/m K	EN 12667	0,067	
Compressibility c	mm	EN 12431	≤1,4	≤1,3

IMPACT SOUND INSULATION ISO 10140 AND 717-2



GREI 5 GREI 8

range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	Grei 5 ΔL dB	Grei 8 ΔL dB
100	0,9	0,7
125	1,5	1,7
160	2,3	5,7
200	7,3	9,2
250	11,2	11,4
315	16,4	14,5
400	19,7	17,3
500	24,2	22,0
630	26,7	24,1
800	30,2	28,4
1000	33,9	31,1
1250	37,8	35,2
1600	42,1	36,3
2000	46,3	39,6
2500	51,6	43,6
3150	57,6	47,7
4000	64,7	53,4
5000	68,1	58,1

$\Delta L_w \geq 23$ dB

$\Delta L_w \geq 24$ dB

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the impact noise insulation.

Calculation composition:
- 140 mm concrete slab
- 5/8 mm GREI
- 50 mm sand & cement floating screed

Total thickness 195/198 mm

ACCESSORIES

PROFYLE - PROFYLE FLAT

0,8 - 1,2 m per m² of floor surface

PROFYLE CORNER

STIK

0,1 m per m² of floor surface

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BUILDING CONSTRUCTION - UNDER SCREED
ROLL

Acoustic insulation for under screed

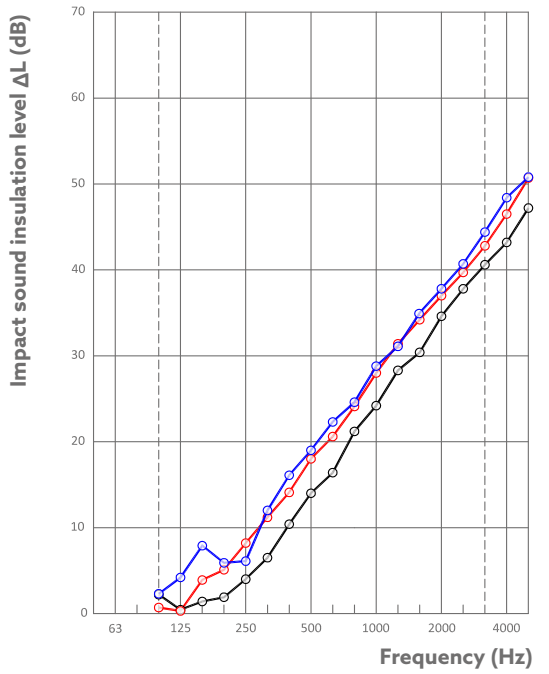
The ROLL line, which includes products for acoustic isolation of floors, has been used in the building industry for over thirty years. This product line is among the most reliable and tested on the market and sums up Isolgomma's long-standing experience in the research and development of increasingly innovative materials and processes.
Thanks to the use of special SBR recycled rubber, the product boasts excellent resistance and elasticity, making them ideal for impact noise isolation on any type of floor slab.
The Roll Radiant version is designed for beneath underfloor heating, and is equipped with a silver reflective backing.
This resistant yet flexible mat adapts perfectly to the underlying surface and - thanks to the self-adhesive overlap - allows for joining the edges of the rolls without having to use adhesive tape.

APPLICATION FIELDS

- Floor slabs with floating floor
- Extra-thick screeds
- Heated floors

Technical features		**Norm**	**ROLL**		
Thickness	mm	EN 12431	5	7	10
Dimensions	m	EN 822	1,04 x 5		
Mass per unit area	kg/m^2	EN 1602	1,8	2,4	2,8
Dynamic stiffness (s')	MN/m^3	EN 29052-1	≤50	≤39	≤33
Impact sound pressure level attenuation (ΔL_w)	dB	EN ISO 10140 EN ISO 717-2	≥19	≥21	≥23
Thermal conductivity coefficient λ	W/m K	EN 12667	0,099		
Compressibility c	mm	EN 12431	< 1,5 mm	< 1,4 mm	< 1,8 mm

IMPACT SOUND INSULATION ISO 10140 AND 717-2



ROLL 5 ROLL 7 ROLL 10

range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	Roll 5 ΔL dB	Roll 7 ΔL dB	Roll 10 ΔL dB
100	2,2	0,7	2,3
125	0,6	0,3	4,2
160	1,4	3,9	7,9
200	1,9	5,1	5,9
250	4,0	8,2	6,1
315	6,5	11,2	12,0
400	10,4	14,1	16,1
500	14,0	18,0	19,0
630	16,4	20,6	22,3
800	21,2	24,1	24,6
1000	24,2	28,0	28,8
1250	28,3	31,4	31,1
1600	30,4	34,2	35,0
2000	34,6	37,0	37,8
2500	37,8	39,7	40,7
3150	40,6	42,8	44,4
4000	43,2	46,5	48,4
5000	47,2	50,7	50,8

$\Delta L_w \geq 19$ dB
$\Delta L_w \geq 21$ dB
$\Delta L_w \geq 23$ dB

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the impact noise insulation.

Calculation composition:
- 140 mm concrete slab
- 5/7/10 mm ROLL
- 50 mm sand & cement floating screed

Total thickness 195-197/200 mm

ACCESSORIES

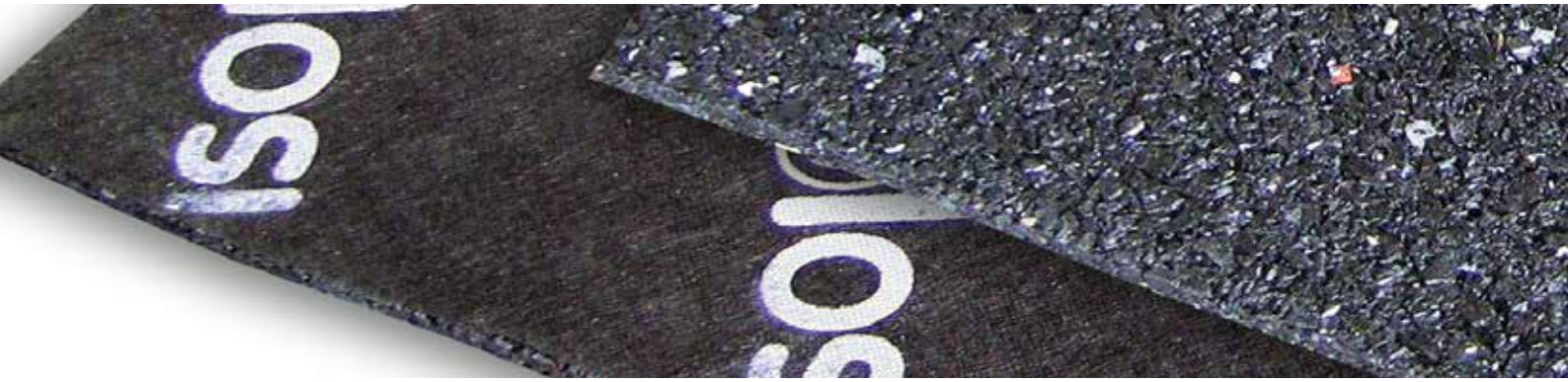
PROFYLE - PROFYLE FLAT
0,8 - 1,2 m per m² of floor surface

PROFYLE CORNER

STIK
0,1 m per m² of floor surface

ISOLGOMMA
SILENCE MAKERS

SYLPRO AD



Acoustic insulation for under screed

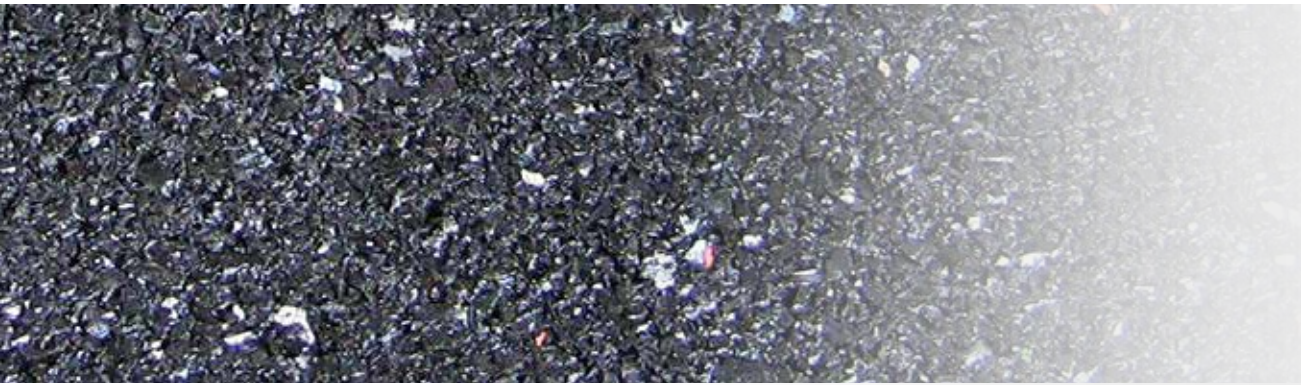
SYLPRO AD is made of high density rubber for sound insulation with a direct application under base floor. The Sylpro line, made in rolls, is composed of highly flexible SBR rubber granules which, once hot pressed and bound with polyurethane binders, grant great acoustic performance and mechanic stability and a good level of impact sound insulation.

APPLICATION FIELDS

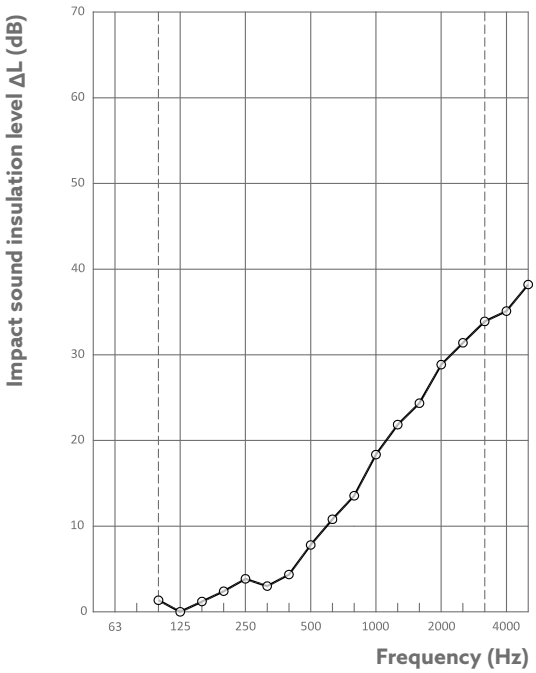
- Acoustic insulation of floating floors
- Protective and anti-abrasive membrane
- Long-lasting also in presence of water

Technical features		Norm	SYLPRO AD		
Thickness	mm	EN 12431	6	8	10
Dimensions	m	EN 822	1,2 x 8		
Mass per unit area	kg/m²	EN 1602	4,8	6,4	8,0
Dynamic stiffness (s')	MN/m³	EN 29052-1	≤ 77	≤ 60	≤ 68
Impact sound pressure level attenuation (ΔL_w)	dB	EN ISO 10140 EN ISO 717-2	≥ 17	≥ 21*	
Thermal conductivity coefficient λ	W/m K	EN 12667	0,120		
Compressibility c	mm	EN 12431	≤ 0,2		≤ 0,4

*Calculated value



IMPACT SOUND INSULATION ISO 10140 AND 717-2



STYWALL AD PRO 6

range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	ΔL dB
100	1,4
125	0,0
160	1,2
200	2,4
250	3,8
315	3,0
400	4,3
500	7,8
630	10,8
800	13,5
1000	18,4
1250	21,9
1600	24,9
2000	28,9
2500	31,4
3150	33,9
4000	35,1
5000	38,2

$\Delta L_w \geq 17$ dB

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the impact noise insulation.

