



SOLUTIONS FOR
ACOUSTIC INSULATION
TIMBER STRUCTURES

ACOUSTIC INSULATION FOR TIMBER STRUCTURES



Acoustic in wooden buildings depends on a careful study and an accurate project execution

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 are 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.





Acoustics and comfort within wooden buildings

Wooden buildings are more and more considered as a valid alternative to the traditional constructions in reinforced concrete. Wooden buildings are very common in Northern European countries and are spreading massively both in Italy and in the rest of Europe. The reasons for this continuous growth lie in the unique properties of wood, such as excellent thermal insulation and mechanical resistance. The main advantages of timber structures are:

- **Anti-seismic behaviour:** thanks to a light weight and to the types of connections, wooden walls are less subject to seismic effects
- **Sustainability:** wood is a natural and sustainable material that has a reduced environmental impact for its production process
- **Reduced construction costs:** thanks to a high degree of prefabrication and the possibility of dry assembling of the various components

However, due to the intrinsic lightness of its components, timber structures require sound insulation interventions that involves all horizontal and vertical separation surfaces in order to meet regulatory requirements and increase overall living comfort.

For the new constructions, aside from the traditional wooden construction systems, the CLT technology is of considerable interest due to the great advantages it entails in terms of construction and site management.

In the renovation projects, very often old timber joists floors built in the past have to be kept and preserved. In these floors, built according to older and various technical practices, the compliance to the actual acoustic and thermal insulation standards is particularly difficult. Indeed, together with the compliance of modern standards, it is often required to preserve the aesthetics in valuable buildings of historical city centres.

ACOUSTIC INSULATION FOR TIMBER STRUCTURES



Timber joists floors and in CLT



Wooden floors are very common and are still used in new buildings, also because of their lightness and structural characteristics. In the more dated constructions is often found this type of slab that is very often maintained during restoration, preserving its functionality and aesthetic characteristics, much appreciated on the domestic and foreign market.

The acoustic performance of the wooden floor is particularly critical, as the sound radiation is concentrated in the medium-low frequency range. The CLT slab, although acoustically more favorable than the traditional wooden slab with beams and floor, is affected by a limited mass. Consequently, for both types of structure it is necessary to intervene with high performance materials and products, to meet the passive acoustic requirements and possibly reach high insulation levels.

The acoustic solution to obtain good acoustic results consists in the realization of the floating screed, decoupling the load-bearing floor from the floor by means of a layer of elastic material located below the screed supporting the floor, and along the perimeter of the room.

Through the insertion of the resilient layer, a "tank" is created to contain the support screed, in which it is free to float, not being rigidly bound to the lateral structures.

The minimum thickness of the floating screed shall be assessed in relation to the intrinsic characteristics of the material of which it is composed and the mechanical stresses to which it will be subjected under normal operating conditions.





CLT walls



The construction technology with the CLT has developed and spread as an innovative alternative to traditional wooden constructions with frame structure. This is based on the use of prefabricated wooden panels, which are suitably arranged horizontally and vertically to form the supporting structure of the building.

CLT panels are flat structural elements composed of glued wood sheets to form oriented wooden layers: each single panel is composed of three or more layers in order to standardize the mechanical properties in the designated direction of use. On the acoustic level, CLT walls are affected by their lightness, so they need intervention to improve their characteristics.

The analysis carried out in the laboratory on acoustic performance according to UNI EN ISO 10140, has allowed to obtain a representative sample of the optimal solutions in cases like these. The coated wall is therefore the ideal solution to improve acoustic performance in the case of walls with wooden structure, especially if single-layer as those in CLT. In fact, the use of pre-coupled plasterboard slabs Isolgamma allows, even without metal structure and therefore with little space, to achieve very high acoustic performance.



ACOUSTIC INSULATION

HIGHMAT FOR WOODEN FLOORS



Acoustic and thermal insulation for floating floors

HIGHMAT products have been developed to reach extremely high insulation on floors with the 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 air-born noise.

Highmat's unique features make it suitable also for acoustic insulation of floors in music/video production studios and in music halls.

APPLICATION FIELDS

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

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



Discover Technical Sheets

COMPLEMENTARY PRODUCTS AND ACCESSORIES



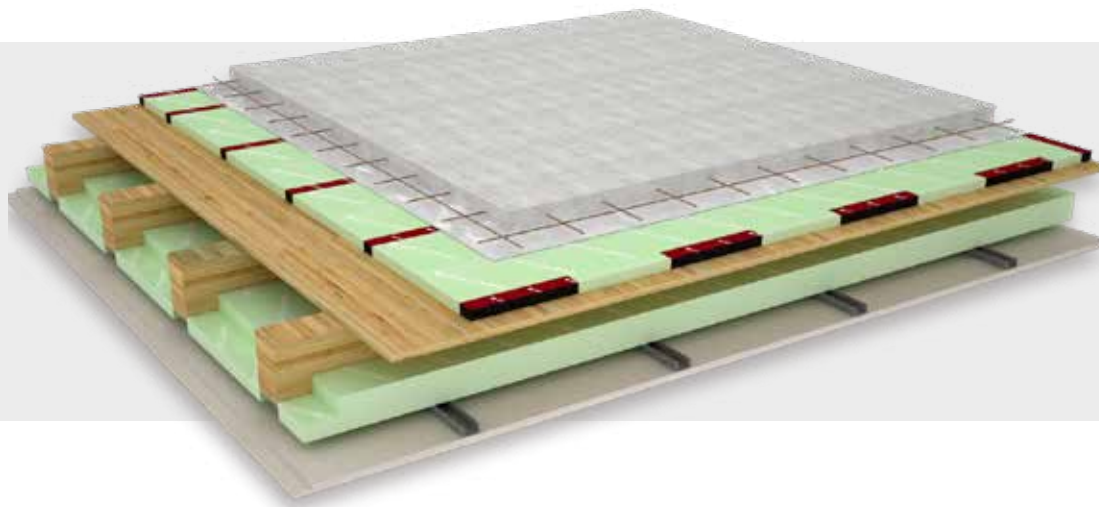
FYBRO



SIDE HIGHMAT



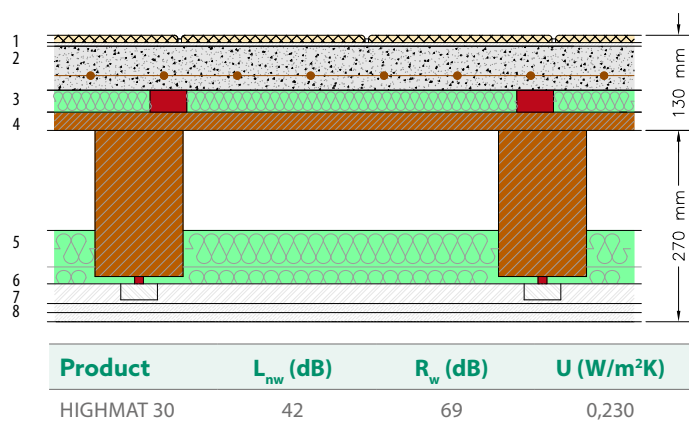
REDFIX



FLOORS

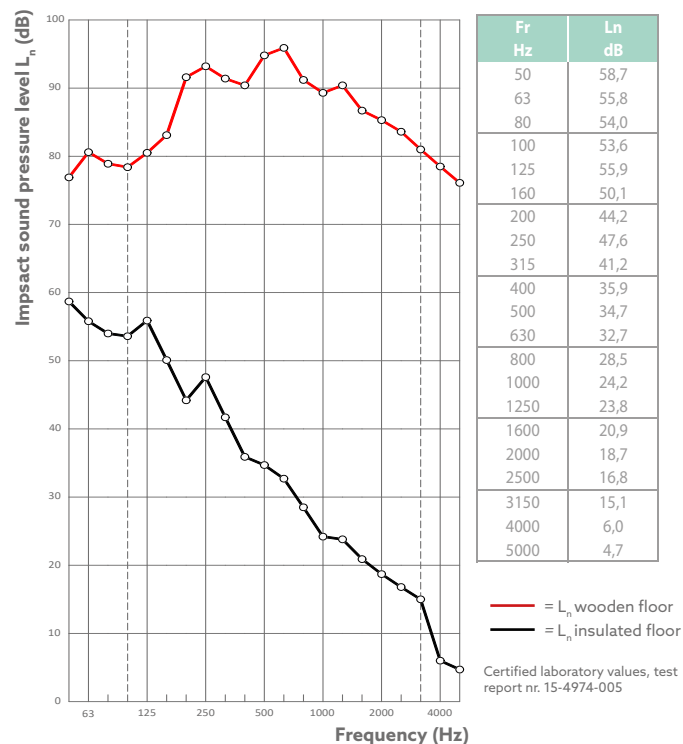
WALLS

ELASTIC
JUNCTION

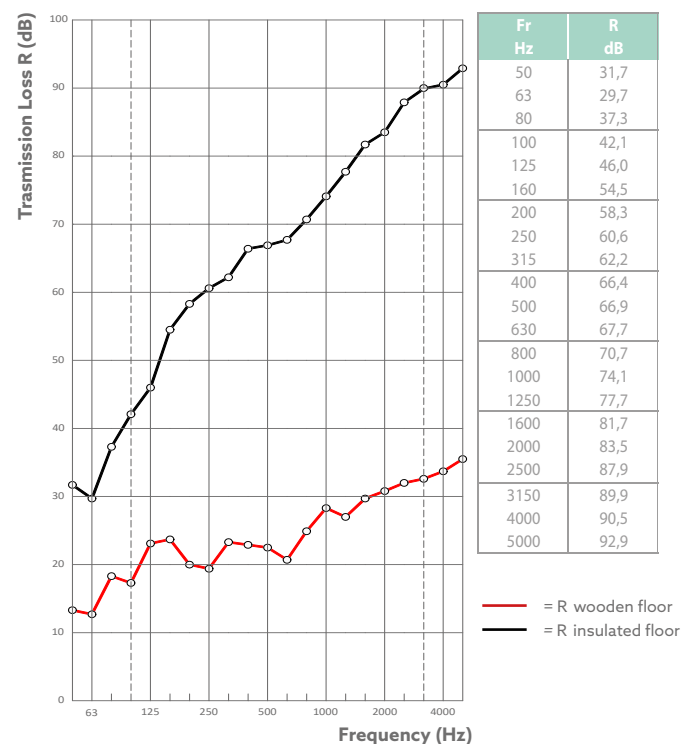


1. Floor finishing, th. 15 mm
2. Screed, th. 60 mm
3. Acoustic insulation and thermal HIGHMAT
4. Timber joists floor, th. 200 mm
5. Acoustic and thermal insulation FYBRO 50 in double layer
6. Anti-vibration brackets REDFIX C28
7. Steel profile 50/27/0.6
8. Double layer of plasterboard, th. 25 mm

