



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 highperformance 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 tailormade 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.







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.





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 guality 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}	≤ 52	≤ 48
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	Ľ _{n,w} (4)	≤ 53	≤ 53
France	L' _{nT,w}	≤ 58	≤ 58
Germany	L' _{n,w}	≤ 53	≤ 48
Ireland	Ľ _{nT,w}	≤ 58	None
North Ireland	Ľ _{nT,w}	≤ 62	None
Latvia	L' _{n,w}	≤ 54	≤ 54
Luxemburg	L' _{n,w}	≤ 52	≤ 45
Netherlands	L' _{nT,w} + C ₁	≤ 54	≤ 54
Norway	Ľ _{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 _{1,50-2500}	≤ 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 _A	≥ 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
Luxemburg	R' _w +C	≥ 51	≥ 56
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 ₅₀₋₃₁₅₀	≥ 53	≥ 53
Switzerland	D _{nT,w} + C	≥ 52	≥ 55



ACOUSTIC INSULATION IN BUILDING CONSTRUCTION



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

SOLUTIONS FOR

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 m². The rooms volumes are bigger than 50 m³. 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.





WE OFFER SOLUTIONS FOR SOUND INSULATION OF FLOORS IN HOUSES, COMMERCIAL BUILDINGS, PRODUCTION PLANTS AND INFRASTRUCTURES, IN ORDER TO IMPROVE THE QUALITY OF PEOPLE'S LIFE.

ACOUSTIC INSULATION FOR FLOORS







HOLLOW CORE SLAB





SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

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 layer is laid down on the floor as a "spring" and the screed has been built on it like a floating mass. The result is a good mitigation with an acoustic performance that can increase in function of the type of acoustic layer, the thickness and type of screed used.

Product	L _{n,w} (dB)	R _w (dB)	
UPGREI	49	59	
GREI	51	58	
UPROLL	52	58	
ROLL	55	58	
SYL 6 AD	59	57	



- 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



ACOUSTIC INSULATION IN BUILDING CONSTRUCTION CONCRETE SLAB



High performance solution for new building

The concrete slab is the structural solution to get the best engineering performance under the acoustic point of view, this type of floor is a good element to create a very well insulated floor. The mass and stiffness of concrete slab help to reduce the propagation of noise waves to get the right level of acoustic comfort and to respect the limits, the solution used is the floating screed. In this case, the combination between concrete slab, acoustic layer and screed become the best solution for obtaining an high quality building. \

Product	L _{n,w} (dB)	R _w (dB)
UPGREI	46	61
GREI	48	60
UPROLL	49	60
ROLL	52	60
SYL 6 AD	56	59
ROLL SYL 6 AD	52 56	60 59



- 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

BEAM AND BLOCK SLAB





SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

The lightweight slab

The beam and block or the predalle floor is used mostly in the Mediterranean area using blocks of hollow clay and cement or in other European countries using different forms of lightening: polystyrene, concrete blocks, plastic formwork etc. such kind of floors are very similar to the "heavy applications" (concrete or hollow core) so the ideal insulation method is the floating screed. The acoustic performance obtained is very similar to the "heavy applications", of course depending on kind of layer used and thickness of the screed.

Product	L _{n,w} (dB)	R _w (dB)
UPGREI	51	57
GREI	53	56
UPROLL	54	56
ROLL	57	56
SYL 6 AD	61	56



- 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



ACOUSTIC INSULATION IN BUILDING CONSTRUCTION **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 quiet living and working environments. This type of floor has two important characteristics like lightness and flexibility and their composition can be very complex, so each case has to 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 a good acoustic insulation to this floor.