Calculation composition:
- 140 mm concrete slab
- 6 mm SYLPRO AD
- 50 mm sand & cement floating screed

Total thickness
196 mm

ACCESSORIES

PROFYLE - PROFYLE FLAT

0,8 - 1,2 m per m² of floor surface

PROFYLE CORNER

STIK

0,1 m per m² of floor surface

ISOLGOMMA
SILENCE MAKERS

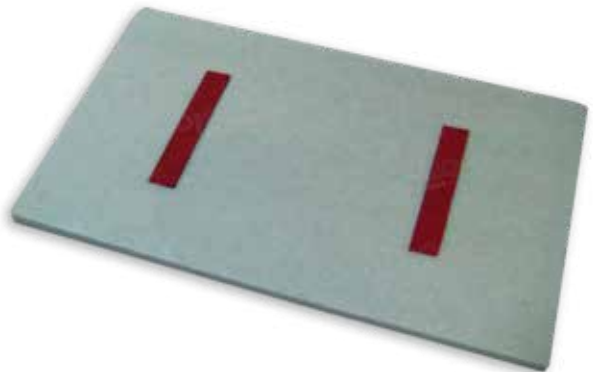
HIGHMAT

Acoustic and thermal insulation for floating floors

HIGHMAT has been developed to reach extremely high insulation on floors with floating screed technology.
Highmat is a combination of rubber bearings and polyester fibre assembled together in stand-alone panels, to be positioned on the base floor before casting the floating screed.
The Highmat system is the ideal choice to reach a first-class acoustic performance on all floor typologies. This product is particularly indicated for wooden floors as it increases significantly the acoustic performance at low frequencies and allows to meet the highest demands of acoustic comfort, both for impact sound and airborne noise.

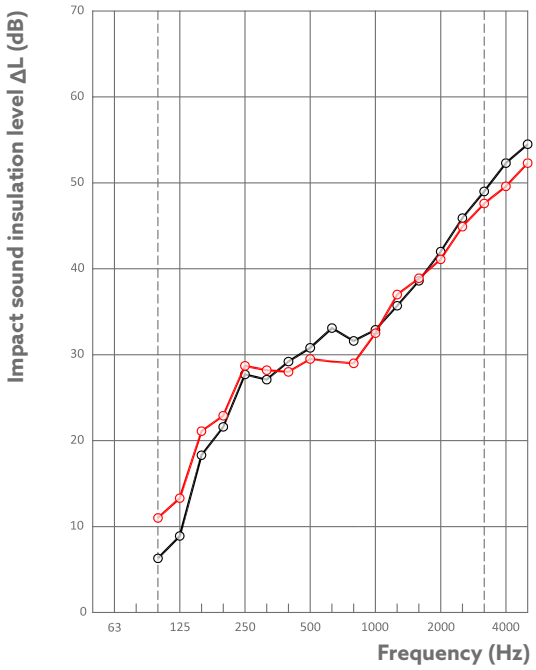
APPLICATION FIELDS

- High impact sound insulation of floating floors
- Music and video production studios insulation



Technical features		Norm	HIGHMAT	
Thickness	mm	-	20	30
Dimensions	m	EN 822	0,6 x 1	
Mass per unit area	kg/m^2	EN 1602	1,65	1,90
Dynamic stiffness (s')	MN/m^3	EN 29052-1	≤11	≤6
Impact sound pressure level attenuation (ΔL_w)	dB	EN ISO 10140 EN ISO 717-2	≥34	≥36
Thermal conductivity coefficient λ	W/m K	EN 12667	0,04	
Compressibility c	mm	EN 12431	≤4,5	≤5,5

IMPACT SOUND INSULATION ISO 10140 AND 717-2



HIGHMAT 20 — HIGHMAT 30

range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	Highmat 20 ΔL dB	Highmat 30 ΔL dB
100	6,3	11,0
125	8,9	13,3
160	18,3	21,1
200	21,6	22,9
250	27,7	28,7
315	27,1	28,2
400	29,2	28,0
500	30,8	29,5
630	33,1	29,2
800	31,6	29,0
1000	32,9	32,5
1250	35,7	37,0
1600	38,6	38,9
2000	42,0	41,1
2500	45,9	44,9
3150	49,0	47,6
4000	52,3	49,6
5000	54,5	52,3

$\Delta L_w \geq 34$ dB

$\Delta L_w \geq 36$ dB

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the impact noise insulation.

Calculation composition:
- 140 mm concrete slab
- 20/30 mm HIGHMAT
- 60 mm sand & cement floating screed

Total thickness 220/230 mm

ACCESSORIES

PROFYLE - PROFYLE FLAT

0,8 - 1,2 m per m² of floor surface

PROFYLE CORNER

STIK

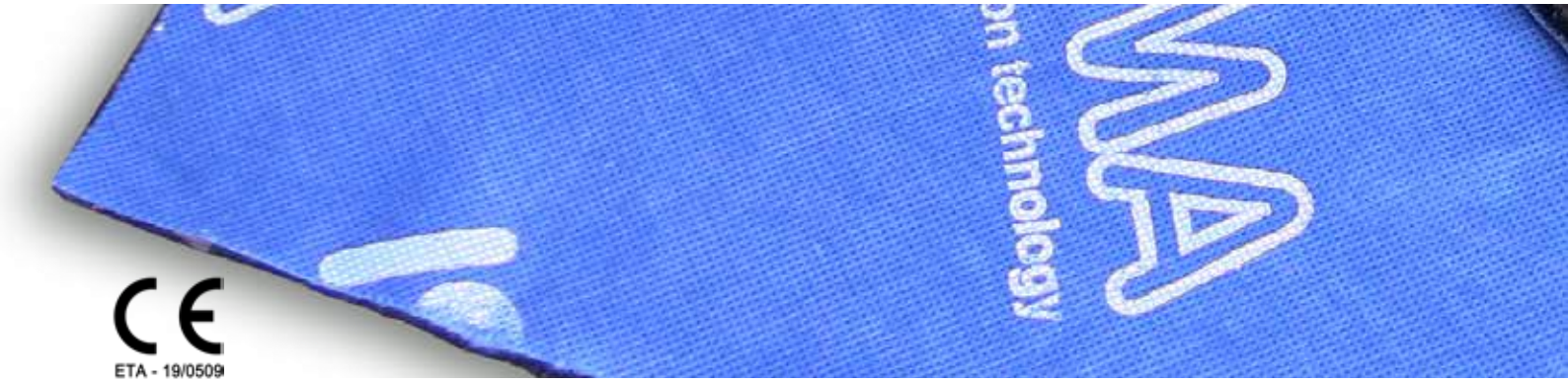
0,1 m per m² of floor surface

SIDE HIGHMAT

0,8 - 1,2 m per m² of floor surface

ISOLGOMMA
SILENCE MAKERS

POINT

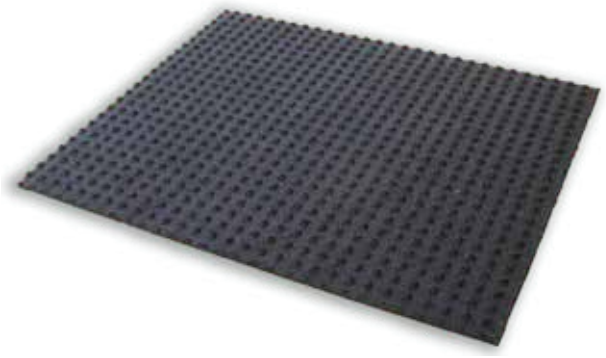


Acoustic insulation for under screed

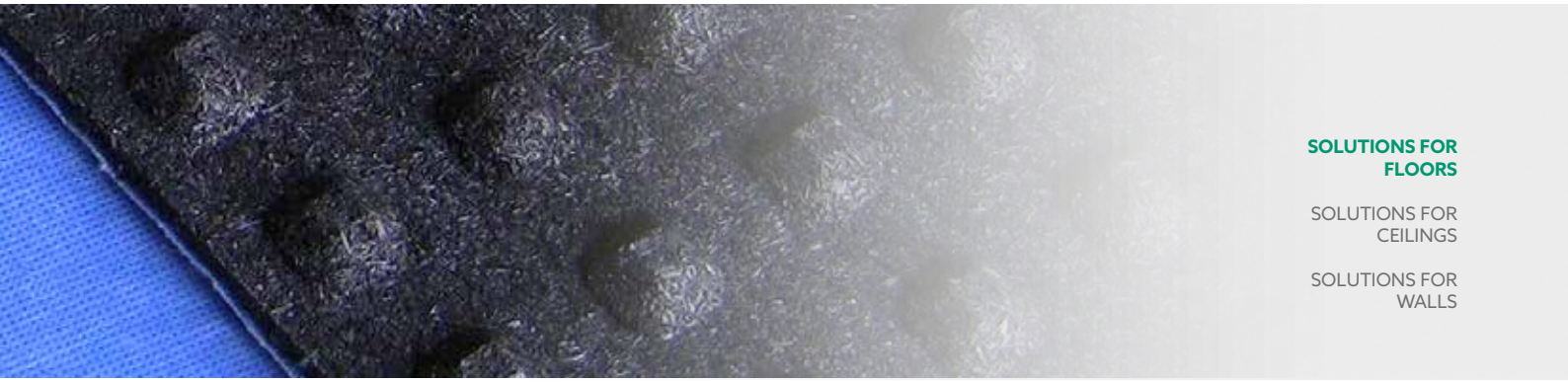
POINT is an acoustic isolation and mat for vibration control for floating floors. The lower surface is shaped to focus the load in single spots, optimizing the dynamic performances of the elastomeric material.
The texture of the panel has been calibrated to give a steady performance and a controlled deflection up to a load of 5000 kg/m^2. The upper surface is protected by a non-woven backing for the direct construction of the floating screed on top. Point is the most versatile product for residential, commercial and industrial constructions.