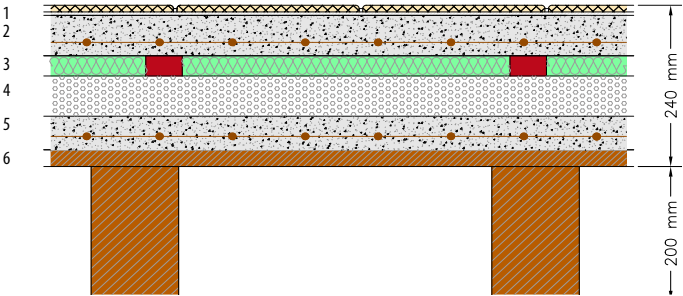
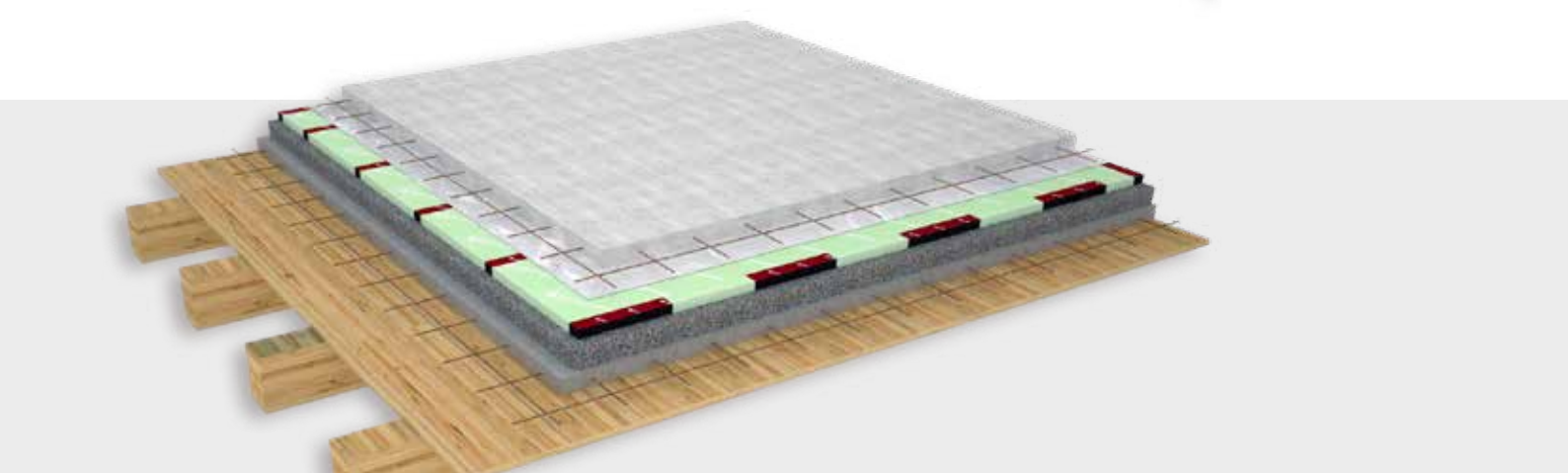
IMPACT SOUND INSULATION EN ISO 10140 & EN ISO 717-2



AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



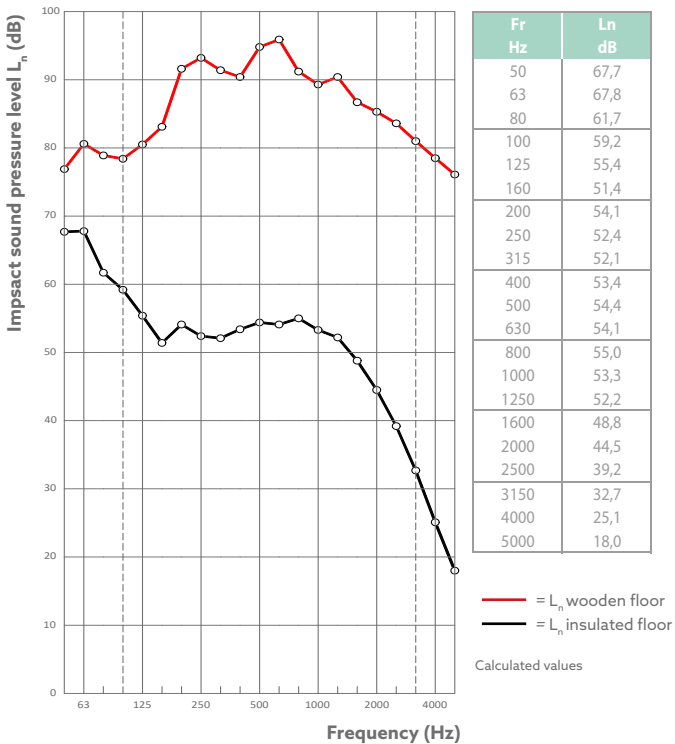
ACOUSTIC INSULATION HIGHMAT FOR WOODEN FLOORS



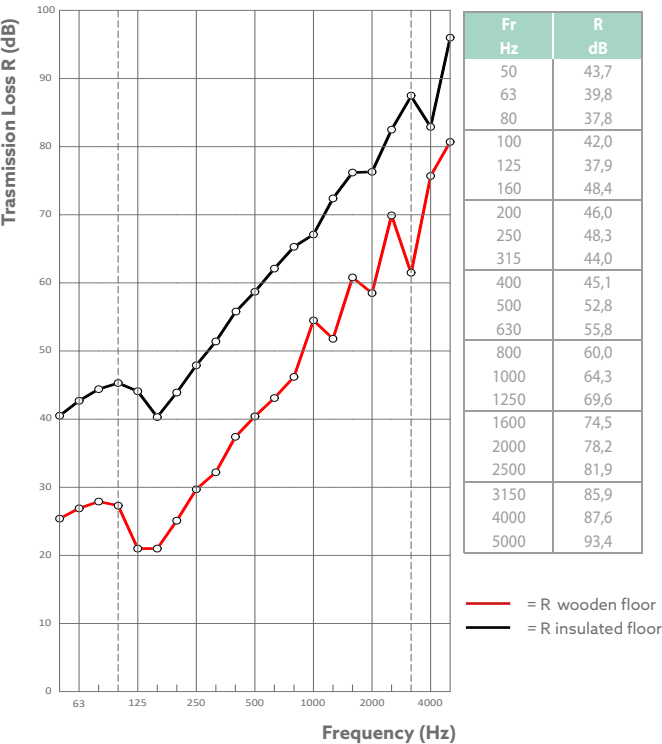
Product	L _{nw} (dB)	R _w (dB)	U (W/m²K)
HIGHMAT 30	53	56	0,520

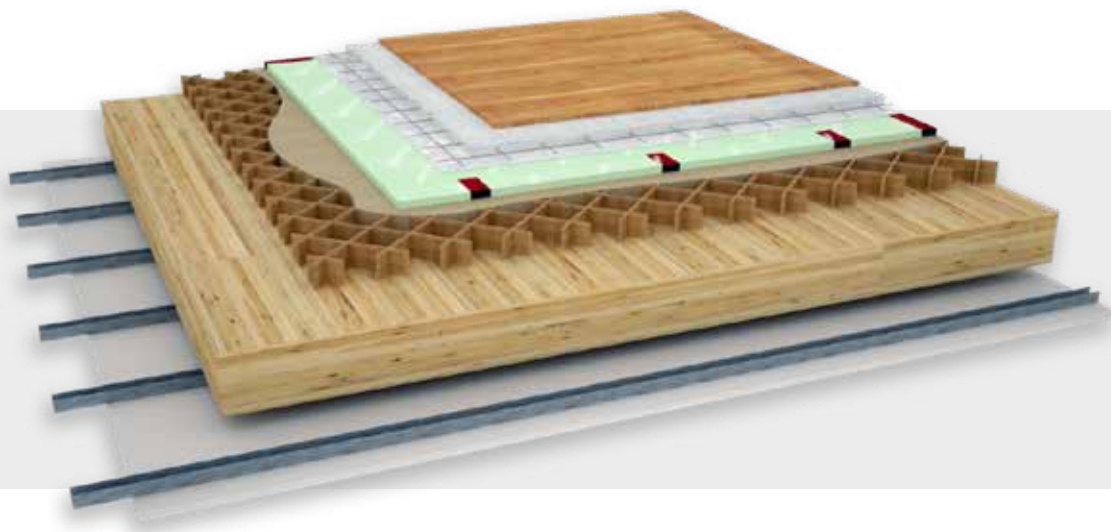
1. Floor finishing, th. 15 mm
2. Sand and cement bonded screed, th. 60 mm
3. Acoustic and thermal insulation HIGHMAT 30
4. Levelling screed, th. 60 mm
5. Reinforced concrete, th. 50 mm
6. Timber joists floor, th. 200 mm

