

**NEW
RESULTS**

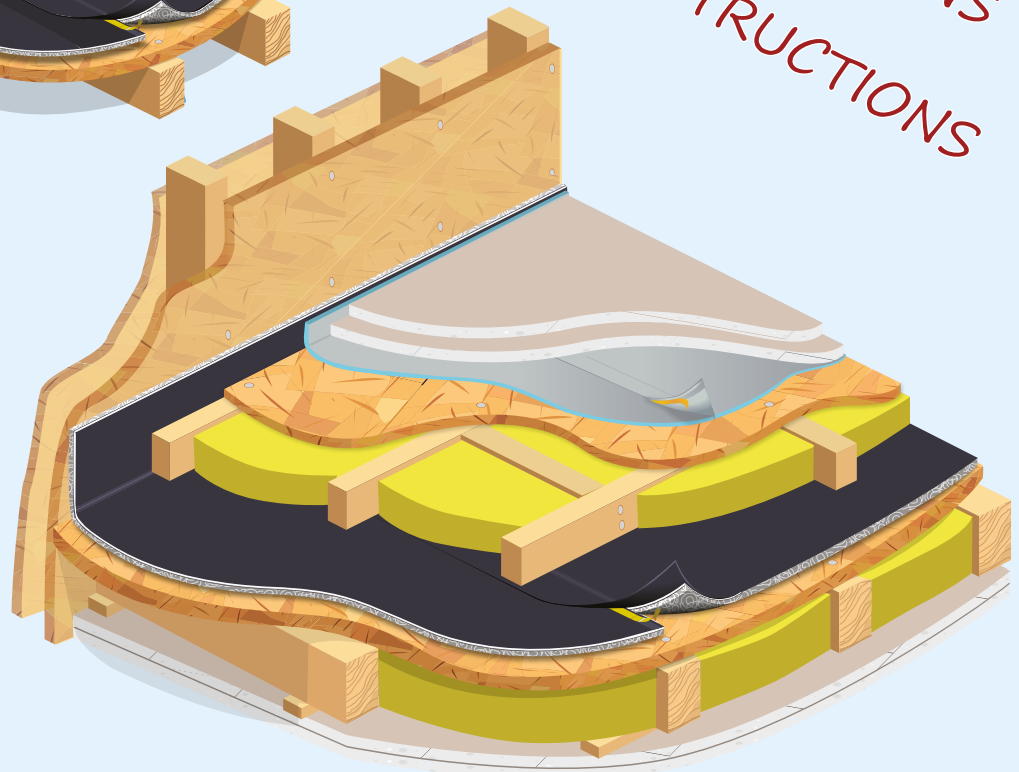
insulWood

Acoustic floor insulation

The underlay for wooden floors

The ideal solution against impact and airborne noise

SUITABLE
FOR RENOVATIONS
&
NEW CONSTRUCTIONS



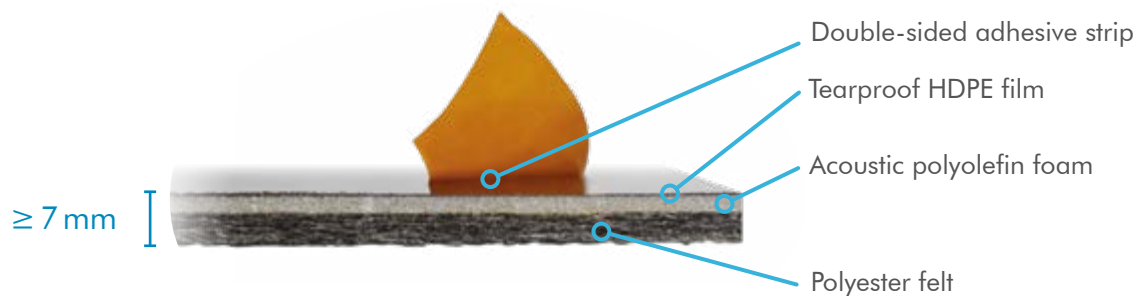
HDPE FILM + HD FOAM + FELT: A revolutionary efficiency

insulWood is a thin acoustic underlay made for wooden structures, either new constructions or renovations. insulWood is highly efficient against the impact and airborne noise between the floors of a building. The underlay is made of an HD film and a foam, linked to an acoustic felt. The underlay behaves in accordance to the mass-spring-mass principle and delivers an extremely satisfying acoustic performance.