APPLICATION FIELDS

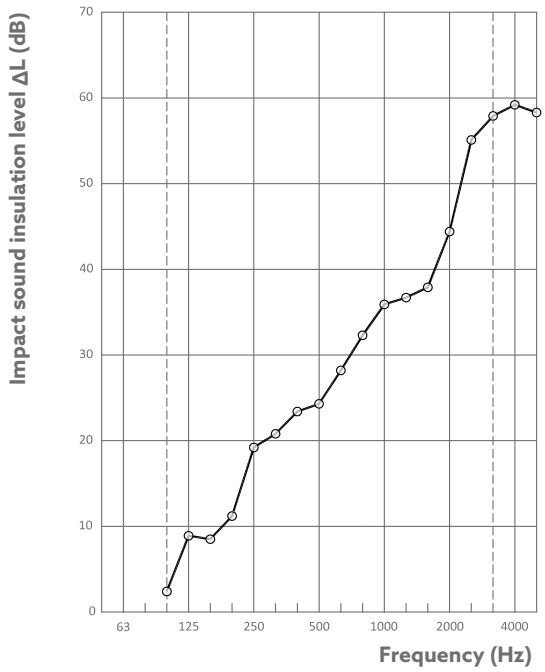
- High thickness screeds for commercial and residential use
- Vibration control of technical equipment
- Vibration control of industrial machines



Technical features		Norm	POINT
Thickness	mm	EN 12431	18
Dimensions	m	EN 822	1 x 1,2
Mass per unit area	kg/m^2	EN 1602	6,7
Dynamic stiffness (s')	MN/m^3	EN 29052-1	≤ 16
Impact sound pressure level attenuation (ΔL_w)	dB	EN ISO 10140 EN ISO 717-2	≥ 28
Thermal conductivity coefficient λ	W/m^{2}K	EN 12667	0,120
Compressibility c	mm	EN 12431	< 2,2 mm



IMPACT SOUND INSULATION ISO 10140 AND 717-2



····· range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	ΔL dB
100	2,4
125	8,9
160	8,5
200	11,2
250	19,2
315	20,8
400	23,4
500	24,3
630	28,2
800	32,3
1000	35,9
1250	36,7
1600	37,9
2000	44,4
2500	55,1
3150	57,9
4000	59,2
5000	58,3

$\Delta L_w \geq 28$ dB

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the impact noise insulation.

Calculation composition:
- 140 mm concrete slab
- 18 mm POINT
- 100 mm sand & cement floating screed

Total thickness 258 mm

ACCESSORIES

PROFYLE - PROFYLE FLAT

0,8 - 1,2 m per m² of floor surface

PROFYLE CORNER

STIK

0,1 m per m² of floor surface

ISOLGOMMA
SILENCE MAKERS

ACOUSTIC INSULATION BUILDING CONSTRUCTION
LAYING INSTRUCTIONS FOR UNDER SCREED

For a correct laying of the under screed product it is necessary to follow some directions:

• don't use directly under the floor finishing

• for recommended thickness and reinforcement of the screed, refer to the following table

ACOUSTIC INSULATION	THICKNESS FLOATING SCREED	MESH
Up to 5 mm	≥ 5 cm	-
From 5 to 10 mm	≥ 6 cm	≥ 5 cm
From 10 to 30 mm	≥ 7 cm	≥ 6 cm

• the floor must be free from holes and cracks

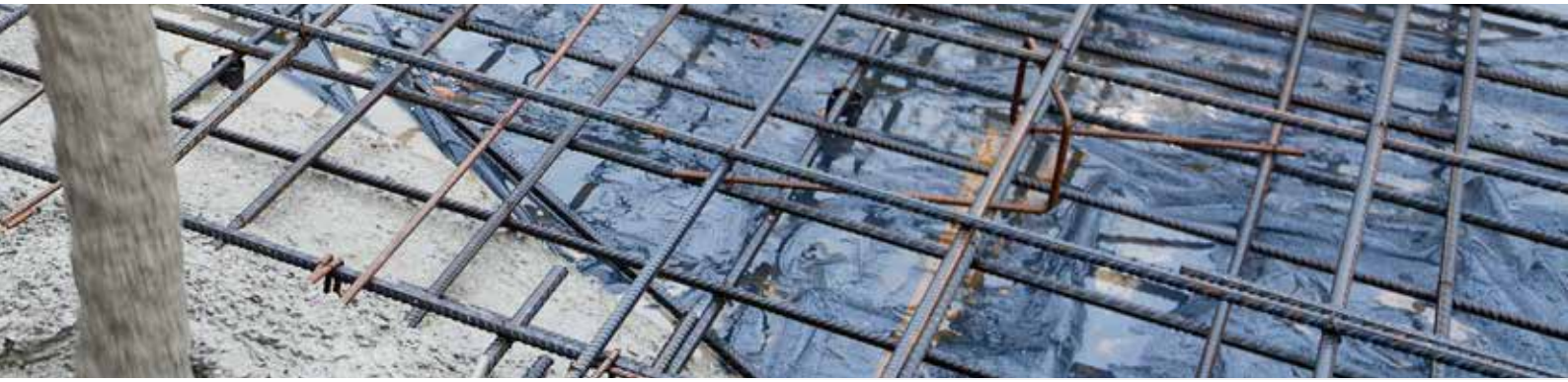
• edging strip: the adhesive is very effective and may leave some residue on the walls. If the final floor will be left without skirting, ensure that the adhesive band does not exceed the floor level. To remove any adhesive residue, use a specific solvent.

PREPARATION OF THE LAYING SURFACE

The substrate must be mechanically strong, coherent, dry, flat, without cracks and free of dust. In case of use of light concrete consider a compressive strength ≥10 kg/cm^2 to prevent possible sinking of the floating system.

The cracks should be repaired with appropriate products, such as dedicated epoxy adhesive or resin.

If the surface is not flat and it has irregularities, it must be properly levelled.



ROLL - GREI - UPGREI - SYLPRO AD

Clean the surface area of any residue. Apply the Profyle edging strip all along the perimeter of the room. Fix the strip both to the wall and the floor.

If in the case of heating system lay down the heating panel above the acoustic insulation layer.

Lay down the insulation layer on the floor surface with the rubber granules faced down.

Cast the screed.

Seal the overlap to the roll adhesive edge. Follow the dotted lines for accuracy.

Lay the tiles on the adhesive, as desired. Apply the grout and clean the ceramic tiles.

In the absence of the adhesive flap, seal the joints with Stik tape. Always check that the mat is installed correctly and without tears.

Trim the Profyle edging strips, only when the floor finish has been completely installed.

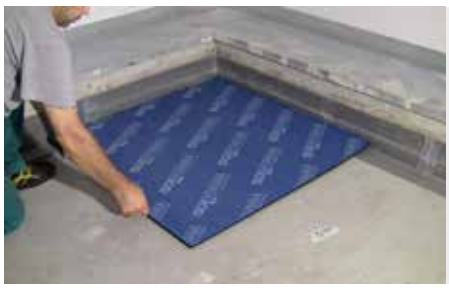
ISOLGOMMA
SILENCE MAKERS

ACOUSTIC INSULATION BUILDING CONSTRUCTION
LAYING INSTRUCTIONS FOR UNDER SCREED

POINT

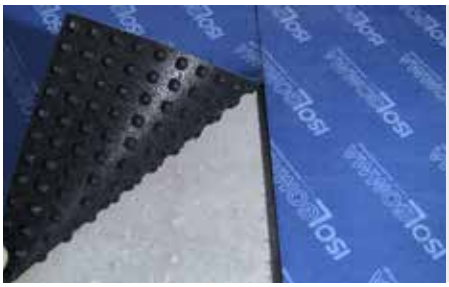
Apply the Profyle edging strip all along the perimeter of the room.

Seal the joints between panels with Stik tape.



Install the acoustic mat with dimpled side facing down.

Build the screed, if necessary reinforce the screed with a steel mesh.



Install the panels on the floor and butt together tightly.

Lay the tiles on the adhesive, as desired. Apply the grout and clean the ceramic tiles.

Where necessary, cut the panels with a sharp knife.

Trim the Profyle edging strips, only when the floor finish has been completely installed.

HIGHMAT

Clean the floor area and apply the Profyle Flat edging strip vertically, around the perimeter of the room.

Place a protective layer/film. Protecting precisely the surface sides and junctions with stick.

Place the Side Highmat bearings next to the Profyle edging strip.

Build the screed (sand and cement or self-levelling), reinforced with reinforcement mesh.

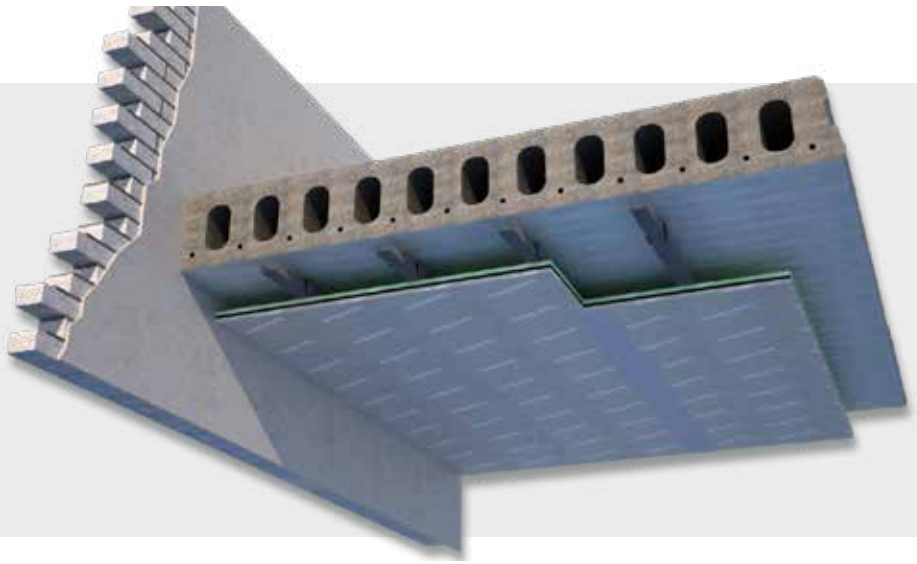
Place the Highmat panels in adjacent rows.

Lay the tiles on the adhesive, as desired. Apply the grout and clean the ceramic tiles.

Seal any gap between two adjacent components with Stik tape.

Trim the Profyle edging strips, only when the floor finish has been completely installed.

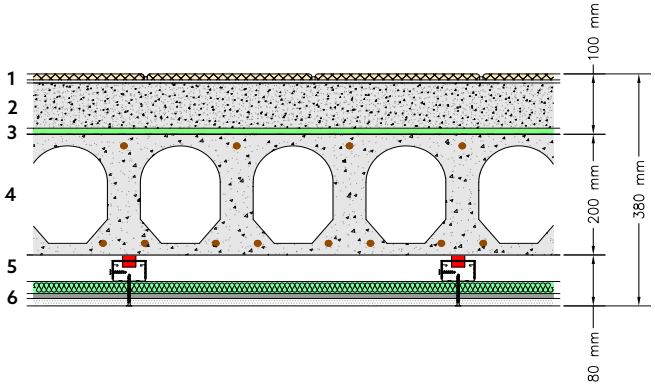
ISOLGOMMA
SILENCE MAKERS



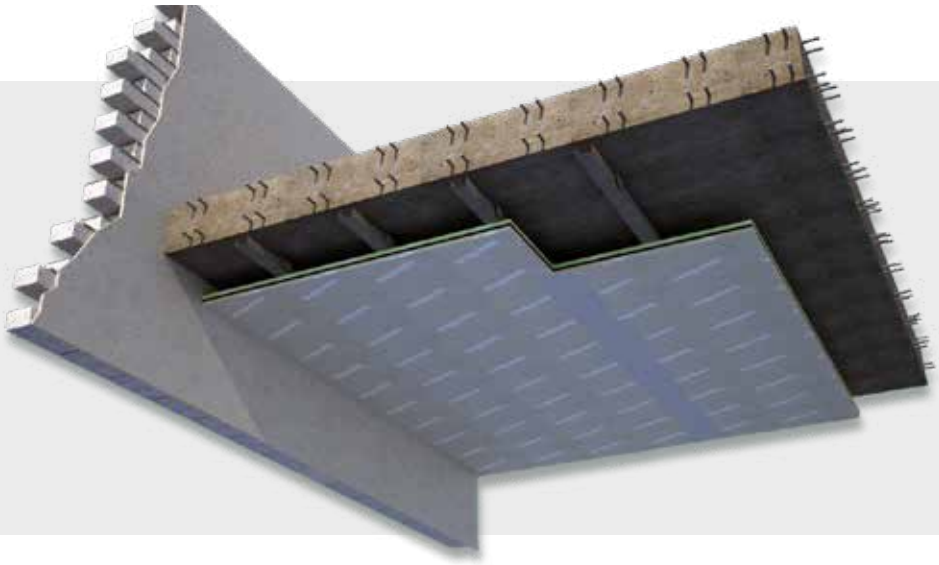
Acoustic retrofit solutions for hollow core slab

In case of hollow core floor where it's important improve the acoustic performance, it's possible to use an insulate ceiling.
The false ceiling installed in combination with acoustic hangers reduce the transmission of impact noise and increase the airborne insulation of floor.
In a little space, metal frame and coupled insulated panel combine the acoustic performance with the thermal insulation, because this type of system has both characteristics.