IMPACT SOUND INSULATION EN ISO 10140 & EN ISO 717-2



AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1

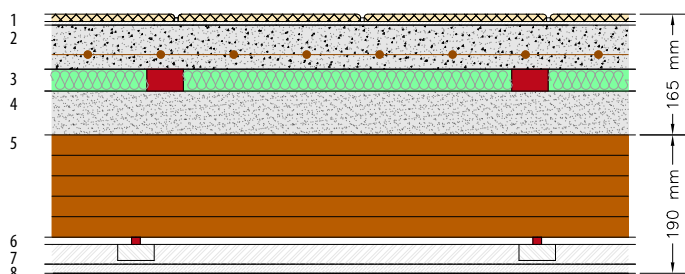




FLOORS

WALLS

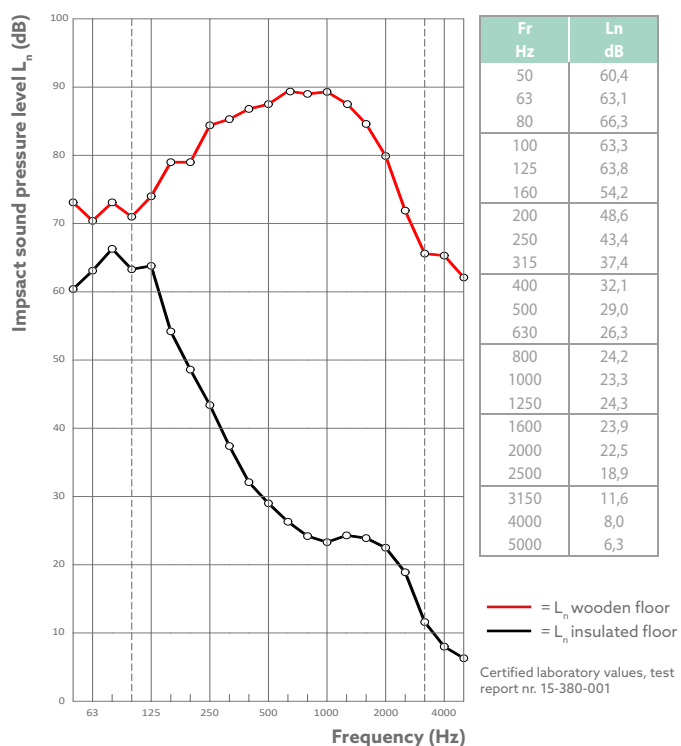
ELASTIC
JUNCTION



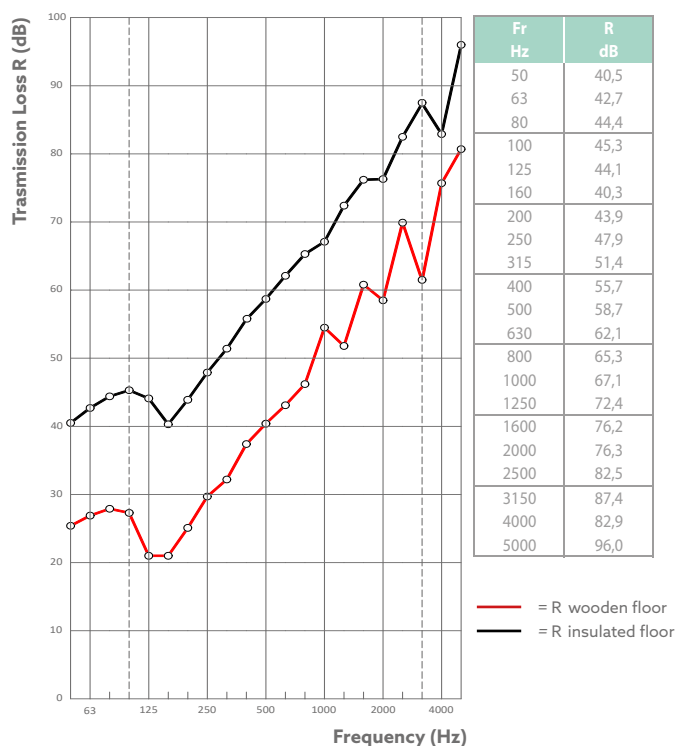
1. Floor finishing, th. 15 mm
2. Screed, th. 60 mm
3. Acoustic and thermal insulation HIGHMAT 30
4. Sand filling, th. 60 mm
5. CLT floor, th. 140 mm
6. Anti-vibration brackets REDFIX C28
7. Steel profile 50/27/0.6
8. Plasterboard, th. 12,5 mm

Product	L_{nw} (dB)	R_w (dB)	U (W/m ² K)
HIGHMAT 30	48	60	0,460

IMPACT SOUND INSULATION EN ISO 10140 & EN ISO 717-2



AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



ACOUSTIC INSULATION

UPGREI FOR WOODEN FLOORS



Acoustic and thermal insulation for floating floors

UPGREI is a product for high performance in acoustic insulation, developed with cutting-edge technologies, for applications in the construction using floating screeds. Upgrei is made in rolls using 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.

The Upgrei line is ideal for impact sound insulation of wooden floors, especially when high acoustic performances are required.

The extremely resistant yet 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 Technicacal 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/m ²	EN 1602	2,65
Dynamic stiffness s'	MN/m ³	EN 29052-1	6
Impact sound level attenuation ΔL_w	dB	EN ISO 10140 EN ISO 717-2	26
Thermal conductivity coefficient λ	W/m K	EN 12667	0,043
Compressibility c	mm	EN 12431	2,2
Fire grade	Class	EN 13501-1	E

COMPLEMENTARY PRODUCTS AND ACCESSORIES



FYBRO



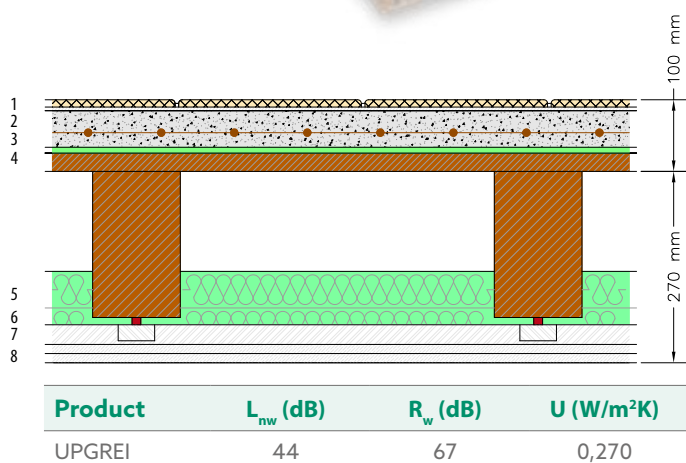
REDFIX



FLOORS

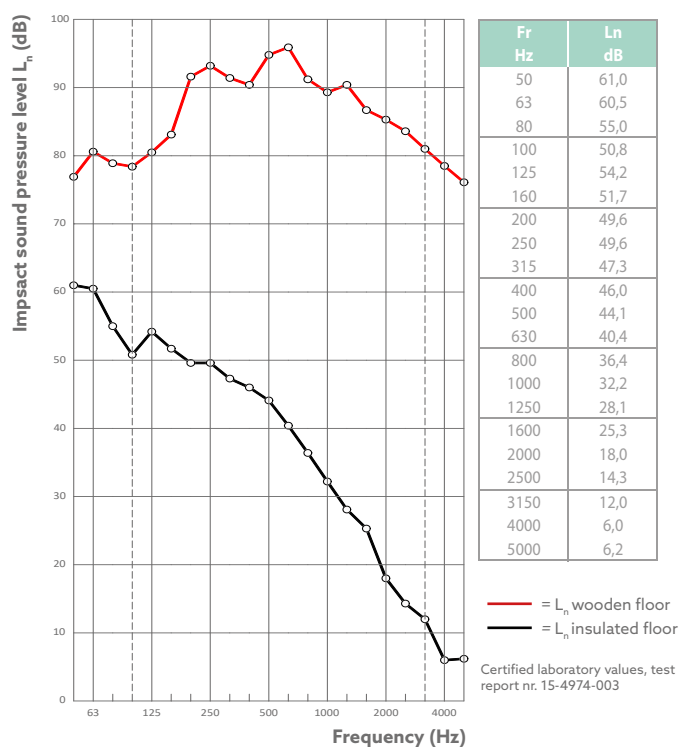
WALLS

ELASTIC
JUNCTION

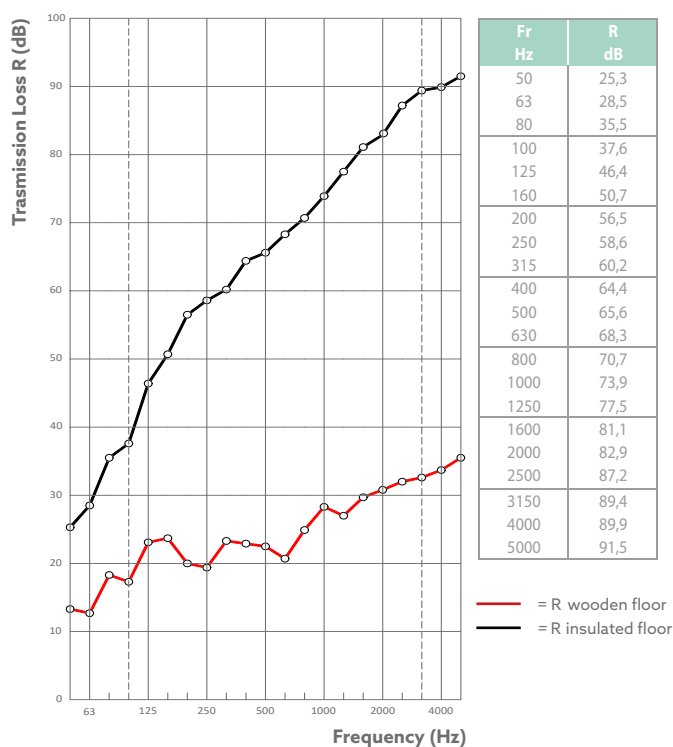


1. Floor finishing, th. 15 mm
2. Sand and cement bonded screed, th. 50 mm
3. Acoustic and thermal insulation UPGREI
4. Timber joists floor, th. 200 mm
5. Acoustic and thermal insulation FYBRO 50 in double layer
6. Anti-vibration brackets REDFIX C28
7. Steel profile 50/27/0.6
8. Double layer of plasterboard, th. 25 mm

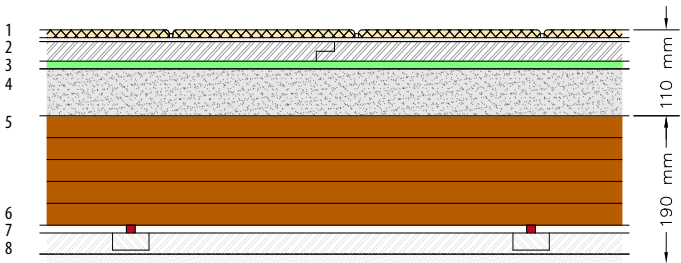
IMPACT SOUND INSULATION EN ISO 10140 & EN ISO 717-2



AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



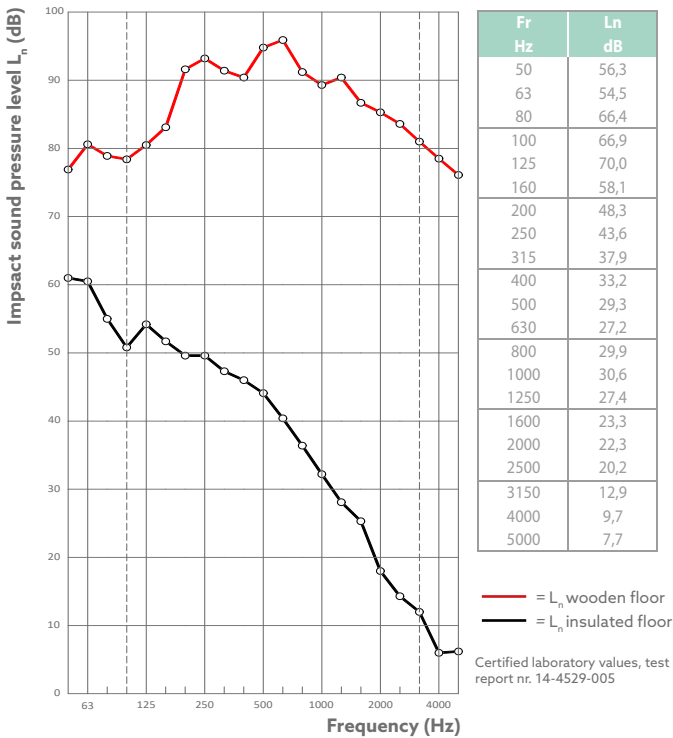
ACOUSTIC INSULATION UPGREI FOR WOODEN FLOORS



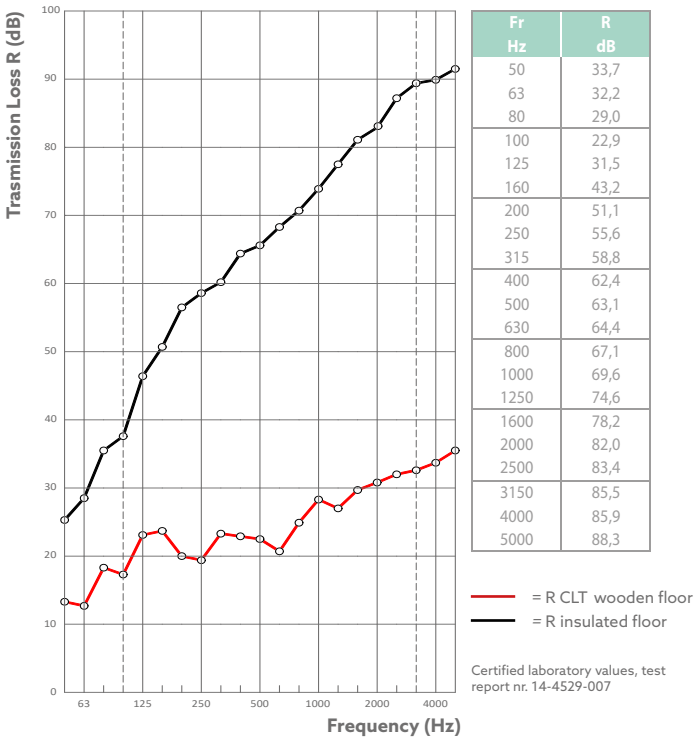
Product	L_{nw} (dB)	R_w (dB)	U (W/m ² K)
UPGREI	53	59	0,630

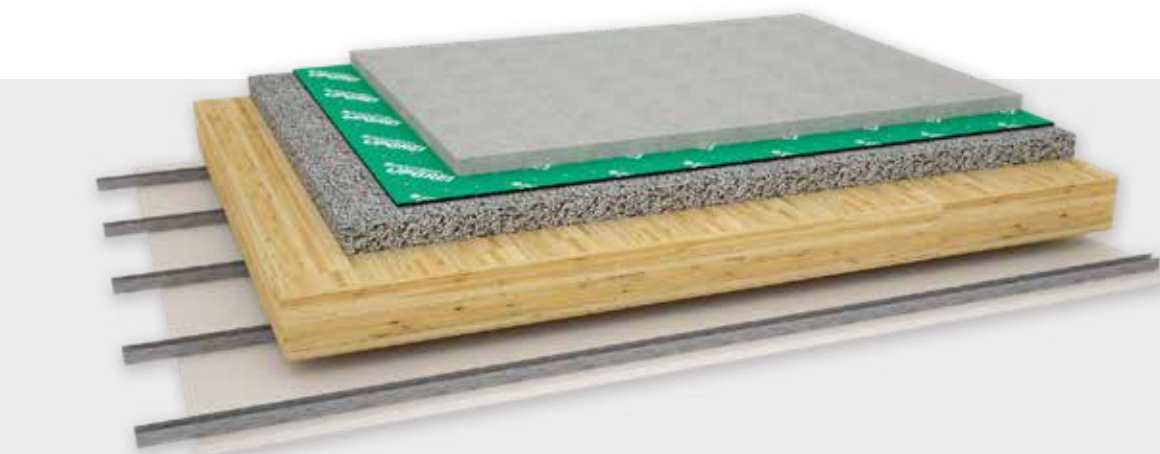
1. Floor finishing, th. 15 mm
2. Gypsum fibre under-layment, th. 25 mm
3. Acoustic and thermal insulation UPGREI
4. Sand filling, th. 60 mm
5. CLT floor, th. 140mm
6. Anti-vibration brackets REDFIX C28
7. Steel profile 50/27/0.6
8. Plasterboard, th. 12,5 mm

IMPACT SOUND INSULATION EN ISO 10140 & EN ISO 717-2



AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1

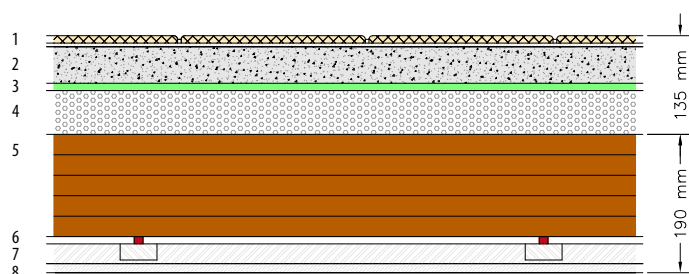




FLOORS

WALLS

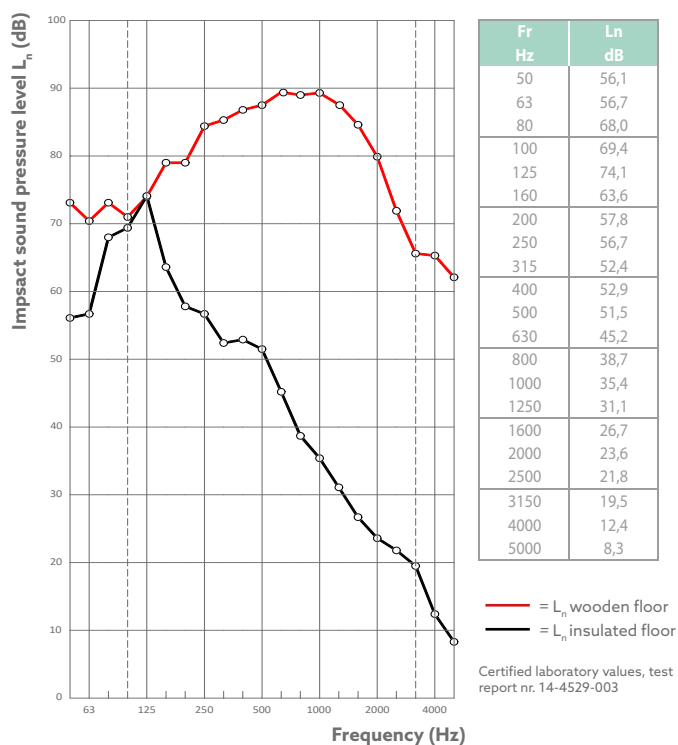
ELASTIC
JUNCTION



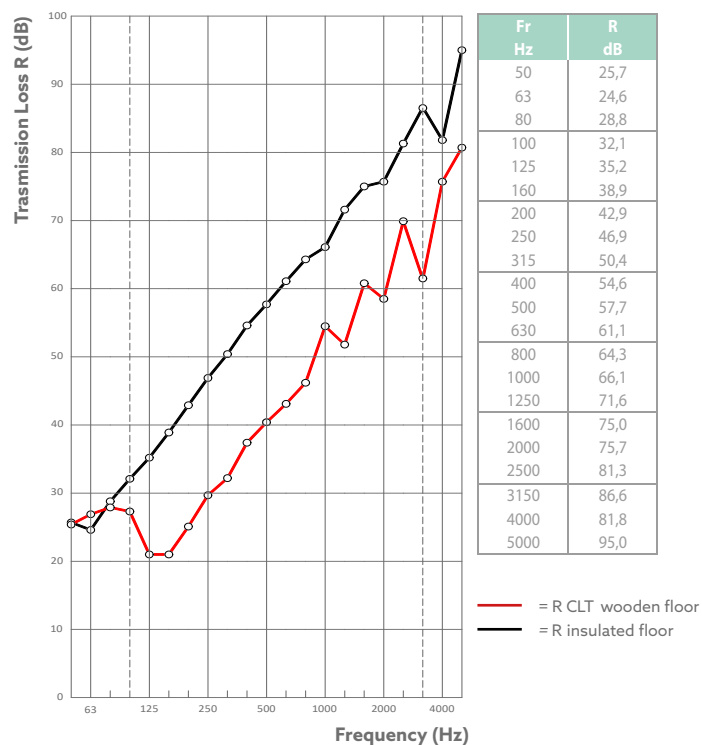
1. Floor finishing, th. 15 mm
2. Sand and cement bonded screed, th. 50 mm
3. Acoustic and thermal insulation UPGREI
4. Levelling screed, th. 60 mm
5. CLT floor, th. 140 mm
6. Anti-vibration brackets REDFIX C28
7. Steel profile 50/27/0.6
8. Plasterboard, th. 12,5 mm

Product	L_{nw} (dB)	R_w (dB)	U (W/m ² K)
UPGREI	57	57	0,470

IMPACT SOUND INSULATION EN ISO 10140 & EN ISO 717-2



AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



ACOUSTIC INSULATION FOR TIMBER STRUCTURES

REWALL 28 R FOR WOODEN FLOORS



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 x 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.

With the use of an electro-welded mesh where to fix pipes becomes an excellent solution even for applications with underfloor heating.