Quality

Thanks to its low dynamic stiffness and its components' quality, the insulWood acoustic underlay provides exceptional performances which it maintains through time.

insulWood consists of a high-density polyethylene film laminated to an acoustic foam made of polyolefin, assembled on a resilient acoustic felt. The overlapping, flat and auto-adhesive junction provides airtightness, which contributes to reducing airborne sound and facilitating the installation.



Characteristics

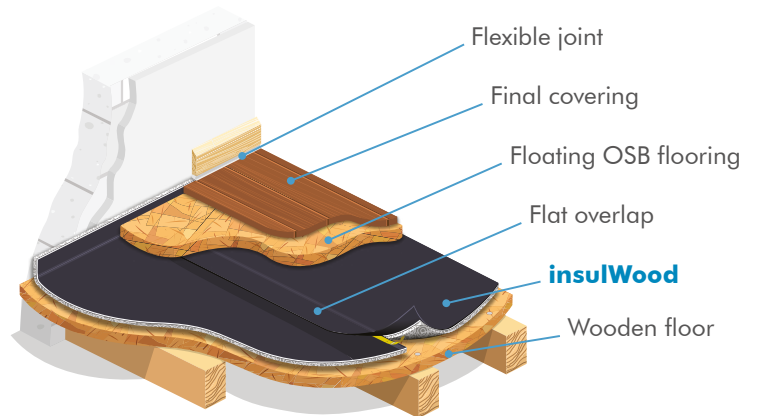
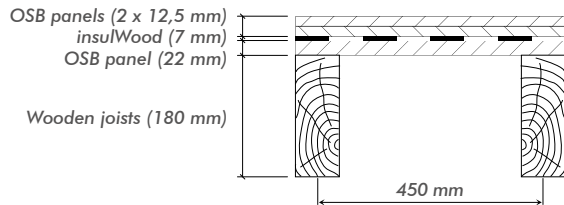


Materials	HDPE film, acoustic polyolefin, acoustic polyester felt
Thickness	$\geq 7 \text{ mm}$ (under 500 Pa)
Colour	Black (HDPE film) / Grey (foam) / Black (felt)
Dynamic stiffness	$s'_t = 5 \text{ MN/m}^3$ (EN 29052-1)
Mechanical resistance	425 / 630 kPa
Compression	$\pm 15 \%$ under 2 kPa (10% tolerance)
Elongation	140 %
Roll size	20 m x 1 m
Weight	$\pm 650 \text{ g/m}^2$
Overlaps	Flat adhesive overlap ($\pm 5 \text{ cm}$)

insulWood: the thin and efficient solution

A Light wood framed constructions

insulWood can be installed on an existent wooden flooring or also on a new OSB flooring.

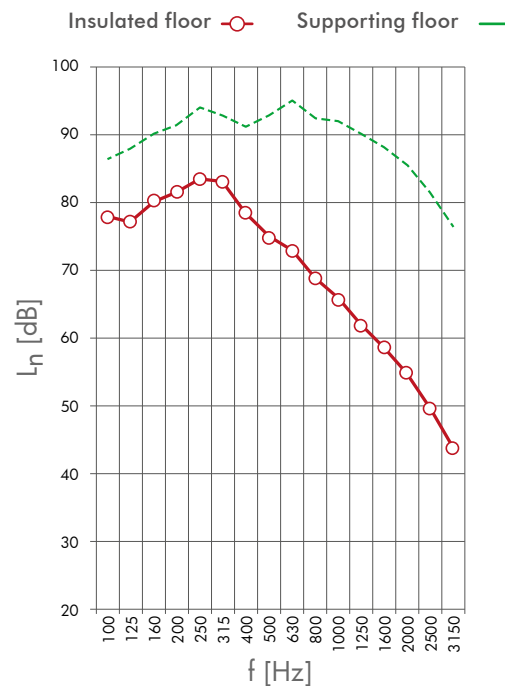


insulWood offers acoustic insulation against the important frequency ranges perceived by the human ear:

$\Delta L = 10,6 \text{ dB at } 250 \text{ Hz} \mid 17,9 \text{ dB at } 500 \text{ Hz} \mid 26,2 \text{ dB at } 1000 \text{ Hz} \mid 31,9 \text{ dB at } 2500 \text{ Hz}$.