Product	$L_{n,w}$ (dB)	R_w (dB)
Rewall 40	50	64
Mustwall 33B	51	63



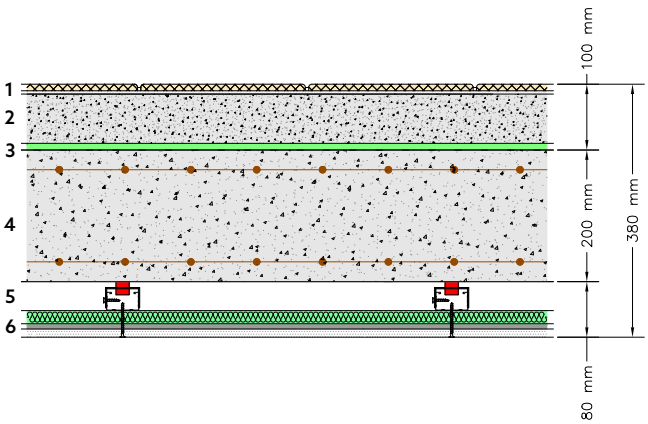
1. Floor finishing, 10 mm thickness
2. Sand and cement floating screed, 75 mm thickness
3. Acoustic insulation
4. Hollow core slab, 240 mm thickness
5. Metal frame with air cavity
6. Acoustic and thermal insulation in panels



Acoustic retrofit solution for concrete slab

When there is a concrete slab, it is tipycal to use a false ceiling to installed the light system or to cover the raw surface of the slab.
This space could be used to increase acoustic performance, using a system with metal frames and insulated coupled panels. In this way, in addition to create a more aesthetically pleasing environment, it is also possible to have a superior acoustic comfort.

Product	$L_{n,w}$ (dB)	R_w (dB)
Rewall 40	50	67
Mustwall 33B	51	64



1. Floor finishing, 10 mm thickness
2. Sand and cement floating screed, 75 mm thickness
3. Acoustic insulation
4. Concrete slab, 200 mm thickness
5. Metal frame with air cavity
6. Acoustic and thermal insulation in panels

ISOLGOMMA
SILENCE MAKERS

REWALL 40

Acoustic and thermal insulation for ceiling

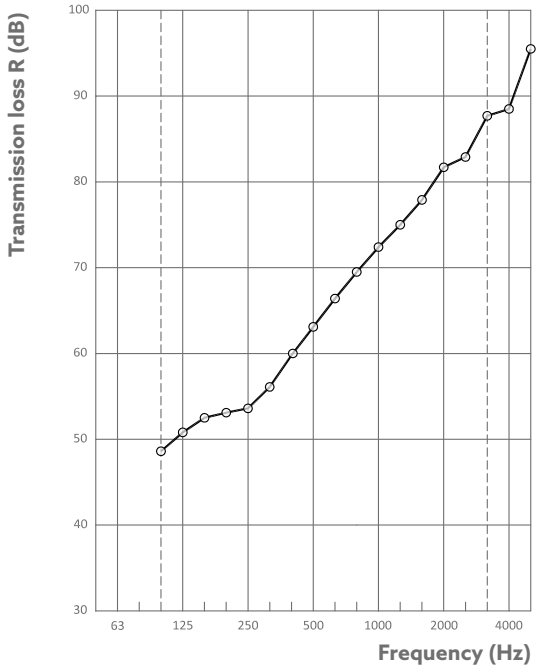
REWALL 40 is a product with high thermal acoustic performance and very easy to be installed; it is a pre-coupled panel made of a polyester fibre sheet, a high density SBR rubber panel and plasterboard.
Rewall 40 is used in existing building to increase the acoustic performance of floor and wall when it's impossible to build new masonry or when the floor finishing it is not removed. It can be used in new buildings when it's requested to get high level of acoustic value.

APPLICATION FIELDS

- Thermal and acoustic insulation of ceilings of existing apartments
- Easy to install in existing floor to improve the insulation
- Applicable to obtain high acoustic values in prestigious buildings

Technical features		Norm	REWALL 40
Thickness	mm	-	40
Dimensions	m	EN 822	1,2 x 2
Mass per unit area	kg/m²	EN 1602	18,0
Thermal resistance R	m² K/W	EN 12667	0,761

TRANSMISSION LOSS EN ISO 12354



range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	R dB
100	48,6
125	50,8
160	52,5
200	53,1
250	53,6
315	56,1
400	59,8
500	63,1
630	66,4
800	69,5
1000	72,4
1250	75,0
1600	77,9
2000	81,7
2500	82,9
3150	87,7
4000	88,5
5000	95,5

$R_w \geq 67$ dB

The results are concerning the calculated solution.

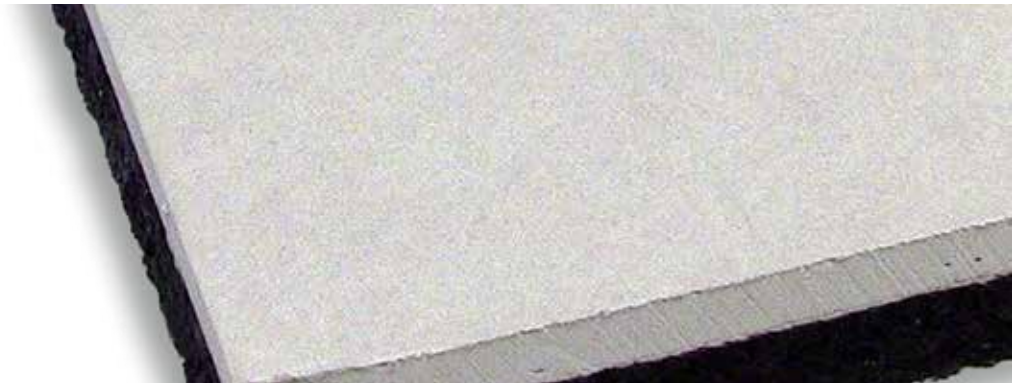
Floor composition:
- 75 mm sand & cement floating screed
- acoustic insulation
- 200 mm concrete slab
- metal frame
- 40 mm REWALL 40 fix on metal studs

Total thickness 370 mm

ACCESSORIES

REDFIX L/C/U

BUILDING CONSTRUCTION - CEILING
MUSTWALL 33B



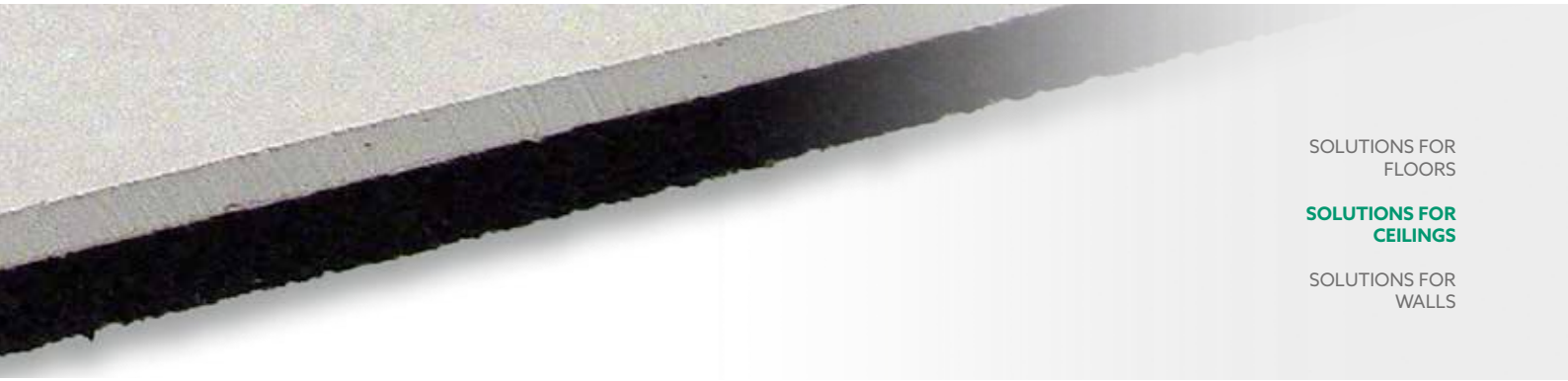
Acoustic insulation for ceiling

MUSTWALL 33B is a product with high acoustic performance and it is very easy to be installed. It is a pre-coupled panel made of a high density SBR rubber sheet and a plasterboard layer.
Mustwall 33B is used in existing building to increase the acoustic performance of floor and wall when it's impossible to build new masonry or when the floor finishing it is not removed. It can be used in new building when it's requested to get high level of acoustic value.
It is a product of reduced thickness but with a good mass and elasticity that increase performance of airborne sound insulation.

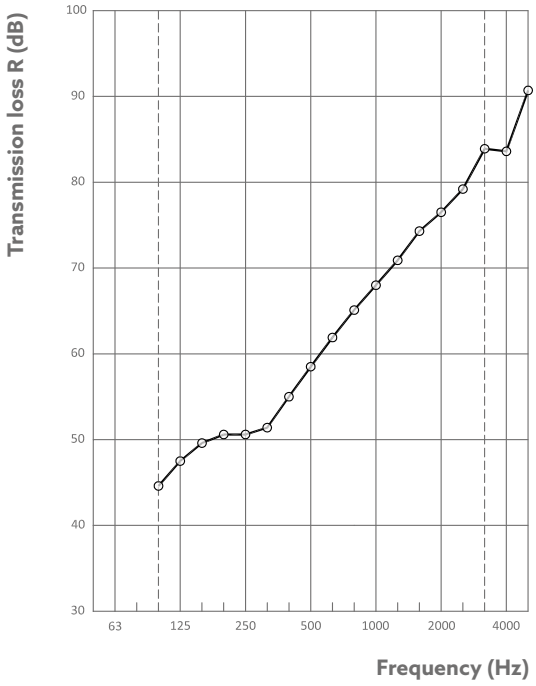
APPLICATION FIELDS

- Acoustic insulation of ceilings of existing apartments
- Easy to install in existing floor to improve the insulation
- Applicable to obtain high acoustic values in prestigious buildings

Technical features		Norm	MUSTWALL 33B
Thickness	mm	-	33
Dimensions	m	EN 822	1,2 x 2
Mass per unit area	kg/m²	EN 1602	19,5
Thermal resistance R	m² K/W	EN 12667	0,229



TRANSMISSION LOSS ISO 12354



range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	R dB
100	44,6
125	47,5
160	49,6
200	50,6
250	50,6
315	51,4
400	55,0
500	58,5
630	61,9
800	65,1
1000	68,0
1250	70,9
1600	74,3
2000	76,5
2500	79,2
3150	83,9
4000	83,6
5000	90,7

$R_w \geq 63$ dB

The results are concerning the calculated solution.