APPLICATION FIELDS

- Under screed acoustic and thermal insulation for light wooden
- High acoustic performance and mechanical stability solution
- Acoustic and thermal insulation for underfloor heating solutions

Technical features		Norm	REWALL 28 R
Thickness	mm	EN 12431	28
Dimensions	m	EN 822	1 x 1,20
Mass per unit area	kg/m ²	EN 1602	10
Dynamic stiffness s'	MN/m ³	EN 29052-1	5
Impact sound level attenuation ΔL_w	dB	EN ISO 10140 EN ISO 717-2	29
Thermal conductivity coefficient λ	W/m K	EN 12667	0,047
Compressibility c	mm	EN 12431	2,1
Fire grade	Class	EN 13501-1	E



Discover Technacal Sheet

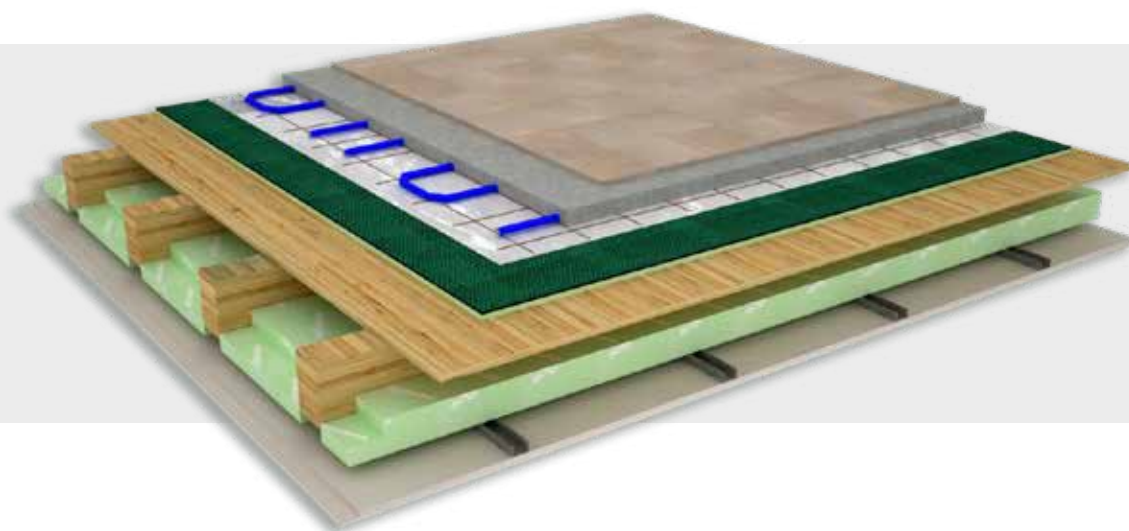
COMPLEMENTARY PRODUCTS AND ACCESSORIES



FYBRO



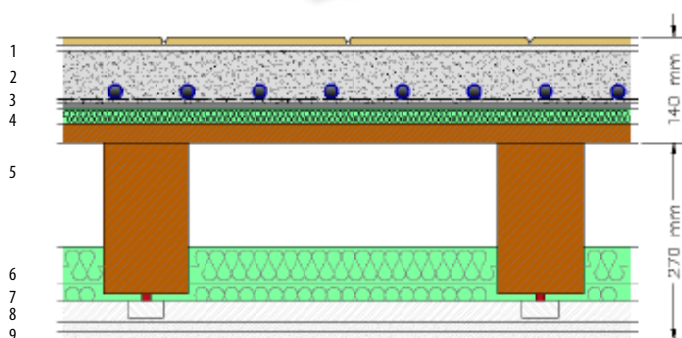
REDFIX



SOLAI

PARETI

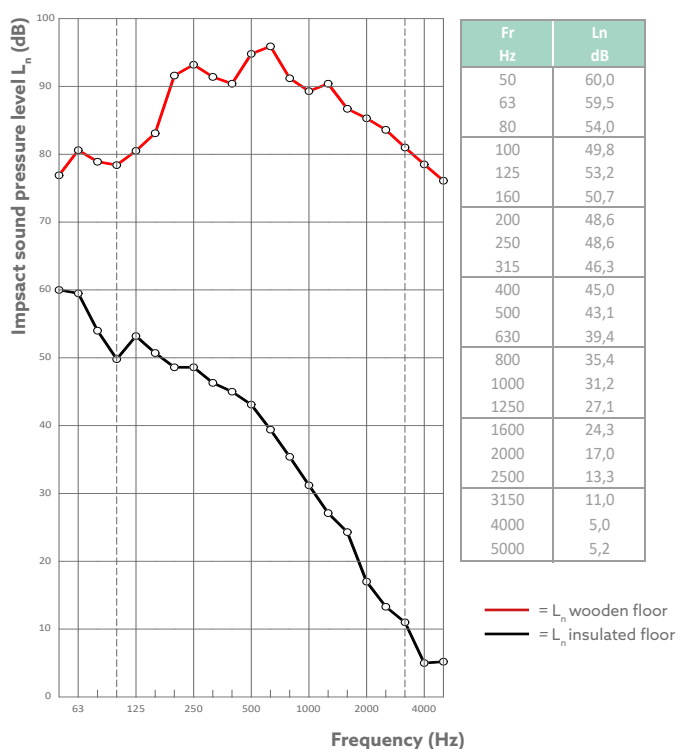
GIUNZIONE
ELASTICA



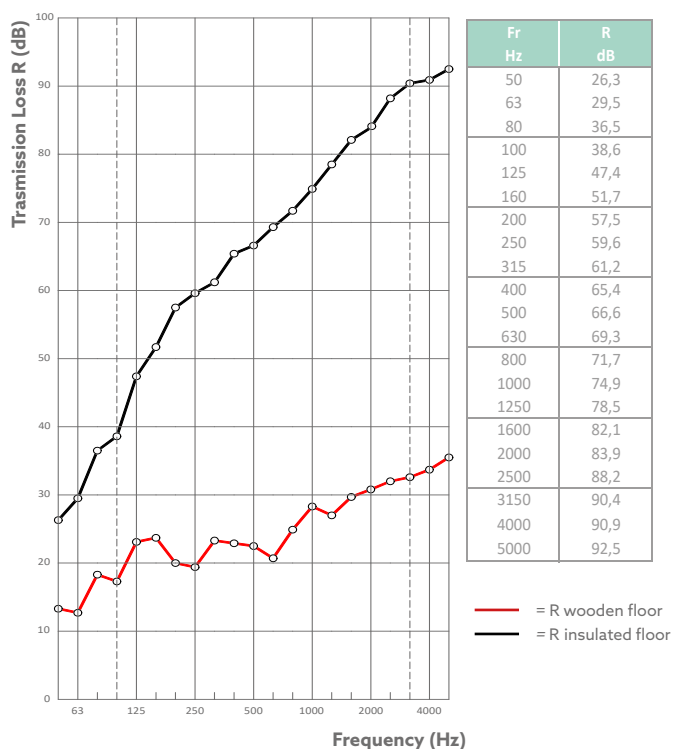
1. Floor finishing, th. 15 mm
2. Sand and cement bonded screed, th. 50 mm
3. Heating system with clips on stelle mesh
4. Acoustic and thermal insulation REWALL 28 R
5. Timber joists floor, th. 200 mm
6. Acoustic and thermal insulation FYBRO 50 in double layer
7. Anti-vibration brackets REDFIX C28
8. Steel profile 50/27/0.6
9. Double layer of plasterboard, th. 25 mm

Product	L_{nw} (dB)	R_w (dB)	U (W/m ² K)
REWALL 28 R	43	68	0,271

IMPACT SOUND INSULATION EN ISO 10140 & EN ISO 717-2



AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



ACOUSTIC INSULATION GREI FOR WOODEN FLOORS



Acoustic insulation for floating floors

GREI is a product range for acoustic insulation of floors and was developed for constructing high-quality slabs guaranteeing excellent insulation performances.

The use of a special EPDM rubber combined with a specific patented production process guarantee a product with superior mechanical and acoustic properties and making it ideal for impact noise insulation on all types of slabs.

The extremely resistant yet flexible mat adapts perfectly to the underlying surface and - thanks to the self-adhesive joining edge - 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 finishing
- High thickness screeds

Technical features		Norm	GREI
Thickness	mm	EN 12431	7
Dimensions	m	EN 822	1,04 x 5
Mass per unit area	kg/m²	EN 1602	2,8
Dynamic stiffness s'	MN/m³	EN 29052-1	8
Impact sound level attenuation ΔL_w	dB	EN ISO 10140 EN ISO 717-2	24
Thermal conductivity coefficient λ	W/m K	EN 12667	0,064
Compressibility c	mm	EN 12431	2,0
Fire grade	Class	EN 13501-1	E