L _{n,w} (dB)	R _w (dB)
52	55
55	55
56	55
59	55
62	55
	L _{n,w} (dB) 52 55 56 59 62



- 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

HIGH PERFORMANCE FLOOR





SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

High performance solution for new buildings

When you are designing a new construction the focus is to create a building with the best standards. In case of acoustic insulation, especially in floor system, the floating screed combined to a massive floor as the concrete slab could be a good solution: an important improvement is to use a layer thicker than the conventional resilient products, with a special design typically adopted for vibration reduction in industry sector.

This combination permits to have the best acoustic confort in terms of impact noise insulation.

Product	L _{n,w} (dB)	R _w (dB)
HIGHMAT 30	38	61
HIGHMAT 20	40	61



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



ACOUSTIC INSULATION IN BUILDING CONSTRUCTION SPECIAL APPLICATION FLOOR



The solution for high-level acoustics

The combined presence of different rooms in the same building can create a whole series of acoustic and vibrational problems that has to be managed with the use of highly performing solutions. Isolgomma solution based on a hybrid panel, born from the experiences deriving from vibrations control, allows to obtain high acoustic attenuation performance even at low frequencies. The presence of a fibrous part gives the panel good thermal properties, important in terms of energy saving. This solution used on a concrete floor allows to obtain very low levels of impact noise, in accordance with the strict standards used by many hotels or high-level residential buildings.

Product	L _{n,w} (dB)	R _w (dB)
HIGHMAT 50	32	64



- 1. Floor finishing, 10 mm thickness
- 2. Sand and cement floating screed, 100 mm thickness
- 3. Protection film
- 4. OSB Panel sp. 18 mm
- 5. Acoustic and thermal insulation HIGHMAT 50
- 6. Levelling screed, thickness 90 mm
- 7. Concrete slab, 200 mm thickness

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3

4 5

6

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ACOUSTIC HEATING SYSTEM





SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

High-performance solution for massive slabs

Rewall 28 R is the ideal solution in situations where it is necessary to have a single product for floor sound and thermal insulation which has to be compatible with underfloor heating system. To be used in a single lay and with the help of a welded mesh, Rewall 28 R represents a great solution thanks to its excellent acoustic, thermal and mechanical performances, with obvious savings in time and costs

Prodotto	L _{n,w} (dB)	R _w (dB)
REWALL 28 R	43	60



- 1. Floor finishing, 15 mm thickness
- 2. Sand and cement floating screed, 70 mm thickness
- 3. Heating system with clips on steel mesh
- 4. Acoustic and thermal insulation REWALL 28R
- 5. Levelling screed, thickness 85 mm
- 4. Concrete slab, 200 mm thickness



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



Floating screed solution for high loads

In specific cases the acoustic performances and the high loads have to be combined, this is typical in supermarkets, warehouses, gyms, parkings or multi-purpose building.

The problem is to achieve 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 loads.

Product	L _{n,w} (dB)	R _w (dB)
POINT	49	59
SYL 10 AD	55	58
SYL 6 AD	56	58



- 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

APPLICATION EXAMPLES



SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

Acoustic insulation of residential complexes

The project involved the construction of a residential complex consisting of two multi-storey buildings and an underlying commercial area located in an important urban context of the city of Turin. Its construction is traditional with slabs and walls in brick and cement. In order to comply with the acoustic requirements and the limited space available in the stratigraphy of the slabs, **GREI** product under floating screed has been proposed for impact noise sound insulation.

At the forecasting level, the evaluation was carried out to respect the regulatory limits. On the basis of the technical requirements and the limits imposed by the analyzed stratigraphies, the calculation level (Lnw) of **57 dB** has been reached. The building work included the renovation and recovery of the area occupied by a former barracks that was intended for a multi-storey residential complex. The design included a structure with 22 cm concrete slabs and the typical stratigraphy with lightened concrete, floating screed and finishing flooring.

The choice of the impact noise insulation product fell on **ROLL**, which guaranteed a performance appropriate to the expected quality of the building. In addition to the prediction of impact noise insulation, at the end of the work the acoustic measurement was performed demonstrating the effectiveness of the solution.