Floor composition:
- 75 mm sand & cement floating screed
- acoustic insulation
- structural concrete screed
- 240 mm hollow core slab
- metal frame
- 33 mm MUSTWALL B fix on metal studs

Total thickness 420 mm

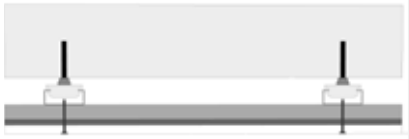
ACCESSORIES

REDFIX L/C/U

ACOUSTIC INSULATION BUILDING CONSTRUCTION
LAYING INSTRUCTIONS FOR CEILING

For a correct laying of the ceiling products it is necessary to install a metal frame. By using the clik-on system or universal bracket it can be lowered from 3 to 12 cm.

Load P (kg/m²)	Hangers distance	
< 25		600

Load P (kg/m²)	Primary grid (metal studs) distance	
< 25		400

REDFIX C
Make the holes in the ceiling to set the position of Redfix C elements for the installation of a single steel frame C 50/27, with a spacing of 50 cm (usually). For the total number of hangers, consider a specific load of maximum 25 kg for each hanger.

REDFIX U
Make the holes in the ceiling to set the position of Redfix U elements for the installation of the primary steel frame with a "U" profile, with a spacing of 50 cm (usually), and with hooks for the mechanical connection of the secondary frame. For the total number of hangers, consider a specific load of maximum 25 kg for each hanger.

The connection should be made exclusively on the structural elements of the floor with homologated steel anchors as Fischer FNA II, FBN II, FBS for traditional floors or or structural screws for wooden floors. Fasten the primary frame to the Redfix U hangers with wafer head drywall screws.

REWALL - MUSTWALL B

Fix metal studs along the upper perimeter of the room.

Lean the panel to the metal frame.

Calculate the distance of the metal studs of 40 cm and fix the acoustic bracket every 60 cm.

Fix the panel to the metal frame with 55 mm screws every 15 cm.

Drill the ceiling and fix the acoustic bracket.

Fill the possible gaps between panels

Fix the metal stud to the acoustic bracket.

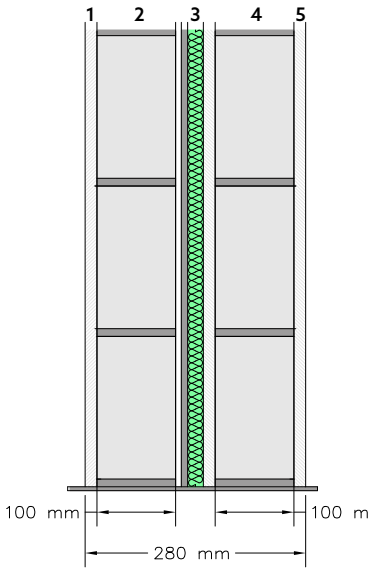
Apply the plastic mesh tape in the gypsum boards jointing lines and grouting.

ACOUSTIC INSULATION BUILDING CONSTRUCTION
DOUBLE WALL

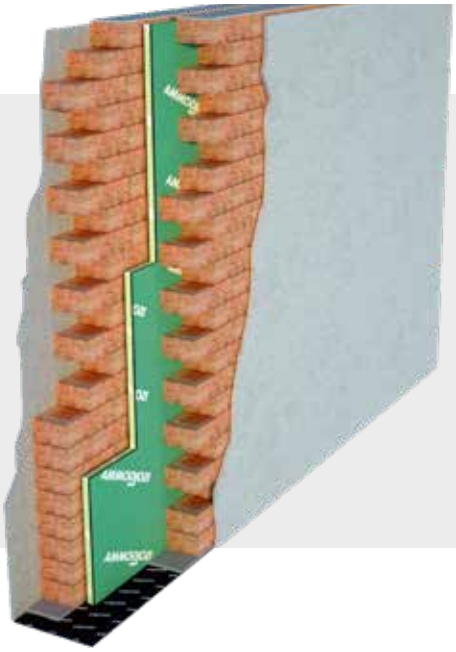
Double wall with cement block

In many countries the partitions between different apartments are made with double walls made of concrete blocks. It is a construction technique widely used to have good acoustic performance and also good thermal insulation. The use of two walls separates the structures, and the interposition of the insulating and sound-absorbing material makes the solution highly performing. The blocks used can be concrete, lightweight concrete, clay.

Product	R_w (dB)
Biwall 30	54
Biwall 40	55
Biwall 50	56
Biwall 50/20	57
Mustwall 10	53
Mustwall 20	55



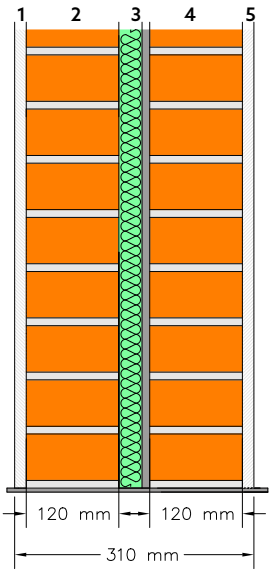
1. Plaster, 15 mm thickness
2. Cellular concrete wall, 100 mm thickness
3. Acoustic and thermal insulation panel
4. Cellular concrete wall, 100 mm thickness
5. Plaster, 15 mm thickness



Double wall with brick

The clay brick partition wall is linked to traditional building cultures. In fact, in some countries where there was the presence of this material, many buildings were built with bricks; acoustically, this massive element is performing and in the construction of the double wall the principle of mass-spring-mass is exploited.

Product	R_w (dB)
Biwall 30	55
Biwall 40	56
Biwall 50	57
Biwall 50/20	58
Mustwall 10	54
Mustwall 20	56



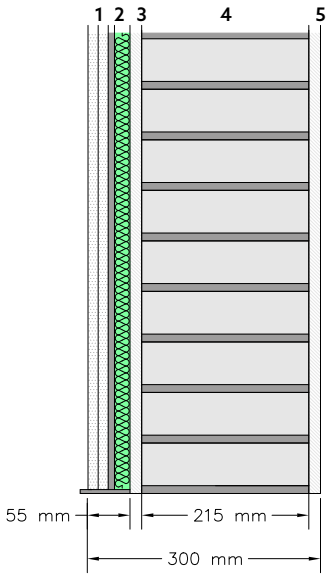
1. Plaster, 15 mm thickness
2. Brick wall, 120 mm thickness
3. Acoustic and thermal insulation panel
4. Brick wall, 120 mm thickness
5. Plaster, 15 mm thickness

ACOUSTIC INSULATION BUILDING CONSTRUCTION
COATED WALL

Wall system on existing masonry

The coated wall is a solution to improve acoustic performance for old buildings renovation or where it is necessary to combine traditional walls with high insulating solutions. Using Isolgomma pre-coupled plasterboard sheets allows, even without a traditional metal structure and in small spaces, to obtain very high acoustic performances.

Product	R_w (dB)
Mustwall 33B	60
Rewall 40	63

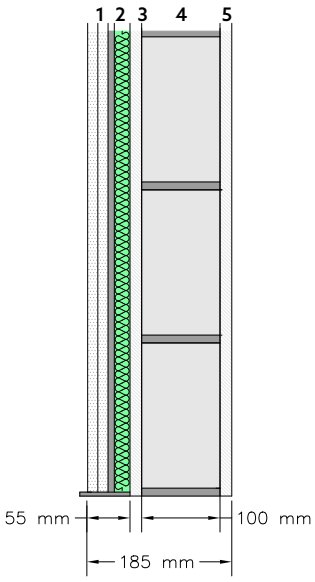


1. Plasterboard layer, 12,5 mm thickness
2. Acoustic and thermal insulation panel
3. Plaster, 15 mm thickness
4. Brick wall, 215 mm thickness
5. Plaster, 15 mm thickness

Wall System on exiting light masonry

Cellular concrete wall is a very interesting building solution because it is light and has a good thermal performance. To obtain good acoustic performance, however, it must be isolated with additional of dedicated acoustic solutions. Isolgomma has the ideal solutions for this purpose and can be laid without special structures and glued directly onto the existing wall.

Product	R_w (dB)
Mustwall 33B	52
Rewall 40	53



1. Plasterboard layer, 12,5 mm thickness
2. Acoustic and thermal insulation panel
3. Plaster, 15 mm thickness
4. Cellular concrete wall, 100 mm thickness
5. Plaster, 15 mm thickness

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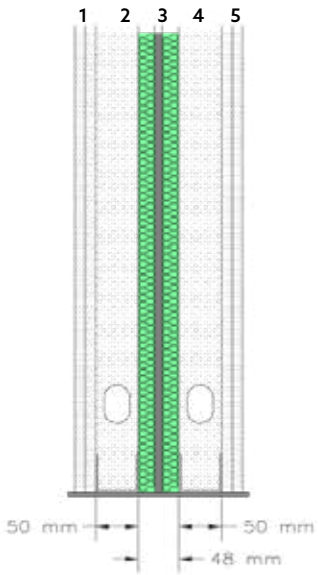
PLASTERBOARD WALL

Acoustic insulation in plasterboard wall

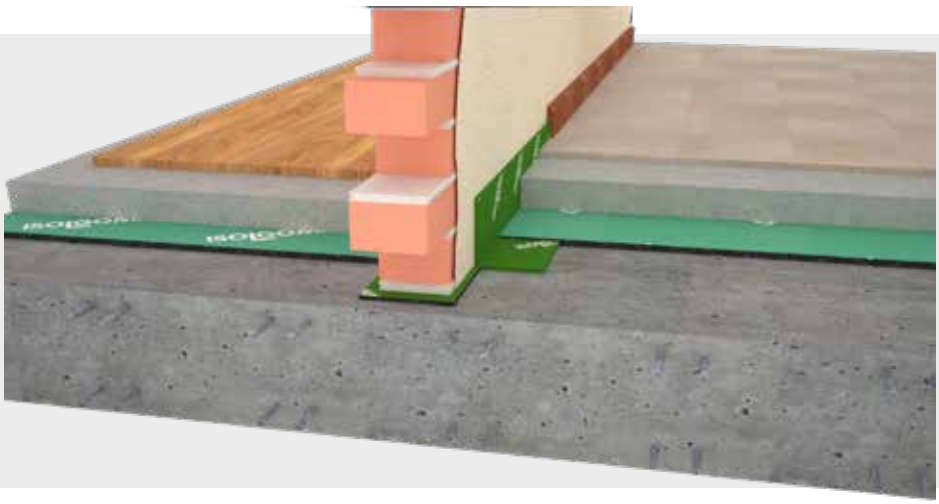
The plasterboard wall is a solution that has many advantages because it combines installation speed, system management and high acoustic performance. Plasterboard solutions, if properly completed with Isolgomma acoustic products, depending on the intended use, can guarantee excellent acoustic performance. The field of application is very varied: separations between apartments, hotel rooms, meeting rooms or offices. The use of an adequate metal structure is a must and the combination of the Redfix insulated fixing systems guarantees perfect operation.