Discover Technical Sheet

COMPLEMENTARY PRODUCTS AND ACCESSORIES



FYBRO



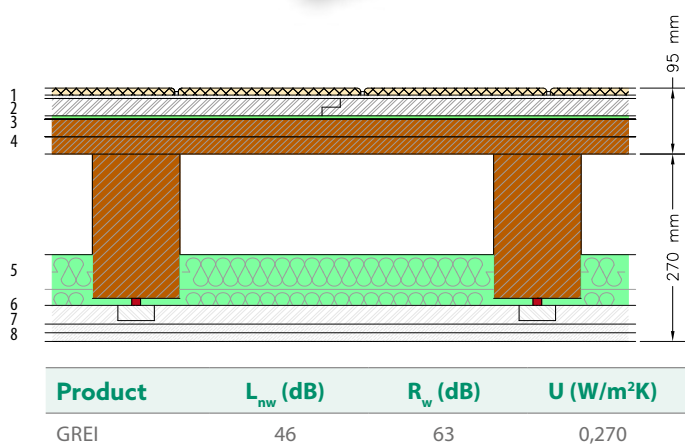
REDFIX



FLOORS

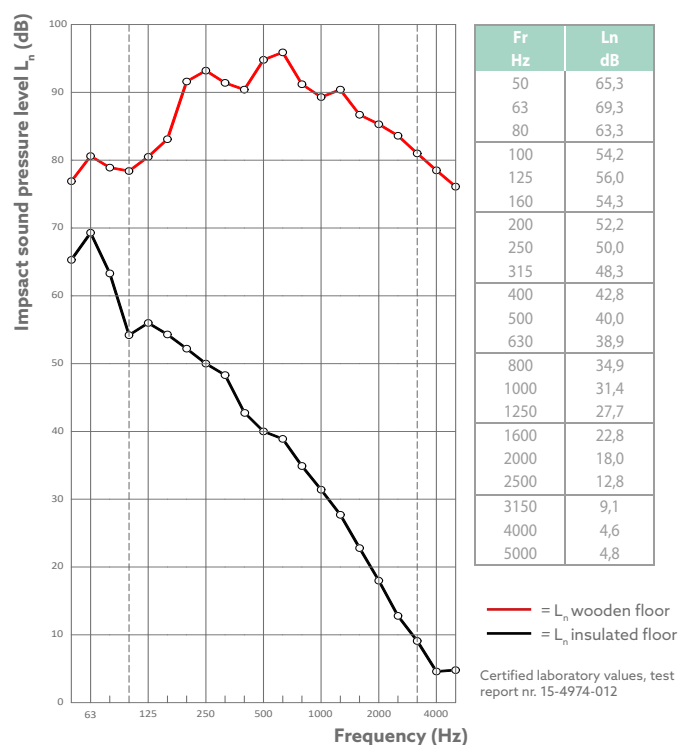
WALLS

ELASTIC
JUNCTION

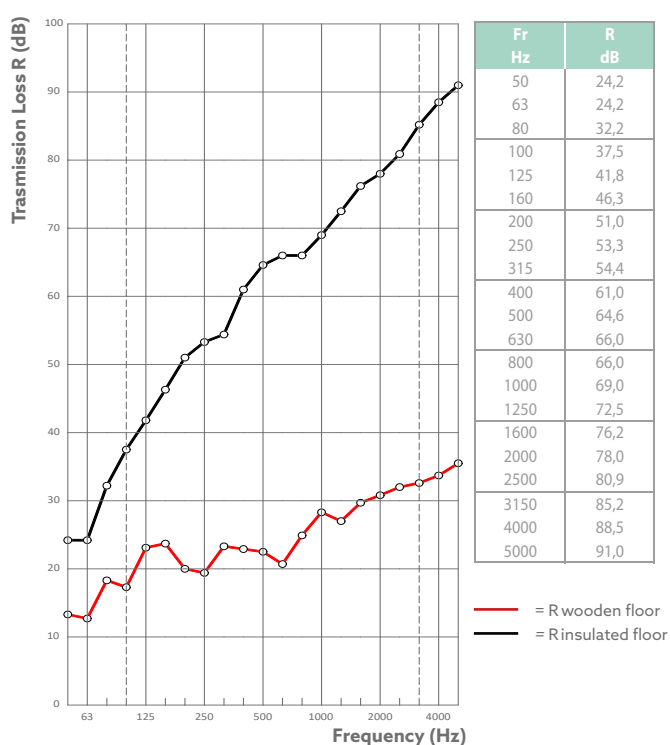


1. Floor finishing, th. 15 mm
2. Gypsum fibre under-layment, th. 25 mm
3. Acoustic and thermal insulation GREI
4. Timber joists floor, th. 20 mm
5. Acoustic and thermal insulation FYBRO 50 in double layer
6. Anti-vibration brackets REDFIX C28
7. Steel profile 50/27/0.6
8. Double layer of plasterboard, th. 25 mm

IMPACT SOUND INSULATION EN ISO 10140 & EN ISO 717-2

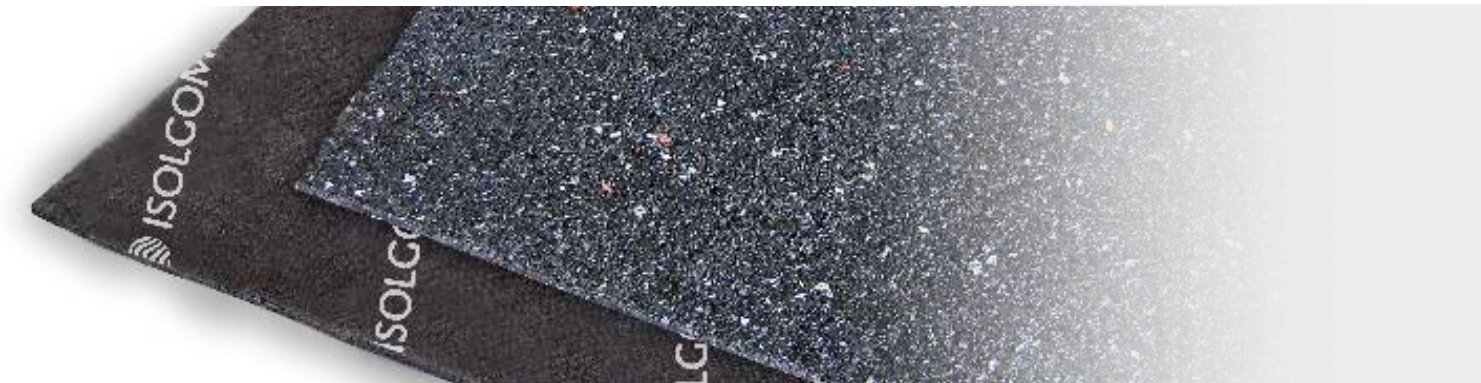


AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



ACOUSTIC INSULATION

SYL AD FOR WOODEN FLOORS



Acoustic insulation for floating floors

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 even beneath wooden floors.

APPLICATION FIELDS

- Floating floors

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



Discover Technical Sheet

COMPLEMENTARY PRODUCTS AND ACCESSORIES



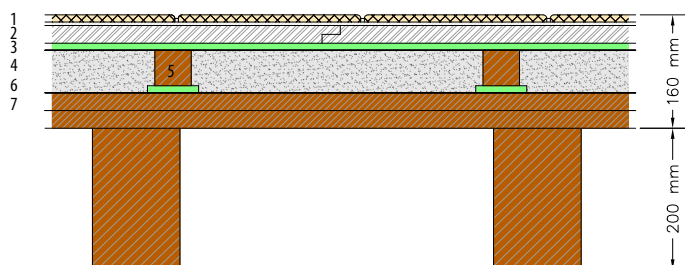
STYWALL AD PRO



FLOORS

WALLS

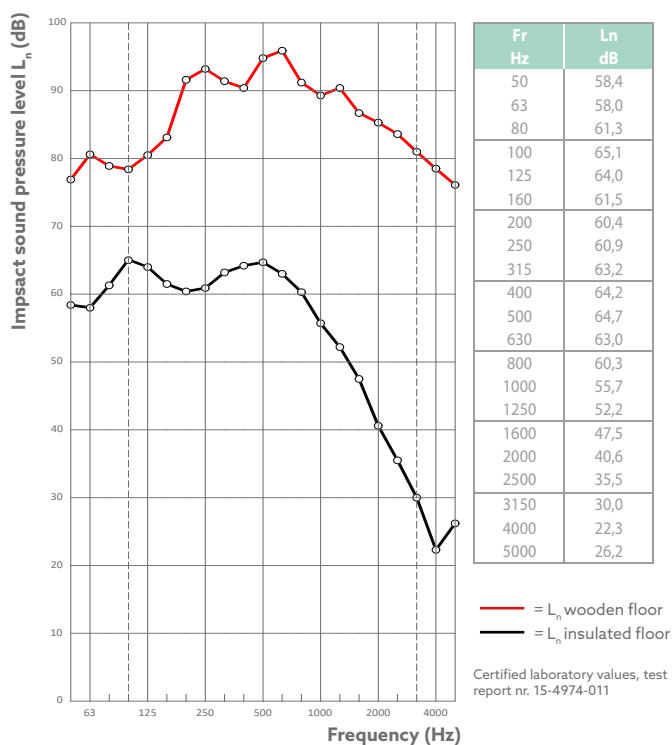
ELASTIC
JUNCTION



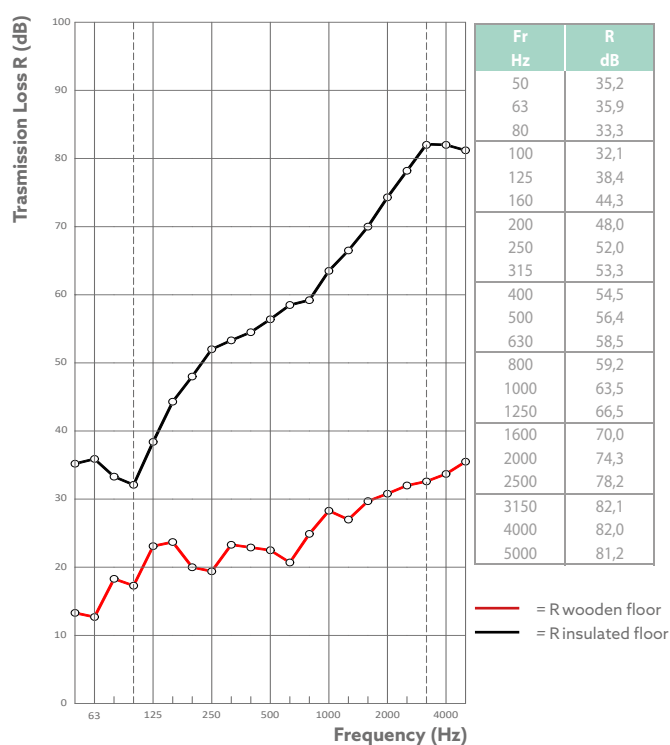
1. Floor finishing, th. 15 mm
2. Gypsum fibre under-layment, th. 25 mm
3. Acoustic insulation SYL 10 AD
4. Sand filling, th. 70 mm
5. Wooden beam, th. 65 mm
6. Acoustic insulation STYWALL AD PRO
7. Timber joists floor, th. 200 mm

Product	L_{nw} (dB)	R_w (dB)	U (W/m ² K)
SYL 10 AD	59	59	1,100

IMPACT SOUND INSULATION EN ISO 10140 & EN ISO 717-2



AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



ACOUSTIC INSULATION

REWALL 40 FOR WOODEN WALLS



Acoustic and thermal insulation for walls

REWALL 40 is a product of high thermo-acoustic features which was developed to increase the acoustic insulation performances of CLT walls.

Its low thickness allows the application even in situations of limited space and in renovations works. It is composed of a panel of fibres and granules of SBR rubber coupled with a polyester fibre panel and a coated plaster board.