The standard impact noise level (L'n,w) obtained, in fact, is 48 dB, much lower than the legal limits defined by the D.P.C.M. 05/12/1997, of **63 dB**.



GREI

2019

Residential complex «Marmolada» - Turin





Residential complex «Ex-caserma Battisti» - Meran, BZ



BUILDING CONSTRUCTION - UNDER SCREED



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.



Discover Technical Sheet

APPLICATION FIELDS

- Floating floors
- 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/m²	EN 1602	2,65
Dynamic stiffness s'	MN/m ³	EN 29052-1	6
Impact sound pressure level attenuation $\Delta L_{_{\rm w}}$	dB	EN ISO 10140 EN ISO 717-2	26
Thermal conductivity coefficient λ	W/mK	EN 12667	0,043
Compressibility c	mm	EN 12431	2,2
Reaction to fire		EN 13501-1	Е



IMPACT SOUND INSULATION ISO 10140 AND 717-2



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

	ΔL		
	dB		
100	2,7		
125	7,3		
160	13,4		
200	18,2		
250	21,4		
315	22,5		
400	26,5		
500	29,4		
630	32,2		
800	34,9		
1000	36,1		
1250	40,6		
1600	45,7		
2000	51,2		
2500	57,7		
3150	61,5		
4000	66,0		
5000	69,6		

$\Delta L_{w} 26 dB$

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





BUILDING CONSTRUCTION - UNDER SCREED **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





Discover Technical Sheet

Technical features	Norm	GREI	
Thickness	mm	EN 12431	7
Dimensions	m	EN 822	1,04 × 5
Mass per unit area	kg/m²	EN 1602	2,8
Dynamic stiffness s'	MN/m ³	EN 29052-1	8
Impact sound pressure level attenuation $\Delta L_{\!_{\rm W}}$	dB	EN ISO 10140 EN ISO 717-2	24
Thermal conductivity coefficient λ	W/mK	EN 12667	0,064
Compressibility c	mm	EN 12431	2,0
Reaction to fire		EN 13501-1	E



IMPACT SOUND INSULATION ISO 10140 AND 717-2



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100	0,8		
125	4,0		
160	5,9		
200	9,3		
250	15,7		
315	16,1		
400	20,8		
500	23,5		
630	26,5		
800	27,8		
1000	29,7		
1250	33,5		
1600	37,2		
2000	40,8		
2500	47,0		
3150	54,1		
4000	60,9		
5000	64,9		



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

- 7 mm GREI

- 50 mm sand & cement floating screed

Total thickness 197 mm





BUILDING CONSTRUCTION - UNDER SCREED UPROLL



Acoustic insulation for under screed

UPROLL is a product for floors sound insulation. The use of a special recycled rubber SBR gives the product excellent resistance and elasticity, making it excellent for the impact noise sound insulation of any type of floor. This line is also ideal for application under radiant panels for underfloor heating. The mattress, resistant and flessibile, adapts perfectly to the base surface and thanks to the prepared self-adhesive edge allows the junction of the rolls without the application of adhesive tape.

APPLICATION FIELDS

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



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Discover Technical Sheet

Technical features		Norm	UPROLL
Thickness	mm	EN 12431	9
Dimensions	m	EN 822	1,04 x 5
Mass per unit area	kg/m²	EN 1602	3,1
Dynamic stiffness s'	MN/m ³	EN 29052-1	11
Impact sound pressure level attenuation $\Delta L_{_{\rm w}}$	dB	EN ISO 10140 EN ISO 717-2	24
Thermal conductivity coefficient $\boldsymbol{\lambda}$	W/mK	EN 12667	0,096
Compressibility c	mm	EN 12431	1,7
Reaction to fire		EN 13501-1	E



IMPACT SOUND INSULATION ISO 10140 AND 717-2



100	0,3		
125	2,8		
160	4,3		
200	7,2		
250	13,1		
315	14,2		
400	17,4		
500	20,6		
630	25,4		
800	26,7		
1000	27,2		
1250	31,3		
1600	34,4		
2000	37,8		
2500	43,2		
3150	48,4		
4000	52,8		
5000	55.0		



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

- 9 mm UPROLL
- 50 mm sand & cement floating screed

Total thickness 195 mm







BUILDING CONSTRUCTION - UNDER SCREED **ROLL**



Acoustic insulation for under screed

ROLL is a product for floors acoustic insulation, present for more than forty years in the field of construction.