Product	R_w (dB)
Trywall 48	60



1. Double plasterboard layer 12,5 mm thick, 25 mm total thickness
2. Metal frame, 50 mm thickness
3. Acoustic and thermal insulation panel
4. Metal frame, 50 mm thickness
5. Double plasterboard layer 12,5 mm thick, 25 mm total thickness

UNDER WALL STRIPES



Attention to insulation in detail

Impact noise and airborne noise propagate through the building structures in form of vibration and then they transform into noise in the rooms connected to the sound source. The way to eliminate this indirect transmission of noise is to release the structures with anti-vibration elements. It's the case of insulation partitions between apartments with under walls strips. These strips prevent the transmission of airborne noise and vibrations passing through the walls to the floor and create an elastic joint at the lower edge of the wall, improving the acoustic insulation of the walls and the level of foot traffic on the lower floor.

HEAVY WALLS: they are made with heavy concrete blocks or bricks.

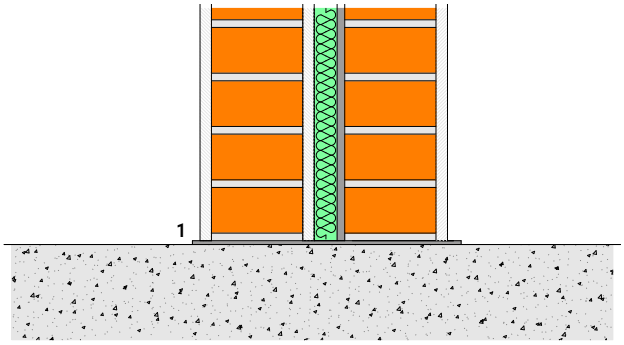
Wall weight:
400 – 600 kg/m^2
Load on the strip:
0,04 – 0,06 N/mm^2

HEAVY MASONRY WALLS: they are made with hollow clay blocks or concrete or other similar materials

Wall weight:
200 – 400 kg/m^2
Load on the strip:
0,02 – 0,04 N/mm^2

LIGHT MASONRY WALLS: they are made with hollow blocks or blocks in light materials

Wall weight:
100 – 200 kg/m^2
Load on the strip:
0,01 – 0,02 N/mm^2



1. Under wall strip composed of granules of SBR rubber

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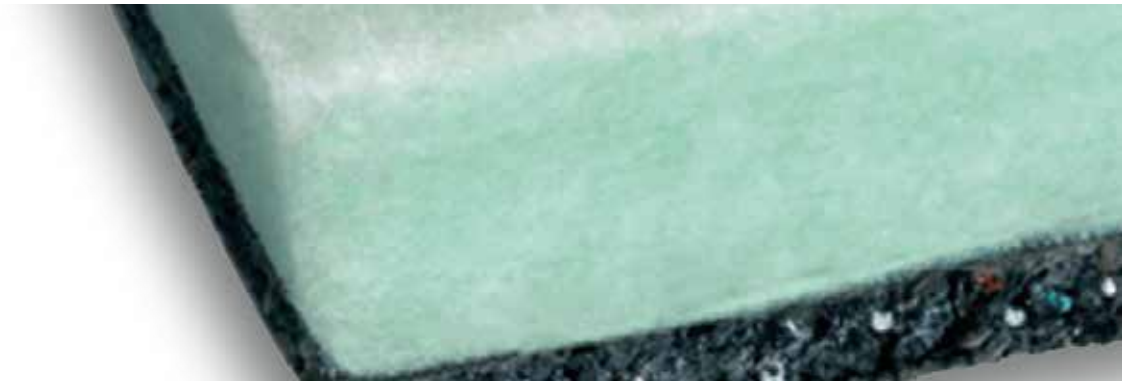
SILENCE MAKERS

BIWALL



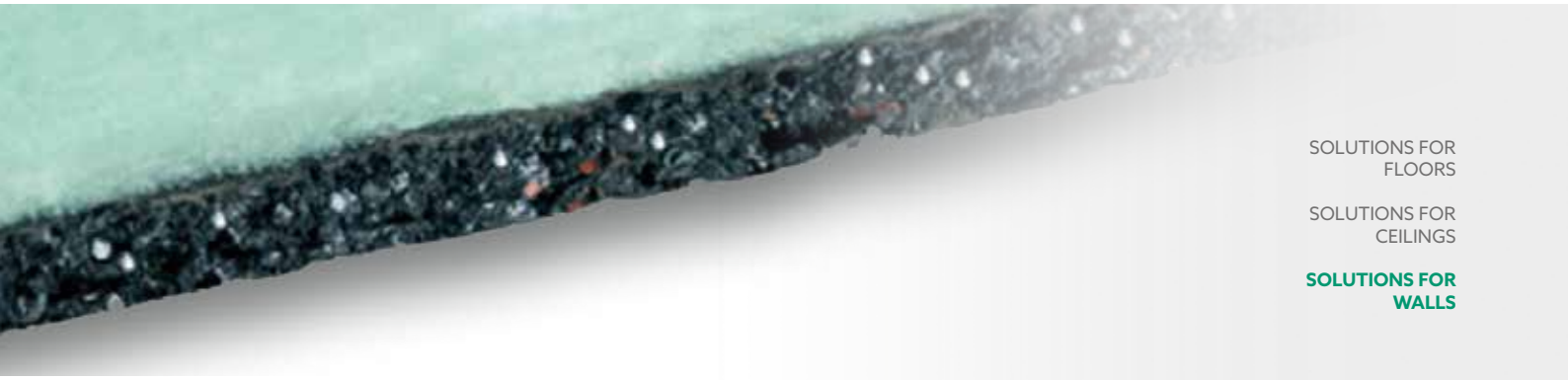
Acoustic insulation for double walls

BIWALL is a pre-coupled panel made of a SBR and EPDM rubber fiber and granule sheet, and of a polyester fiber panel.
Designed to combine the massive and elastic properties of rubber and the sound absorption of polyester, Biwall represents the ideal product for cavity walls.
It is produced in different thicknesses and it is an excellent acoustic insulator as well as having good thermal characteristics, useful to reach the energy performance requirement between the different housing units.
Biwall is a green product, environmental friendly, as rubber comes from recycling of ELT and fiber from the recycling of plastic bottles.

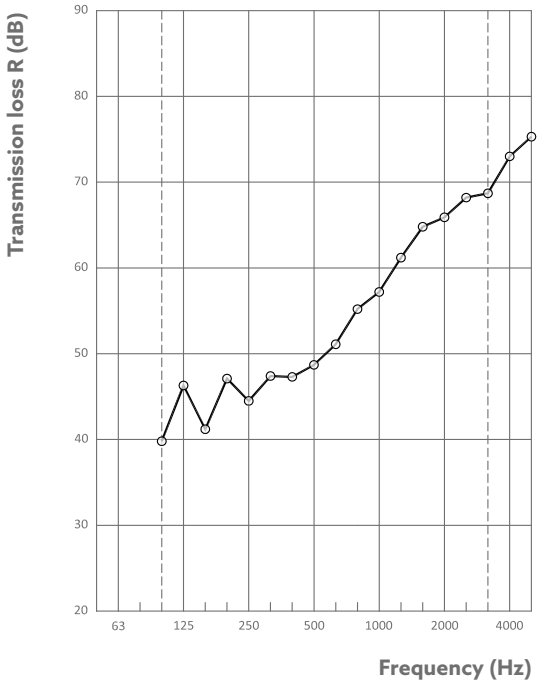
APPLICATION FIELDS

- Acoustic and thermal insulation of brick cavity walls
- Cavity wall insulation of block wall

Technical features		Norm	BIWALL 30	BIWALL 40	BIWALL 50	BIWALL 50/20
Thickness	mm	-	30	40	50	50
Dimensions	m	EN 822	1 x 1,2	1 x 1,2	1 x 1,2	1 x 1,2
Mass per unit area	kg/m²	EN 1602	8,6	8,9	9,2	14,90
Thermal conductivity coefficient λ	W/mK	EN 12667	0,051	0,049	0,046	0,060



TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	R dB
100	39,8
125	46,3
160	41,2
200	47,1
250	44,5
315	47,4
400	47,3
500	48,7
630	51,1
800	55,2
1000	57,2
1250	61,2
1600	64,8
2000	65,9
2500	68,2
3150	68,7
4000	73,0
5000	75,3

$R_w \geq 55$ dB

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the airborne sound insulation.

Description test double wall:
- 15 mm plaster lime/cement
- 100 mm light aerated concrete block
- 40 mm BIWALL
- 100 mm light aerated concrete block
- 15 mm plaster lime/cement

Total thickness 270 mm

ACCESSORIES

STIK
1,2 m per m²
of wall surface

GLUE
5 Kg/m² per panel
10/15 pcs/m²

FIXING ELEMENTS
5 pcs per m²
of wall surface

ISOLGOMMA
SILENCE MAKERS

MUSTWALL

Acoustic insulation for double walls

MUSTWALL is a semi-rigid panel, made of SBR rubber granules and it has been designed to obtain high acoustic insulation performance for walls in a small thickness.
Compact and humidity resistant, it is very easy to install in the cavity by applying it directly to the wall, both mechanically and with adhesives.
The range is completed by Mustwall G, a panel made of highly elastic SBR rubber granules, ideal for coupling with plasterboard sheets.

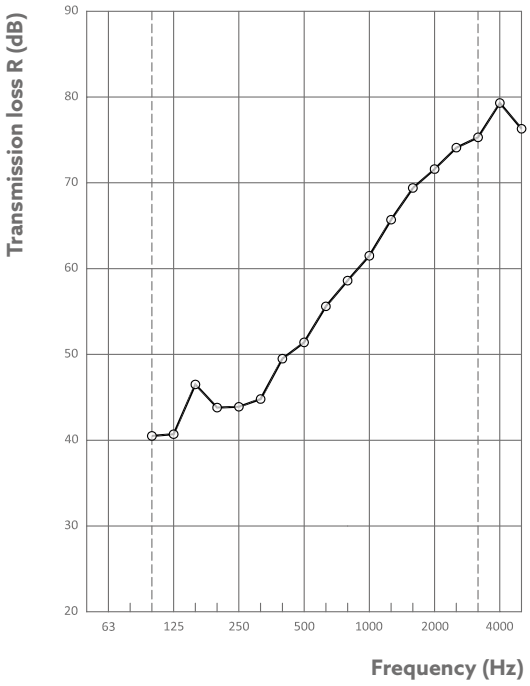
APPLICATION FIELDS

- Walls with brick cavity
- Coupling with plasterboard

MUSTWALL G

Technical features		Norm	MUSTWALL		MUSTWALL G	
Thickness	mm	-	10	20	10	20
Dimensions	m	UNI EN 822	1 x 1,2	1 x 1,2	1 x 1,2	1 x 1,2
Mass per unit area	kg/m²	UNI EN 1602	8	14	7	14
Thermal conductivity coefficient λ	W/mK	UNI EN 12667	0,109		0,120	

TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	R dB
100	40,5
125	40,7
160	46,5
200	43,8
250	43,9
315	44,8
400	49,5
500	51,4
630	55,6
800	58,6
1000	61,5
1250	65,7
1600	69,4
2000	71,6
2500	74,1
3150	75,3
4000	79,3
5000	76,3

$R_w \geq 56$ dB

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the airborne sound insulation.