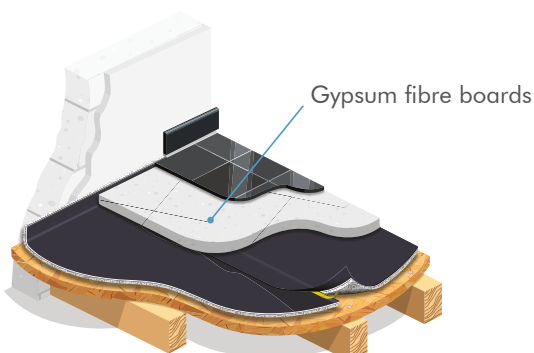
insulation against impact noise - BBRI test report AC 6716

	$L_{n,0}$	L_n	ΔL
frequencies	supporting floor	insulation material under floating floor	insulation against impact noises ($L_{n,0} - L_n$)
[Hz]	[dB]	[dB]	[dB]
100	86,5	78,0	8,5
125	88,0	77,2	10,8
160	90,3	80,3	10,0
200	91,5	81,6	9,9
250	94,2	83,6	10,6
315	93,0	83,2	9,8
400	91,3	78,5	12,8
500	92,9	75,0	17,9
630	95,1	73,0	22,1
800	92,6	68,9	23,7
1000	92,0	65,8	26,2
1250	90,2	62,0	28,2
1600	88,3	58,7	29,6
2000	85,6	54,9	30,7
2500	81,6	49,7	31,9
3150	76,4	43,6	32,8
4000	70,5	37,3	33,2
5000	63,9	29,5	34,4



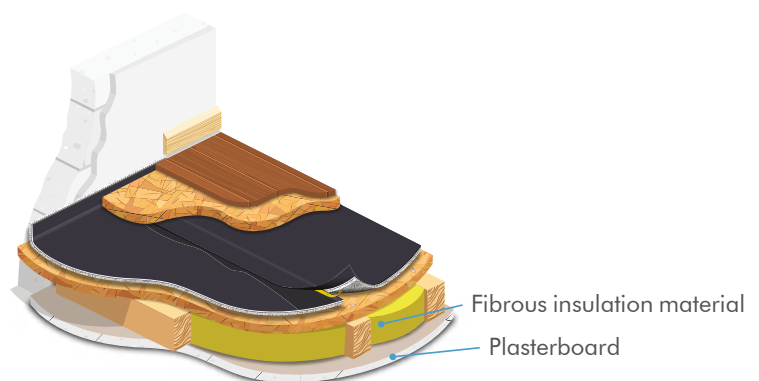
B Light dry screed

insulWood can be placed under a dry screed (floating rigid panels) to allow e.g. the installation of a tiling.