This product is one of the most reliable and tested in the market and represents Isolgomma's many years of experience in the research and development of innovative materials and production processes. The use of a special recycled SBR rubber gives the product excellent resistance and elasticity, making it excellent for the insulation to the impact noise of any type of floor. ROLL is also ideal for application under radiant panels for underfloor heating. The mattress, resistant and flessibile, adapts perfectly to the base surface and thanks to the prepared self-adhesive edge allows the junction of the rolls without the application of adhesive tape.

APPLICATION FIELDS

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





Discover Technical Sheet

Technical features		Norm	ROLL		
Thickness	mm	EN 12431	5		
Dimensions	m	EN 822	1,04 x 5		
Mass per unit area	kg/m²	EN 1602	1,9		
Dynamic stiffness s'	MN/m ³	EN 29052-1	21		
Impact sound pressure level attenuation $\Delta L_{\!_{w}}$	dB	EN ISO 10140 EN ISO 717-2	22		
Thermal conductivity coefficient λ	W/mK	EN 12667	0,094		
Compressibility c	mm	EN 12431	1,2		
Reaction to fire		EN 13501-1	E		



IMPACT SOUND INSULATION ISO 10140 AND 717-2



	ΔL		
100	0,2		
125	3,3		
160	2,1		
200	4,6		
250	10,0		
315	10,4		
400	12,0		
500	18,6		
630	22,7		
800	23,6		
1000	25,6		
1250	28,5		
1600	32,0		
2000	34,4		
2500	38,8		
3150	43,5		
4000	48,7		
5000	53.2		

$\Delta L_{w} 22 dB$

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 mm ROLL

- 50 mm sand & cement floating screed

Total thickness 195 mm





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BUILDING CONSTRUCTION - UNDER SCREED



Acoustic insulation for under screed

SYL AD is made of high density rubber for sound insulation with a direct application under base floor. The Syl AD 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

- Impact sound insulation for floating screed
- Commercial use high thickness floors





Discover Technical Sheet

Technical features		Norm	SYL AD	
Thickness	mm	EN 12431	6 10	
Dimensions	m	EN 822	1,2 x 8	
Density	kg/m³	EN 1602	780	
Dynamic stiffness s'	MN/m ³	EN 29052-1	77	68
Impact sound pressure level attenuation $\Delta L_{\!_{\rm w}}$	dB	EN ISO 10140 EN ISO 717-2	17	
Thermal conductivity coefficient λ	W/mK	EN 12667	0,12	
Compressibility c	mm	EN 12431	0,2	0,4
*Calculated value				



IMPACT SOUND INSULATION EN ISO 12354-2



	dB		
100	2,7		
125	5,6		
160	8,9		
200	11,8		
250	14,7		
315	17,7		
400	20,8		
500	23,7		
630	26,7		
800	29,8		
1000	32,7		
1250	35,6		
1600	38,9		
2000	41,8		
2500	44,7		
3150	47,7		
4000	50,8		
5000	53.7		

ΔL_{w} 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 SYL 6 AD
- 50 mm sand &
- cement floating screed

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Total thickness 196 mm



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BUILDING CONSTRUCTION - UNDER SCREED 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
- Laboratories and research institutes vibrations insulation