Description test double wall:
- 15 mm plaster lime/cement
- 120 mm full brick wall
- 20 mm MUSTWALL
- 120 mm full brick wall
- 15 mm plaster lime/cement

Total thickness 290 mm

ACCESSORIES

STIK
1,2 m per m²
of wall surface

GLUE
5 Kg/m² per panel
10/15 pcs/m²

FIXING ELEMENTS
5 pcs per m²
of wall surface

ISOLGOMMA
SILENCE MAKERS

REWALL 40

CE
Product standard
EN14190:2014

Acoustic and thermal insulation for coated wall

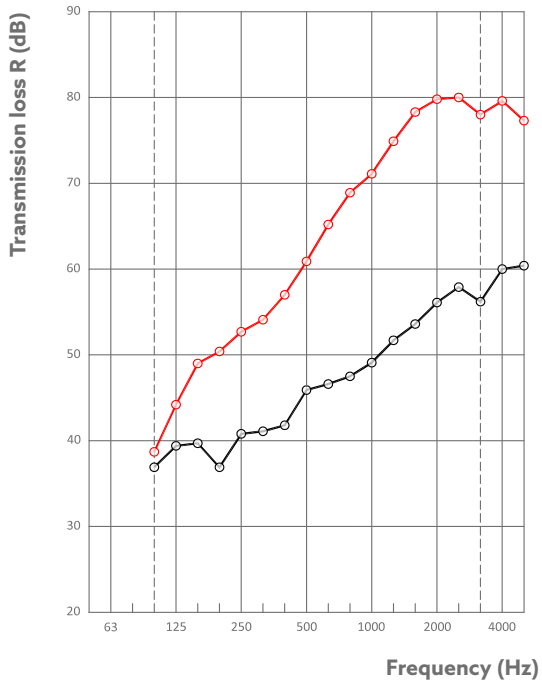
REWALL 40 is a product with high thermo-acoustic performance and very easy to be installed. It is a pre-coupled panel made of a polyester fiber sheet, a high density SBR rubber panel and plasterboard.
Rewall 40 is ideal for all acoustic renovation of existing environments, without any building works or application of metal structures.

APPLICATION FIELDS

- Thermal and acoustic insulation of partition walls and ceilings of housing units
- Applicable in existing environments where building works cannot be carried out
- Relining of existing walls without the traditional metal structure

Technical features		Norm	REWALL 40
Thickness	mm	-	40
Dimensions	m	EN 822	1,2 x 2
Mass per unit area	kg/m²	EN 1602	18,0
Thermal resistance R	m² K/W	EN 12667	0,761
Fire grade	Class	EN 13501-1	B-s1,d0

TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



..... range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	Bare wall R dB	Rewall 40 R dB
100	36,9	38,7
125	39,4	44,2
160	39,7	49,0
200	36,9	50,4
250	40,8	52,7
315	41,1	54,1
400	41,8	57,0
500	45,9	60,9
630	46,6	65,2
800	47,5	68,9
1000	49,1	71,1
1250	51,7	74,9
1600	53,6	78,3
2000	56,1	79,8
2500	57,9	80,0
3150	56,2	78,0
4000	60,0	79,6
5000	60,4	77,3

$R_w \geq 49$ dB (Bare wall)

$R_w \geq 63$ dB Coated

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the airborne sound insulation.

Description test bare wall:
- 15 mm plaster
- 215 mm brick wall
- 15 mm plaster

Total thickness 245 mm

Description test coated wall:
- 15 mm plaster
- 215 mm brick wall
- 15 mm plaster
- 40 mm REWALL 40
- 12,5 mm layer plasterboard

Total thickness 298 mm

ACCESSORIES

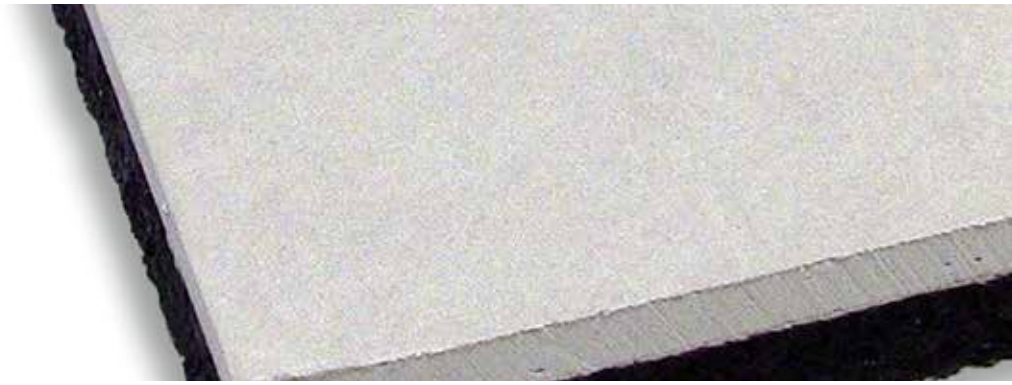
LONG FIXING AND WASHER

GLUE

5 Kg/m² per panel
10/15 pcs/m²

ISOLGOMMA
SILENCE MAKERS

MUSTWALL 33B



CE
Product standard
EN14190:2014

Acoustic insulation for coated wall

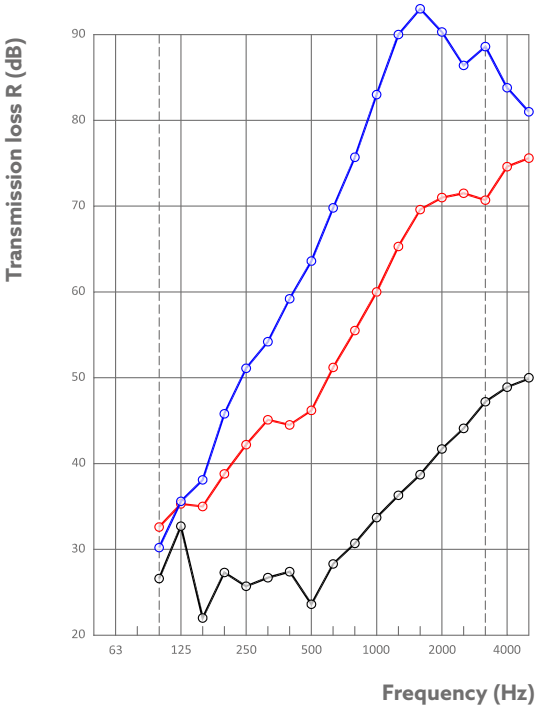
MUSTWALL 33B is a product with high acoustic performance and very easy to be installed. It is a pre-coupled panel made of a high density SBR rubber panel and plasterboard.
Mustwall 33B is ideal for all acoustic renovation of existing environments, without any building works or application of metal structures.

APPLICATION FIELDS

- Applicable in existing environments where building works cannot be carried out
- Relining of existing ceilings without the traditional metal structure

Technical features		Norm	MUSTWALL 33B
Thickness	mm	-	33
Dimensions	m	EN 822	1,2 x 2
Mass per unit area	kg/m²	EN 1602	19,5
Thermal resistance R	m² K/W	EN 12667	0,229
Fire grade	Class	EN 13501-1	B-s1,d0

TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	Bare Wall R dB	Must.33B R dB	Must. 33B x2 R dB
100	26,6	32,6	30,2
125	32,7	35,3	35,6
160	22,0	35,0	38,1
200	27,3	38,8	45,8
250	25,7	42,2	51,1
315	26,7	45,1	54,2
400	27,4	44,5	59,2
500	23,6	46,2	63,6
630	28,3	51,2	69,8
800	30,7	55,5	75,7
1000	33,7	60,0	83,0
1250	36,3	65,3	90,0
1600	38,7	69,6	93,0
2000	41,7	71,0	90,3
2500	44,1	71,5	86,4
3150	47,2	70,7	88,6
4000	48,9	74,6	83,8
5000	49,9	75,6	81,0

$R_w \geq 33$ dB (Bare wall)

$R_w \geq 52$ dB Coated one side

$R_w \geq 59$ dB Coated two sides

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the airborne sound insulation.

Description test bare wall:
- 100 mm light aerated concrete block

Total thickness 100 mm

Description test coated wall one side:
- 100 mm light aerated concrete block
- 33 mm MUSTWALL 33B
- 12,5 mm layer plasterboard

Total thickness 150 mm

Description test coated wall two sides:
- 12,5 mm layer plasterboard
- 33 mm MUSTWALL 33B
- 100 mm light aerated concrete block
- 33 mm MUSTWALL 33B
- 12,5 mm layer plasterboard

Total thickness 200 mm

ACCESSORIES

LONG FIXING AND WASHER

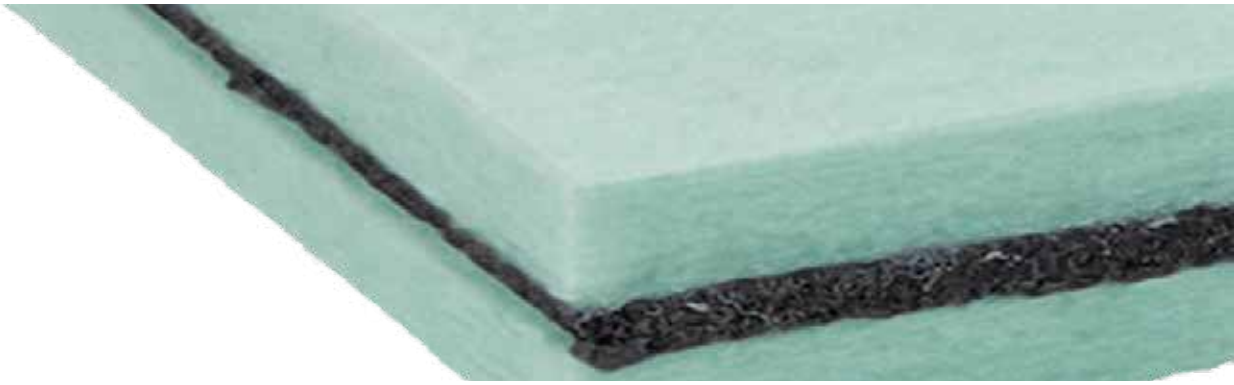
GLUE

5 Kg/m² per panel
10/15 pcs/m²

DOUBLE THREAD SCREW

ISOLGOMMA
SILENCE MAKERS

TRYWALL



Acoustic insulation for plasterboard walls

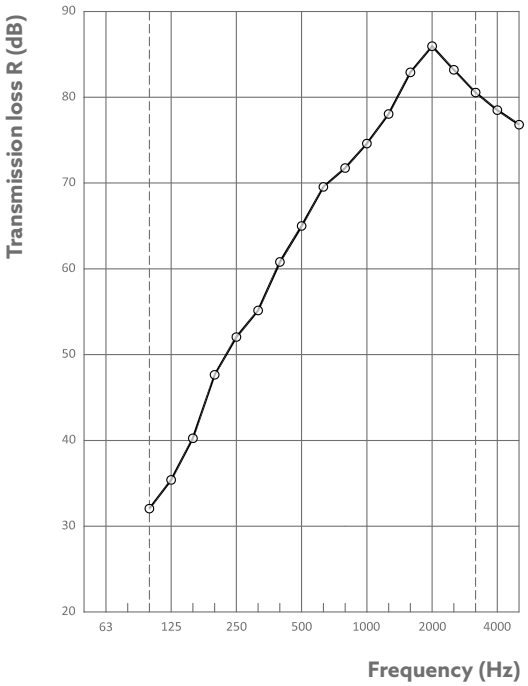
TRYWALL is a product specifically developed to offer high acoustic insulation performance for lining applications and light walls made with plasterboard structure.
It is a coupled product with a total thickness of 48 mm composed of 2 polyester fiber sheets and a central layer made of high density rubber, which allows to obtain a soundproofing panel with reduced environmental impact.
Trywall has been specifically designed for cavity walls allowing to install the systems and avoiding any insulation interruptions.
This type of product combines excellent acoustic performance with high thermal insulation values offering easy installation in light wall systems because all elements are already coupled and ready for laying.