APPLICATION FIELDS

- Dividing walls and ceilings
- Applicable in existing settings where it is not possible to perform masonry work
- Recovering of existing walls without using the traditional metal structure



Discover Technical Sheet

Technical features		Norm	REWALL
Thickness	mm	-	40
Dimensions	m	EN 822	1,2 x 2
Mass per unit area	kg/m ²	EN 1602	18,0
Airborne sound insulation R_w	dB	EN ISO 10140 EN ISO 717-1	58
Thermal resistance R	m ² K/W	EN 12667	0,761
Fire grade	Class	EN 13501-1	B-s1,d0

ACCESSORIES



PERLFIX
K465 ADHESIVE



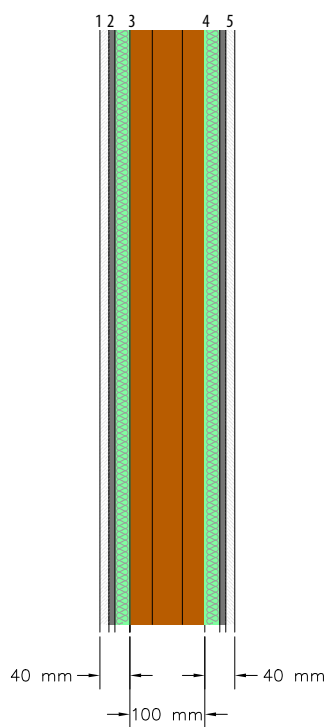
GLUE SELENA
TYTAN 60S



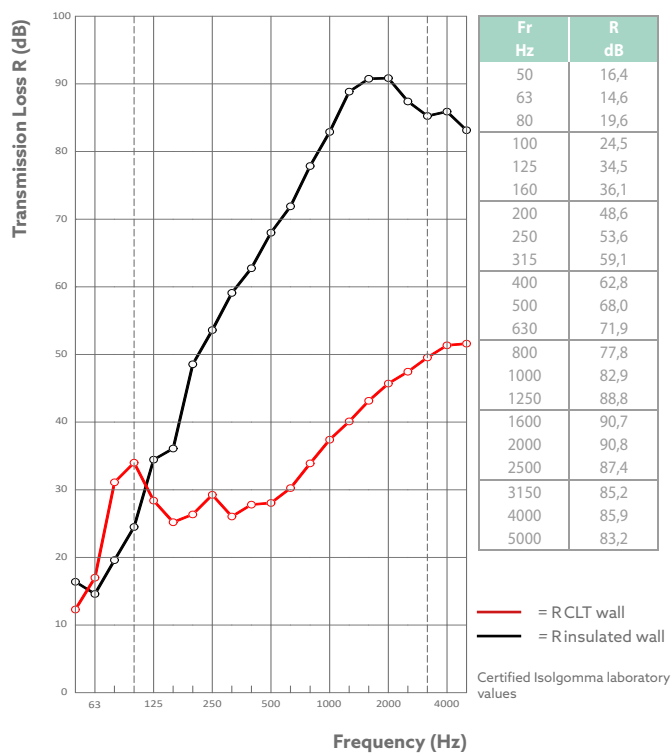
FLOORS

WALLS

ELASTIC
JUNCTION



AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



Product	R_w (dB)	U (W/m ² K)
Rewall 40	58	0,403

1. Plasterboard, th. 12,5 mm
2. Acoustic and thermal insulation REWALL 40
3. CLT wall, th. 100mm
4. Acoustic and thermal insulation REWALL 40
5. Plasterboard, th. 12,5 mm

ACOUSTIC INSULATION

TRYWALL FOR WOODEN WALLS



Acoustic and thermal insulation for walls

TRYWALL is specially developed to offer high acoustic insulation for applications with lining and lightweight walls made with a plasterboard structure.

It is a coupled product with a total thickness of 48 mm, composed of 2 elements in polyester fibre and a central high-density rubber board, which allows you to obtain a sound-insulating panel with a reduced environmental impact.

Trywall has been specifically designed for wall systems with cavities for implants thus avoiding air leaks. This type of product combines excellent acoustic performance with excellent results in thermal insulation and offers an extreme ease of installation in light wall systems as the different elements are already coupled and ready to install.

APPLICATION FIELDS

- Dividing walls and ceilings
- Recovering of existing walls with the use of 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
Airborne sound insulation R_w	dB	EN ISO 10140 EN ISO 717-1	64
Thermal conductivity coefficient λ	m ² K/W	EN 12667	0,047



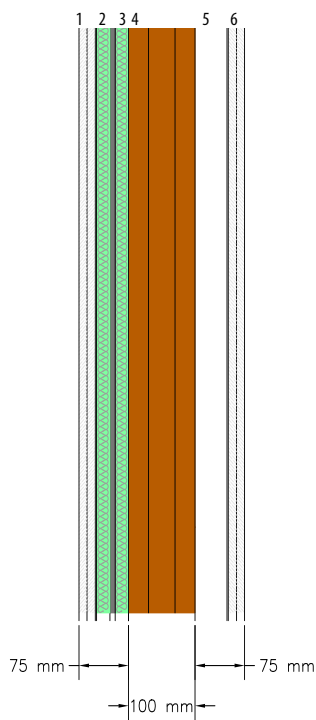
Discover Technical Sheet



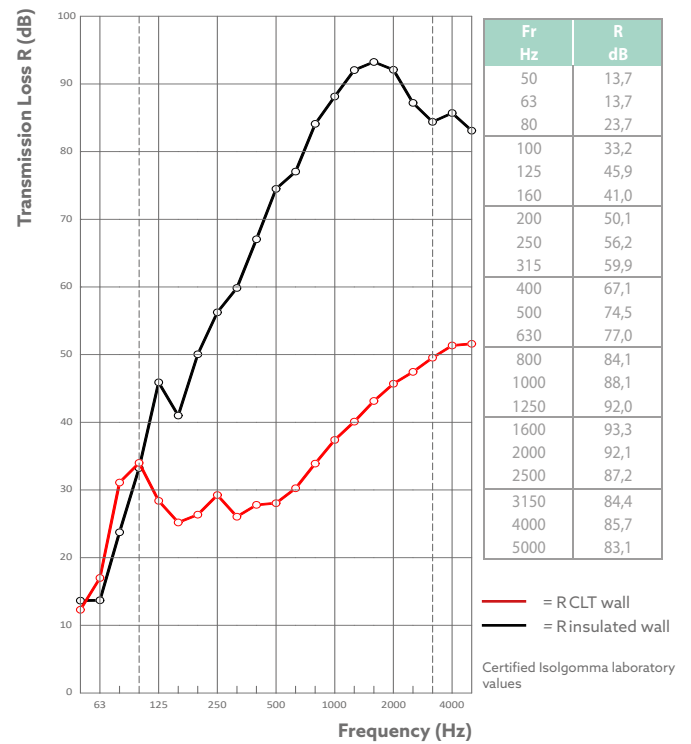
FLOORS

WALLS

ELASTIC
JUNCTION



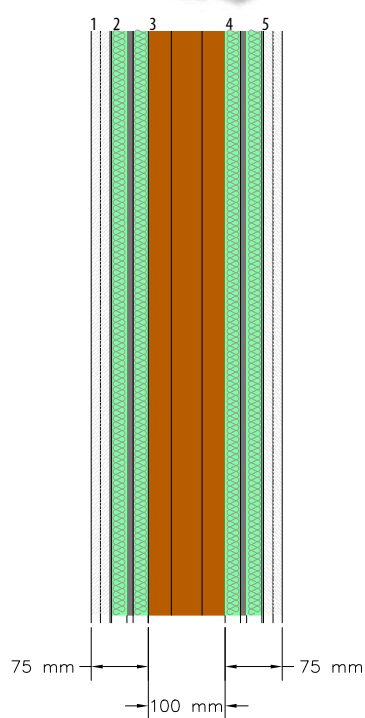
AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



Product	R_w (dB)	U (W/m ² K)
TRYWALL 48	64	0,440

1. Double layer of plasterboard, th. 25 mm
2. Acoustic and thermal insulation TRYWALL 48
3. Steel profile 50/50/0.6
4. CLT wall, th. 100 mm
5. Air gap (metal structure), th. 50 mm
6. Double layer of plasterboard, th. 25 mm

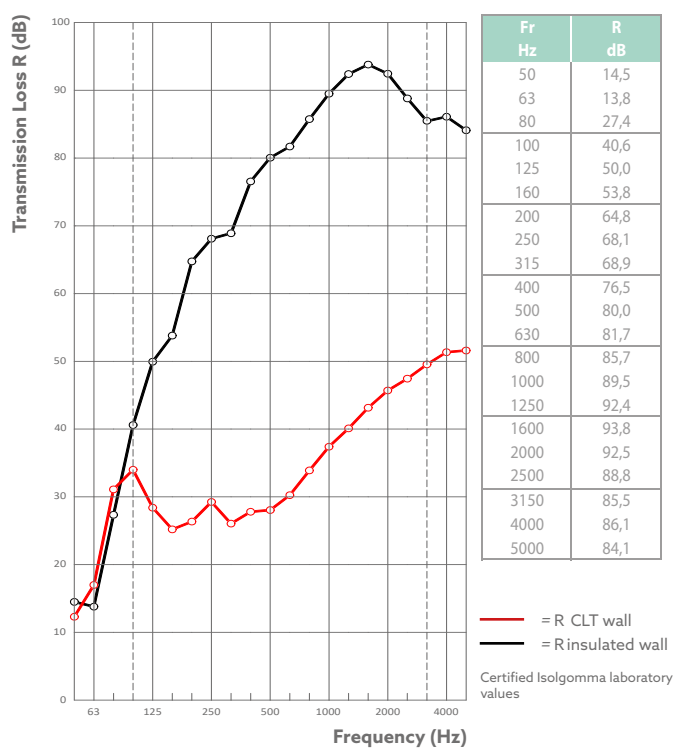
ACOUSTIC INSULATION TRYWALL FOR WOODEN WALLS



Product	R_w (dB)	U (W/m ² K)
TRYWALL 48	74	0,320

1. Double layer of plasterboard, th. 25 mm
2. Acoustic and thermal insulation TRYWALL 48
3. CLT wall, th. 100 mm
4. Acoustic and thermal insulation TRYWALL 48
5. Double layer of plasterboard, th. 25 mm

AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1

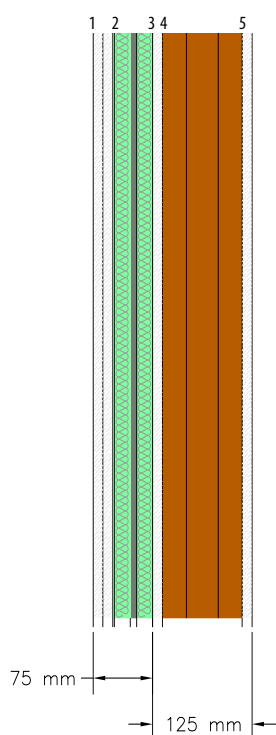




FLOORS

WALLS

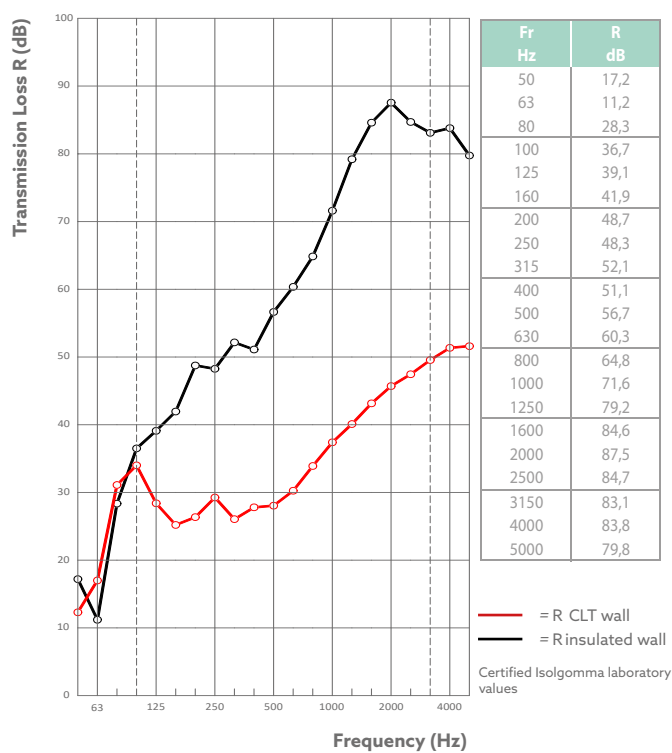
ELASTIC
JUNCTION



Product	R_w (dB)	U (W/m ² K)
TRYWALL 48	59	0,476

1. Double layer of plasterboard, th. 25 mm
2. Acoustic and thermal insulation TRYWALL 48
3. Plasterboard, th. 12,5 mm
4. CLT wall, th. 100 mm
5. Plasterboard, th. 12,5 mm

AIRBORNE SOUND INSULATION EN ISO 10140 & EN ISO 717-1



ACOUSTIC INSULATION

ELASTIC JUNCTION



Acoustic insulation and vibration control of CLT floors and walls

The strip **JOINWOOD** is a decoupling element for the reduction of lateral noise transmissions in CLT structures. The latter is the result of a research project that broadens the knowledge of the acoustic behaviour of wooden supporting structures which acoustic behaviour is improved through the introduction of this anti-vibration strip. JOINWOOD is made in rolls with hot-pressed SBR rubber granules and anchored to an anti-tear non-woven support. Resistant to compression, it maintains excellent elastic properties which guarantee a damping effect on the transmission of acoustic waves inside the CLT structure. Easy to use and to install, JOINWOOD is applicable within various configurations foreseen by the EN ISO 12354 standards for the management of Cross, X, T and L-shaped junctions. It is an element of primary importance for the improvement of the overall acoustic performance of the structure as well as for the damping of vibrations that can be propagated throughout the structure itself.

APPLICATION FIELDS

- Joints for CLT structures

Technical features		Norm	JOINWOOD
Thickness	mm	-	6
Length	m	-	8
Width	mm	-	100 - 140
Density	kg/m ³		800
Thermal conductivity coefficient λ	W/m K	EN 12667	0,120



Discover Technicacal Sheet

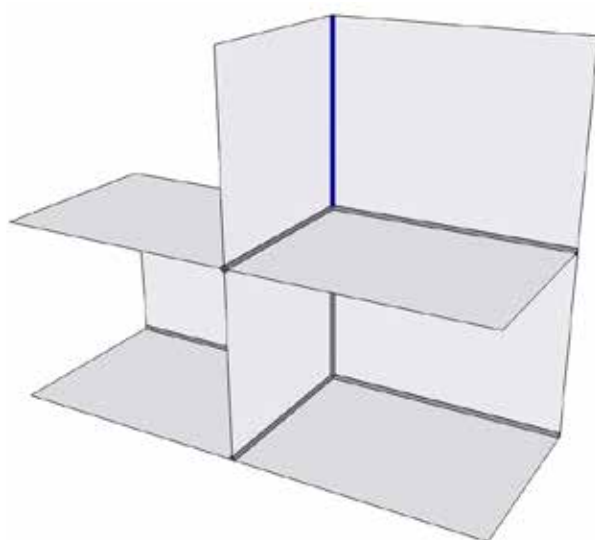


FLOORS

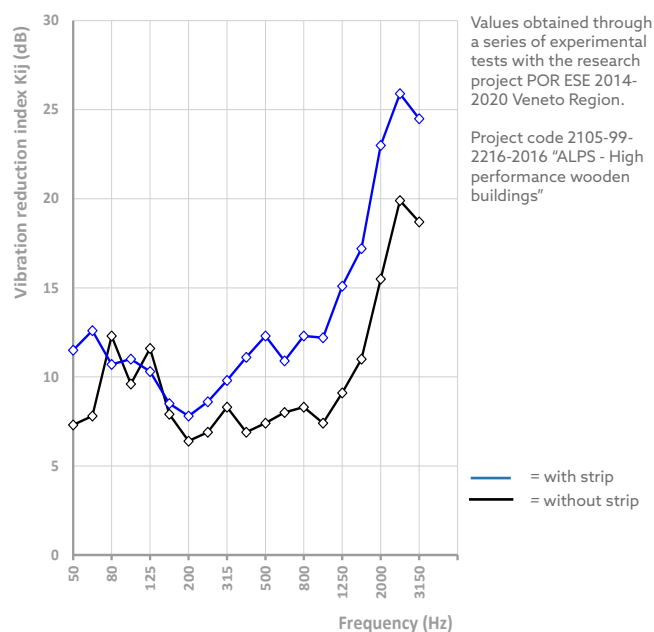
WALLS

**ELASTIC
JUNCTION**

LAYOUT FOR CROSS, T AND L-SHAPED JUNCTIONS



VIBRATION REDUCTION INDEX K_{ij} - L SHAPED JUNCTION



VIBRATION REDUCTION INDEX K_{ij}

The vibration reduction index is a fundamental indicator for lateral transmissions within the forecast calculation method of the levels of sound insulation in the field (R' , L'_n), according to the EN ISO 12354:2017 standard. This index, measured in accordance with EN ISO 10848: 2017, allows you to compare the performance of the joints of a structure or to set a requirement value. The data shown in the graph is part of an experimental study on CLT structures carried out in the laboratory in order to demonstrate the efficiency of the insulation strip compare to the non insulated

structure.

With these values it is therefore possible, according to the forecast method of the EN ISO 12354: 2017 standard, to accurately predict the acoustic behaviour of the different partitions that make up the CLT structures.

ACOUSTIC INSULATION LAYING INSTALLATIONS FOR TIMBER STRUCTURES



Bottom layers

CONCRETE LAYER



Install the steel mesh on the whole surface of the wooden floor, then raise it to the desired height



Realize the casting of the reinforced concrete

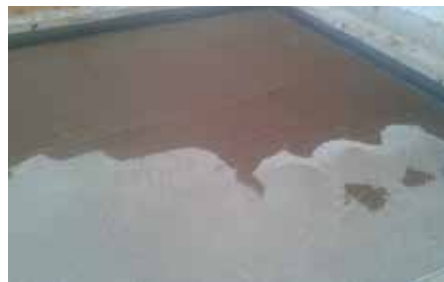


Level the concrete layer in order to get as smooth and plane as possible

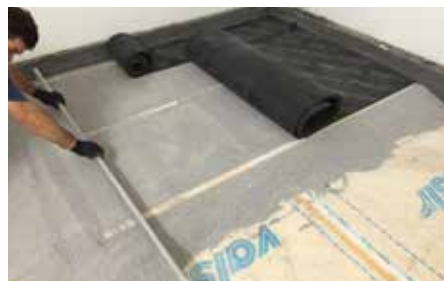
LOOSE SAND FILLING



Install the honeycomb on the whole floor surface



Fill the honeycomb with the heavy infill and level to obtain a smooth and plane surface



Without a honeycomb, use wooden joists to level the loose sand to the desired height

Impact sound insulation mats

FLOATING SCREED



Install the Profyle edging strip along the perimeter walls (use Profyle Flat when insulation panels are used)



Install the acoustic insulation on the whole floor surface, with a particular care of the edges and the junctions



Install a reinforcement steel mesh where needed and cast the screed

DRY SCREED



Install the edging strip Profyle Flat 5 along the perimeter walls



Install the acoustic insulation on the whole floor surface, with a particular care of the edges and the junctions



Install the dry screed, with a particular care of the junctions between adjacent floor elements

ACOUSTIC INSULATION LAYING INSTALLATIONS FOR TIMBER STRUCTURES



Ceiling

SUSPENDED CEILING ON A WOODEN STRUCTURE



Install the anti-vibration brackets and fasten the steel profiles to the brackets

SUSPENDED CEILING BETWEEN BEAMS



Fix the 50 mm steel studs to the beams' side using screws and Stywall rubber stripe



Insert the Fybros panels in the space between the beams, taking care of covering also the exposed lower part of the beams



Insert the Fybros panels (cut in the correct dimensions) in the cavity of the steel studs



Close the ceiling with a double layer of gypsum-board; seal the joints and edges with gypsum plaster



Fix the Rewall 40 insulation panels to the steel profiles using screws with minimum length 55 mm



Ceiling

SUSPENDED CEILING ON CLT STRUCTURE



Fix the steel U profiles to the walls at the perimeter of the ceiling



Install the steel C/U profiles with a spacing of 40-60 cm; Fybros panels can be inserted in the cavity to improve thermal and acoustic insulation



Close the ceiling with gypsum fibreboards; seal the joints and edges with gypsum plaster

Flooring installation

CERAMIC OR WOODEN FLOORING



Lay the adhesive on the floor and install the ceramic tiles or the wooden flooring



Apply the grouting glue and clean the ceramic tiles



Cut the exceeding part of the Profile and remove it only when the floor finishing has been completely installed

FLOORS

WALLS

ELASTIC
JUNCTION



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