Discover Technical Sheets

Technical features		Norm	HIGHMAT		
Thickness	mm	-	20	30	50
Dimensions	m	EN 822	0,6 x 1		
Mass per unit area	kg/m²	EN 1602	1,9 3,5		3,5
Dynamic stiffness s'	MN/m ³	EN 29052-1	10	4	5
Impact sound pressure level attenuation $\Delta L_{\!_{\rm w}}$	dB	EN ISO 10140 EN ISO 717-2	34	36	39
Thermal conductivity coefficient λ	W/mK	EN 12667	0,04		
Compressibility c	mm	EN 12431	2,0	3,8	3,0



SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

IMPACT SOUND INSULATION ISO 10140 AND 717-2



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

	Highmat 20	Highmat 30
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

ΔL_w 34 dB ΔL_w 36 dB ΔL_w 39 dB*

*Calculated value UNI EN ISO 12354-2

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





BUILDING CONSTRUCTION - UNDER SCREED **REWALL 28 R**



Acoustic and thermal insulation for floating floors

REWALL 28 R is an acoustic and thermal insulation made of pre-assembled panels consisting of a high density polyester fibre sheet and a semi-rigid SBR rubber granules panel. The panel has dimensions $1 \times 1,20$ m and a total thickness of 28 mm. The high acoustic performance and excellent mechanical stability makes it ideal for impact noise and thermal insulation both on light wood slabs, corrugated sheet or on traditional concrete slabs. With the use of an electro-welded mesh where to fix pipes becomes an excellent solution even for applications with underfloor heating.

APPLICATION FIELDS

- Light wooden or traditional floors
- Mechanical stability solution
- Underfloor heating solutions





Discover Technical Sheet

Technical features		Norm	REWALL 28 R
Thickness	mm	EN 12431	28
Dimensions	m	EN 822	1 x 1,20
Mass per unit area	kg/m²	EN 1602	10
Dynamic stiffness s'	MN/m ³	EN 29052-1	5
Impact sound pressure level attenuation $\Delta L_{\!_w}$	dB	EN ISO 10140	29
Thermal conductivity coefficient λ	W/mK	EN 12667	0,047
Compressibility c	mm	EN 12431	2,1
Reaction to fire	Class		E



IMPACT SOUND INSULATION ISO 10140 AND 717-2



	ΔL		
100	20,5		
125	23,5		
160	26,7		
200	29,6		
250	32,5		
315	35,5		
400	38,6		
500	41,5		
630	44,5		
800	47,6		
1000	50,5		
1250	53,5		
1600	56,7		
2000	59,6		
2500	62,5		
3150	65,5		
4000	68,6		
5000	71.5		

ΔL_w 29 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.

Description test:

- 140 mm concrete slab
- 28 mm REWALL 28 R

- 50 mm sand &

cement floating screed

Total thickness 220 mm

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





BUILDING CONSTRUCTION - UNDER SCREED **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/m². 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





Discover Technical Sheet

Technical features		Norm	POINT		
Thickness	mm	EN 12431	18		
Dimensions	m	EN 822	1 x 1,2		
Mass per unit area	kg/m²	EN 1602	6,7		
Dynamic stiffness s'	MN/m ³	EN 29052-1	9		
Impact sound pressure level attenuation $\Delta L_{_{\rm w}}$	dB	EN ISO 10140 EN ISO 717-2	28		
Thermal conductivity coefficient $\boldsymbol{\lambda}$	W/m²K	EN 12667	0,120		
Traffic Load	kg/m²		5000		
Compressibility c	mm	EN 12431	2,2		



IMPACT SOUND INSULATION ISO 10140 AND 717-2



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

$\Delta L_{w} 28 dB$

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





ACOUSTIC INSULATION BUILDING CONSTRUCTION LAYING INSTRUCTIONS FOR UNDER SCREED



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

• 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 gaps 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 $\geq 10 \text{ kg/cm}^2$ 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 - SYL 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