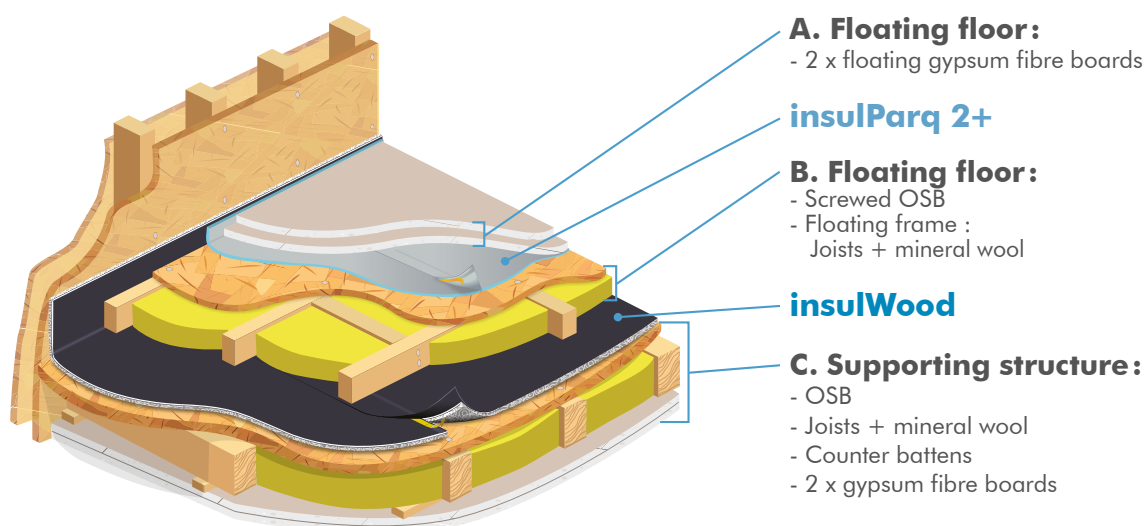
C Dropped ceiling under flooring

A layer of fibrous insulation material between the joists provides a better thermal and acoustic comfort.



D Structure in compliance with the norm

The installation of the insulWood acoustic underlay has to be performed under a floating frame. By doing so, the flooring is uncoupled from the remaining building fabric, and thus, the noise transmission between the floors is strongly limited.

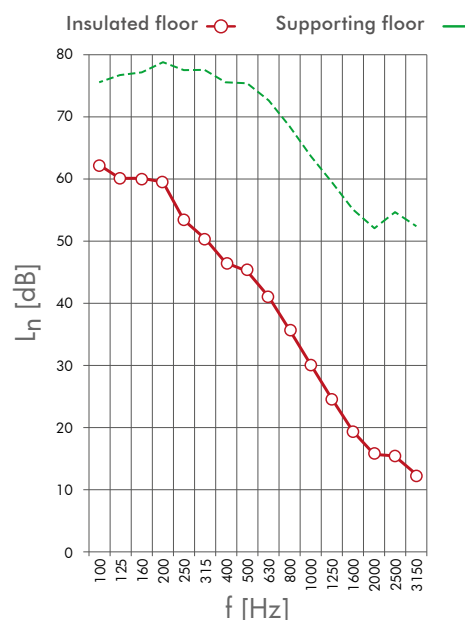


insulWood offers acoustic insulation against the important frequency ranges perceived by the human ear :

$\Delta L = 24,2 \text{ dB at } 250 \text{ Hz} \mid 30,1 \text{ dB at } 500 \text{ Hz} \mid \Delta L 33,6 \text{ dB at } 1000 \text{ Hz} \mid \Delta L 39,1 \text{ dB at } 2500 \text{ Hz}.$

Insulation against impact noise - BBRI test report AC 7994

	$L_{n,0}$	L_n	ΔL
supporting floor	insulation material under floating floor	insulation against impact noises ($L_{n,0} - L_n$)	
frequencies	[dB]	[dB]	[dB]
[Hz]			
100	75,6	62,3	13,3
125	76,7	60,0	16,7
160	77,1	59,9	17,2
200	78,8	59,5	19,3
250	77,6	53,4	24,2
315	77,5	50,4	27,1
400	75,6	46,4	29,2
500	75,4	45,3	30,1
630	72,7	41,1	31,6
800	68,5	35,7	32,8
1000	63,7	30,1	33,6
1250	59,6	24,6	35,0
1600	55,0	19,4	35,6
2000	52,1	15,8	36,3
2500	54,6	15,5	39,1
3150	52,4	12,4	40,0
4000	44,0	7,1	36,9
5000	35,3	6,7	28,6