APPLICATION FIELDS

- Thermal and acoustic insulation of walls and dividing ceilings of residential units
- Relining of existing walls with the traditional metal structure

Technical features		Norm	TRYWALL
Thickness	mm	-	48
Dimensions	m	EN 822	0,6 x 1,2
Mass per unit area	kg/m^2	EN 1602	8,80
Thermal conductivity coefficient λ	W/mK	EN 12667	0,047

TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



····· range EN ISO 717-2 from 100 Hz to 3150 Hz

Frequency Hz	R dB
100	32,0
125	35,4
160	40,2
200	47,7
250	52,0
315	55,2
400	60,8
500	65,0
630	69,6
800	71,7
1000	74,6
1250	78,0
1600	82,9
2000	85,9
2500	83,2
3150	80,5
4000	78,5
5000	76,8

$R_w \geq 60$ dB

The results are concerning the tested structure.

Laboratory measurement of the acoustic insulation elements of the standard building. Measurement of the airborne sound insulation.

Description test plasterboard wall:
- 25 mm plasterboard double layer
- 50 mm air cavity in metal frame
- 48 mm TRYWALL 48
- 50 mm air cavity in metal frame
- 25 mm plasterboard double layer

Total thickness 200 mm

ACCESSORIES

REDFIX L/C/U

STYWALL

Acoustic insulation for walls

STYWALL is a range designed to enhance the sound-insulation power of walls and to improve impact noise insulation of floor slabs, by preventing the transmission of
airborne noise and vibrations.
The Stywall range includes various types of strips suitable for under-wall application.
Quick to apply and extremely elastic, the strips allow for creating a perfect structural junction.
They are made of high-density pressed SBR rubber granules and are supplied in rolls of various heights and thicknesses.

APPLICATION FIELDS

- Beneath brick walls
- Beneath partition walls in homes
- Beneath wooden or plasterboard walls

Technical features		Norm	STYWALL AD PRO	STYWALL S
Thickness	mm	-	6	3
Width	mm	-	100 ÷ 330	100 ÷ 400
Length	m	-	8	20
Mass per unit area	kg/m²	-	4,8	2,2
Thermal conductivity coefficient λ	W/m k	EN 12667	0,120	

ACOUSTIC INSULATION BUILDING CONSTRUCTION
LAYING INSTRUCTIONS UNDER WALL STRIPE

STYWALL

Lay the under wall strip. The strip must be wider than the wall thicknees of at least 2 cm per side.

Build the frst brick row on the Stywall stripe, with a mortar layer between bricks and rubber mat.

Build the wall, caring to seal the blocks with mortar on both vertical and horizontal joints.

For a correct installation of the wall products it is necessary to follow some warnings:

• the walls must be well built, without through holes or breakage

• products can be cut with cutter, circular saw or grinder with diamond disc

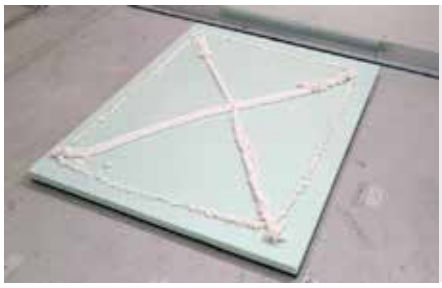
ISOLGOMMA
SILENCE MAKERS

ACOUSTIC INSULATION IN BUILDING CONSTRUCTION
LAYING INSTRUCTIONS FOR DOUBLE WALLS

BIWALL - MUSTWALL

Apply in the first wall a layer of row mortar of about 1 cm thickness.

Apply the glue on the panel in dots (5 dots per panel).



Or apply the glue Selena Tytan's on the panel laid on the ground.

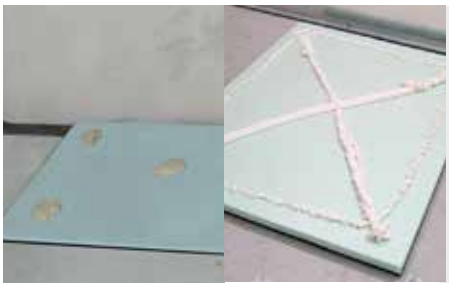
Apply the panel on the wall by forcing with homogeneous pressure.

When all panels are fixed seal the panel joints with the Stik tape. Build the second wall.

LAYING INSTRUCTIONS FOR COATED WALLS

REWALL - MUSTWALL B

Prepare the base wall for the installation removing any existing painting. Lay the under wall stripe.



Apply the glue Knauf Perlfx or Selena Tytan's in dots on the panel laid on the ground.

Apply the panel on the wall by forcing with homogeneous pressure.

After 30 minutes drill the product and the wall behind with 6 holes per panel and apply the long Fixing.

After 2/3 hours, fix the second gypsum board by screwing it on centre line and on the side borders with double threads screws.

Apply the plastic mesh tape in the gypsum boards jointing lines and grouting.

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ACOUSTIC INSULATION BUILDING CONSTRUCTION
LAYING INSTRUCTIONS FOR PLASTERBOARD WALLS

TRYWALL

Fix the metal studs on the floor, walls and ceiling.

Complete the insulation application in the metal structure.

Fix the vertical metal studs on the ceiling and bottom guides by screwing.

Cover the insulation layer by screwing the second gypsum boards on the metal studs.

Fix the gypsum boards on one side.

Apply the plastic mesh tape in the gypsum boards jointing lines and grouting.

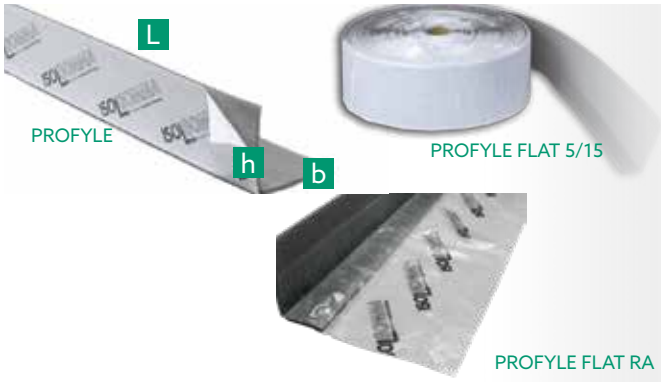
Insert the panels in the metal frame.

OPTIONS: apply a second gypsum-board layer. In this second layer, the boards should be installed with a half-board offset on the first layer.

ACCESSORIES

PROFYLE

Profyle has been designed to facilitate the laying of impact sound insulation products and it is recommended to disconnect the screed from the walls.
Profyle line consists of adhesive angular strips and a perimeter flat strip supplied in rolls, adhesive and pre-cut.



Technical features		PROFYLE		PROFYLE FLAT	
		5/15	10/20	5/15	5/15 RA
Nominal thickness	mm	6		6	6
Length (L)	m	1,5		50	50
Height (h)	mm	150	200	150	150
Width (b)	mm	50	100	50	50
Density	kg/m³	31,5		23,5	23,5

PROFYLE CORNER

Pre-shaped adhesive polyethylene corners at 90° and 270°, grey colour with adhesive on the two external sides, to make laying of the impact noise insulation products near angles easy.

Technical features		PROFYLE CORNER	
		90°	270°
Nominal thickness	mm	6	
Length (L)	mm	100	
Height (h)	mm	150	
Width (b)	mm	50	
Density	kg/m³	23,5	

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ACCESSORIES

STIK

Skirting spacer waterproofing strip to separate the flooring against impact sound noise.

Technical features		STIK 60 WP
Thickness	mm	0,65
Width	m	25
Length	mm	60

GLUE

Glue designed to fix panels applied on walls.

Technical features		GLUE	
		PERLFIX K465	SELENA TYTAN'S 60s
Piece quantity	kg - ml	25	750

FIXING ELEMENTS

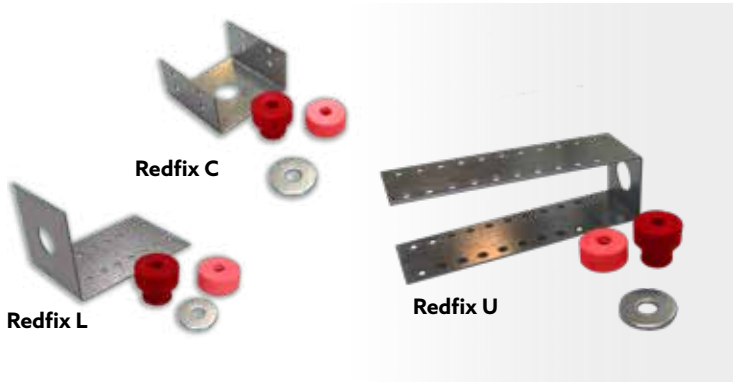
Fixing elements for wall line products
We recommend nr. 5 nails for each panel to be fixed.

The long fixing and screw are indispensable accessories for correctly fixing panels of the Gy-wall.

Technical features		FIXING ELEMENTS		
		NAIL	LONG FIXING AND WASHER	DOUBLE THREAD SCREW
Length	mm	83	100	30
Raw plug tip	mm	8	8	4

REDFIX

Redfix are brackets for decoupling metal studs in the gypsum-board wall linings and represents a complete disconnection between vertical structures and base walls.



Technical features		REDFIX L			
		L50	L60	L80	L100
Base dimension (b x l)	mm	50 x 50			
Length (h)	mm	50	60	80	100
Thickness of antivibration support	mm	10			
Weight (including antivibration support)	g	45	49	57	64
Colour		steel/red			

Technical features		REDFIX C		
		C28	C50	C100
Base dimension (b x l)	mm	50 x 50		
Length (h)	mm	28	50	100
Thickness of antivibration support	mm	10		
Weight (including antivibration support)	g	47	64	102
Colour		steel/red		

Technical features		REDFIX U		
		U80	U100	U120
Base dimension (b x l)	mm	50 x 50		
Length (h)	mm	80	100	120
Thickness of antivibration support	mm	10		
Weight (including antivibration support)	g	59	70	78
Colour		steel/red		

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