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



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



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



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



Cast the screed



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



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



ACOUSTIC INSULATION BUILDING CONSTRUCTION LAYING INSTRUCTIONS FOR UNDER SCREED



HIGHMAT



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

Place the Side Highmat



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



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



Seal any gap between two adjacent components with Stik tape



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

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


REWALL 28 R



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

Place the Highmat panels in adjacent rows



In case of heating system, lay the mesh and the pipe



Build the screed (sand and cement or self-levelling), reinforced, wait for screed drying



Seal any gap between two adjacent components with Stik tape



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



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



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



ACOUSTIC INSULATION IN BUILDING CONSTRUCTION LAYING INSTRUCTIONS FOR UNDER SCREED



POINT



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

ISO ISO

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



Where necessary, cut the panels with a sharp knife



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



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



ACOUSTIC INSULATION FOR FLOORS

WE OFFER SOLUTIONS FOR SOUND INSULATION OF FLOORS IN HOUSES, COMMERCIAL BUILDINGS, PRODUCTION PLANTS AND INFRASTRUCTURES, IN ORDER TO IMPROVE THE QUALITY OF PEOPLE'S LIFE.





ACOUSTIC INSULATION IN BUILDING CONSTRUCTION **CEILING**



Acoustic retrofit solutions for hollow core slab

In case of hollow core floor where it's important to improve the acoustic performance, it's possible to use an insulate ceiling.

The false ceiling installed in combination with acoustic hangers reduces 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: this type of system has both characteristics.

Product	L _{n,w} (dB)	R _w (dB)
Rewall 40	50	64
Mustwall 33B	51	63
Mustwall 18 B	53	61
Rewall 33 B	52	64



- 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 and acustic hangers REDFIX
- 6. Acoustic and thermal insulation in panels



SOLUTIONS FOR FLOORS

SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

Acoustic retrofit solution for concrete slab

When there is a concrete slab, it is tipycal to use a false ceiling to install 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
Mustwall 18 B	53	62
Rewall 33 B	52	65



- 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 and acustic hangers REDFIX
- 6. Acoustic and thermal insulation in panels



BUILDING CONSTRUCTION - CEILING



Acoustic and thermal insulation for ceiling

REWALL 33 B 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 is not removed. It can be used in new buildings when it's requested to get high level of acoustic value.



Discover Technical Sheet

Technical features		Norm	REWALL 33 B
Thickness	mm	-	33
Dimensions	m	EN 822	1,2 x 2
Mass per unit area	kg/m²	EN 1602	11,5
Thermal resistance R	m² K/W	EN 12667	0,688

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 is not removed. It can be used in new buildings when it's requested to get high level of acoustic value.





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



MUSTWALL 33 B 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 is not removed. It can be used in new buildings when it's requested to get high level of acoustic value.



Discover Technical Sheets



Technical features		Norm	MUSTWALL 18 B	MUSTWALL 33 B
Thickness	mm	-	20	33
Dimensions	m	EN 822	1,2 x 2	
Mass per unit area	kg/m²	EN 1602	14,5	19,5
Thermal resistance R	m² K/W	EN 12667	0,127	0,229

FYBRO ideal for suspended ceilings.





Technical features		Norm	FYBRO 30	FYBRO 509
Thickness	mm	-	30	50
Dimensions	m	EN 822	0,6 X 1,2	
Density	kg/m³	EN 1602	4	0
Conducibilità termica λ	W/m K	EN 12667	0,0	36



ACOUSTIC INSULATION BUILDING CONSTRUCTION LAYING INSTRUCTIONS FOR CEILING



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





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





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





Drill the



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





WE OFFER SOLUTIONS FOR SOUND INSULATION OF WALLS IN HOUSES, COMMERCIAL BUILDINGS, PRODUCTION PLANTS AND INFRASTRUCTURES, IN ORDER TO IMPROVE THE QUALITY OF PEOPLE'S LIFE.