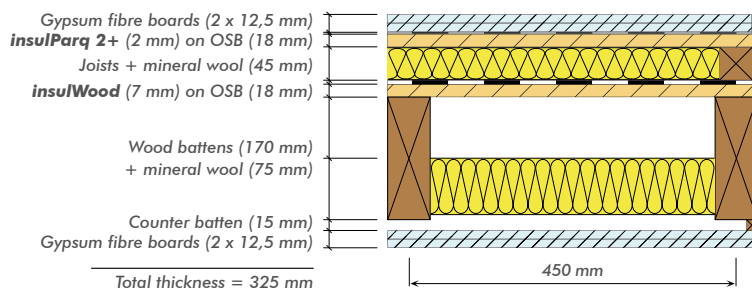
Insulation against airborne noise

Efficiency index against airborne noise : $\Delta R_{w,direct} = 17 \text{ dB}$ - BBRI test report AC 7995

insulWood has a very low resonance frequency, which improves the acoustic insulation against airborne noise :

$\Delta R = 21,0 \text{ dB at } 500 \text{ Hz} \mid 26,1 \text{ dB at } 1000 \text{ Hz} \mid 28,8 \text{ dB at } 1600 \text{ Hz} \mid 38,2 \text{ dB at } 2500 \text{ Hz}.$

The first lightweight solution allowing, even in the context of a wooden structure, to comply with the norm concerning noise transmission between floors.



$L_{n,w} = 51 \text{ dB}$

2018 BBRI test report : AC 7994

$R_w = 64 \text{ dB}$

2018 BBRI test report : AC 7995

Benefits

- High performance against impact noise
- Better airborne noise insulation through the mass-spring-mass principle
- High density film with a lateral, waterproof and adhesive joint to reduce airborne noise
- Thin, integrated overlap ($\pm 5 \text{ cm}$), no square metre loss
- Thin, $\geq 7 \text{ mm}$ only
- Sold in rolls for a quick and easy installation
- Easy to lay alongside the walls, thus preventing lateral acoustic transmissions
- Very smooth and resistant structure. During the installation, it is easy to glide the panels on the underlay

Test reports



insulWood benefits from recent test reports obtained from the BBRI, asserting the efficiency of the underlay. The test results are available on demand.

insulco lab R&D

Internal tests :

- Dynamic stiffness (EN29052/1)
- Thermal resistance (EN 12667)
- Compression creep
- Resistance to compression /traction/ tearing
- Weight
- Thickness (EN 823)



Creep :

The insulWood underlay has been designed for durability. We chose materials that do not deform under the load of the floating floor.

Tests carried out under a load of $\geq 1,2 \text{ kPa}$.



Installation

1. Unroll the insulWood underlay by starting against a wall, and make sure that the non-adhesive side is facing the wall. The black felt has to be placed towards the ground and the HDPE film must face the ceiling.
2. Raise the insulWood acoustic underlay laterally against the wall.
3. Cut the underlay with a sharp cutter and unroll the next strip edge to edge (felt and foam) to the previous one. Afterwards, adjust the overlap on the double-sided tape of the adjacent strip.
4. Remove the protective layer in order to attach the lateral joint.
5. Repeat the previous steps until the surface is completely covered. Do not pierce the insulWood acoustic underlay under any circumstances. Otherwise, there will be a risk of acoustic bridges.
6. Layouts A and C :
Make a floating installation of laterally interlocking OSB panels (min. thickness: 18 mm) or lay down two 12 mm thick panels (crossed installation) which have to be mechanically attached to each other, without being attached to the underlay.
Layout B :
Place gypsum fibre boards with shiplap joints.
Layout D :
Make a floating wooden structure by using joists which are tied together and where the cavities are filled with fibrous insulation material. Afterwards, attach OSB panels (min. thickness: 18 mm) on the joists.
7. Install the final coating.
8. Cut off the excess lateral insulWood, place the plinth slightly higher than the floor and make a flexible, waterproof joint.

Notes and precautions :

- Do not nail or screw through the insulWood membrane as this would create acoustic bridges that will reduce its performance.
- Join the membrane and attach it with the flat overlap in order to avoid any excess thickness.
- It is also possible to place the insulWood membrane on a wooden floor, under a floating screed.

Further information available at : www.insulco.eu