ACOUSTIC INSULATION FOR WALLS







DOUBLE WALL



SOLUTIONS FOR FLOORS

SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

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 technical construction 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 50/20	57
BIWALL 50	56
BIWALL 40	55
MUSTWALL 20	55
BIWALL 30	54
MUSTWALL 10	53



- 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



ACOUSTIC INSULATION BUILDING CONSTRUCTION DOUBLE WALL



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 50/20	58
BIWALL 50	57
BIWALL 40	56
MUSTWALL 20	56
BIWALL 30	55
MUSTWALL 10	54



- 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

PLASTERBOARD WALL



SOLUTIONS FOR FLOORS

SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

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 applications fields are many: 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



ACOUSTIC INSULATION BUILDING CONSTRUCTION SINGLE WALL



Wall system on existing masonry

The single 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.

R _w (dB)
63
61
60



- 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

SOLUTIONS FOR ACOUSTIC INSULATION IN BUILDING CONSTRUCTION



SOLUTIONS FOR FLOORS

SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

Wall System on exiting light masonry

Cellular single 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 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)
REWALL 40	53
REWALL 33 B	51
MUSTWALL 33 B	52



- 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



BUILDING CONSTRUCTION - WALLS 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			
Mass per unit area	kg/m²	EN 1602	8,6	8,9	9,2	14,90
Thermal conductivity coefficient $\boldsymbol{\lambda}$	W/mK	EN 12667	0,051	0,049	0,046	0,060



TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1





R_w 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 40
- 100 mm light aerated
- concrete block
- 15 mm plaster lime/cement

Total thickness 270 mm

ACCESSORIES







BUILDING CONSTRUCTION - WALLS **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





Technical features		Norm	MUST	WALL	MUST	VALL G
Thickness	mm	-	10	20	10	20
Dimensions	m	UNI EN 822	1 x 1,2			
Mass per unit area	kg/m²	UNI EN 1602	8	14	7	14
Thermal conductivity coefficient $\boldsymbol{\lambda}$	W/mK	UNI EN 12667	0,1	09	0,1	20



TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



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 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 20
- 120 mm full brick wall
- 15 mm plaster lime/cement

Total thickness 290 mm





BUILDING CONSTRUCTION - WALLS **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/m²	EN 1602	8,80
Thermal conductivity coefficient λ	W/mK	EN 12667	0,047



TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



Hz	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_w60 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





BUILDING CONSTRUCTION - WALLS **REWALL**



Acoustic and thermal insulation for single wall

REWALL 40 is a product with high thermo-acoustic performance and very easy to be installed. It is a precoupled 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 × 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

SOLUTIONS FOR FLOORS

SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



	Bare wall	Rewall 40
Hz	dB	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_w49 dB (Bare wall) R_w63 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 2 98 mm





LONG FIXING AND WASHER



10/15 pcs/m²



DOUBLE THREAD SCREEW



STYWALL



BUILDING CONSTRUCTION - WALLS REWALL 33 B



Acoustic and thermal insulation for single wall

REWALL 33 B 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 and plasterboard.

Rewall 33 B 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 33 B
Thickness	mm	-	33
Dimensions	m	EN 822	1,2 × 2
Mass per unit area	kg/m²	EN 1602	11,5
Thermal resistance R	m² K/W	EN 12667	0,688
Fire grade	Class	EN 13501-1	B-s1,d0

SOLUTIONS FOR **FLOORS**

SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



	dB
100	29,9
125	38,0
160	35,5
200	40,0
250	43,1
315	47,4
400	51,0
500	53,6
630	58,2
800	62,1
1000	66,0
1250	69,9
1600	73,0
2000	74,0
2500	73,5
3150	72,9
4000	73,0
5000	74,9



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: - 120 mm brick wall

Total thickness 120 mm

Description test coated wall:

- 120 mm brick wall
- 33 mm REWALL 33 B
- 12,5 mm layer plasterboard

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Total thickness 165 mm

ACCESSORIES



LONG FIXING AND WASHER



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DOUBLE THREAD SCREEW

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STYWALL



BUILDING CONSTRUCTION - WALLS MUSTWALL B



Acoustic insulation for coated wall

MUSTWALL B 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 B 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		MUSTWALL 18 B	MUSTWALL 33 B
Thickness	mm	20	33
Dimensions	m	1,2 × 2	
Mass per unit area	kg/m ²	14,5	19,5
Thermal resistance R	m² K/W	0,127	0,229
Fire grade	Class	-	B - s1, d0

SOLUTIONS FOR FLOORS

SOLUTIONS FOR CEILINGS

SOLUTIONS FOR WALLS

TRANSMISSION LOSS EN ISO 10140 AND EN ISO 717-1



32.6 30.2 125 32.7 35.3 35,6 160 35,0 38,1 200 38,8 45,8 250 25,7 42,2 51,1 45,1 54,2 315 26,7 400 44,5 27,4 500 23,6 46,2 63,6 630 28,3 51,2 69,8 30,7 800 1000 33,7 60,0 83,0 1250 36,3 65,3 90,0 1600 38,7 69,6 93,0 41,7 71,0 90,3 44,1 86,4 47,2 70,7 88,6 4000 48,9 74,6 83,8 5000 49,9 75,6 81,0

R_w 33 dB (Bare wall) R_w 52 dB Coated one side R_w 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 33 B
- 12,5 mm layer plasterboard

Total thickness 150 mm

Description test coated wall two sides:

- 12,5 mm layer plasterboard
- 33 mm MUSTWALL 33 B
- 100 mm light aerated concrete block
- 33 mm MUSTWALL 33 B
- 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 SCREEW



STYWALL

SILENCE MAKERS

ACOUSTIC INSULATION BUILDING CONSTRUCTION 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/m² Load on the strip: 0,04 - 0,06 N/mm²

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



Wall weight: 200 - 400 kg/m² Load on the strip: 0,02 - 0,04 N/mm²

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



Wall weight: 100 - 200 kg/m² Load on the strip: 0,01 - 0,02 N/mm²

1. Under wall strip composed of granules of SBR rubber



SOLUTIONS FOR ACOUSTIC INSULATION IN BUILDING CONSTRUCTION

BUILDING CONSTRUCTION - UNDER WALLS **STYWALL**



Acoustic insulation for walls

STYWALL is a range designed to enhance the soundinsulation 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	0,1	20



ACOUSTIC INSULATION IN 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 with a mortar layer between

Build the wall, caring to seal the blocks with both vertical and horizontal

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

LAYING INSTRUCTIONS FOR DOUBLE WALLS



BIWALL - MUSTWALL





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



ACOUSTIC INSULATION BUILDING CONSTRUCTION LAYING INSTRUCTIONS FOR PLASTERBOARD WALLS



TRYWALL



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



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



Complete the insulation application in the metal structure.



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







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.

ACOUSTIC INSULATION BUILDING CONSTRUCTION LAYING INSTRUCTIONS FOR SINGLE 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.



ACOUSTIC INSULATION BUILDING CONSTRUCTION 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.





Discover Technical Sheet

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

STIK

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





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

GLUE

Glue designed to fix panels applied on walls.





Technical features		GLUE		
rechnical reatures	PERLFIX K465 SELENA TYTAN'S 6			
Piece quantity kg - ml		25	750	

SOLUTIONS FOR ACOUSTIC INSULATION IN BUILDING CONSTRUCTION

FIXING ELEMENTS



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

Technical features	LONG FIXING AND WASHER	DOUBLE THREAD SCREW	
Length	mm	100	30
Raw plug tip	mm	6	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.





I.C	u	17	•

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		1	0	

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		

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	





SOLUTION FOR FLOORS

SOLUTION FOR CEILINGS

SOLUTION FOR WALLS



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