EN

BASIC
★★ LINE ★★

INSULIT 4+2

Acoustic underlay for screed

against impact and airborne noises

ΔLw 26 dB

insulco
insulation products

CE

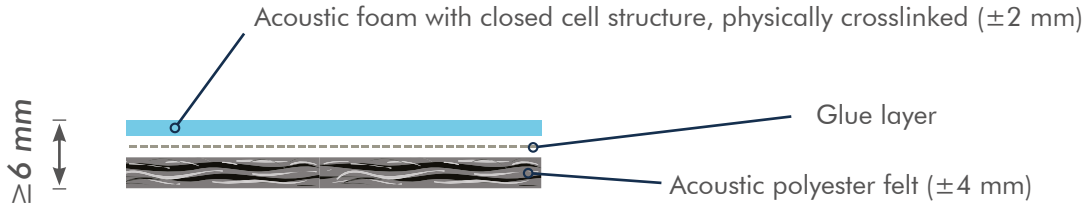
insulit 4+2

insulit 4+2 is an acoustical underlay intended to limit the transmission of impact and shock noises between different floors. It is put under a floating screed approximately 5 cm thick. insulit 4+2 is developed and produced by Insulco, the Belgian specialist in acoustical underlay for 30 years. This membrane has recent test reports which were obtained following the tough criteria of the EN ISO 717-2.

LOW price for HIGH value

Structure

insulit 4+2 is made up of an ambossed layer of approximately 2 mm of closed-cells physically crosslinked polyolefin foam combined with a low dynamic stiffness acoustic felt of more or less 4 mm thick. The benefit of combining a felt with a foam is to be able to cover a much larger frequency range. The felt corrects the low frequencies and the foam corrects the medium and high frequencies. These unique properties provide to the insulit 4+2 a high efficiency with a low thickness.



Characteristics

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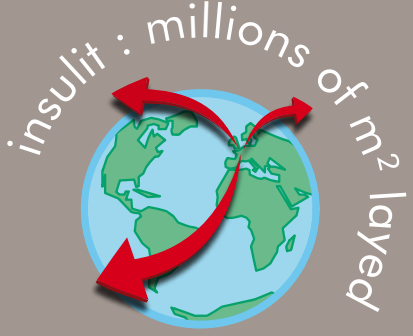
Material	Physically crosslinked polyolefin Acoustic polyester felt
Thickness	≥ 6 mm under 1,5 kPa
Color	Light blue (foam) / Anthracite (felt)
Impact noises insulation	ΔL_W = **26** dB(A) *(ISO 717-2:2013 ; EN ISO 10140-3:2010)* ΔL_W = **35** dB(B) *(ISO 717-2:2013 ; EN ISO 10140-3:2010)*
Dynamic stiffness	s'_t = 10 MN/m³ *(EN 29052-1)*
Tear resistance	52 - 57 N *(EN 12310-1)*
Compression	≤10 % under 2 kPa (tolerance 10%)
Thermal resistance	R = 0,19 m²·K/W *(EN 12667:2002)*
Thermal conductivity	λ = 0,0356 W/m·K at 10°C (foam) *(EN 12667:2002)* λ = 0,0353 W/m·K at 10°C (felt) *(EN 12667:2002)*
Length	50 m
Width	1,50 m
Weight	±240 g/m²
Weight/roll	±18 kg
Overlaps	Junction is made with an included kraft tape
Packaging	Plastic bag

insulit is being
exported world wide



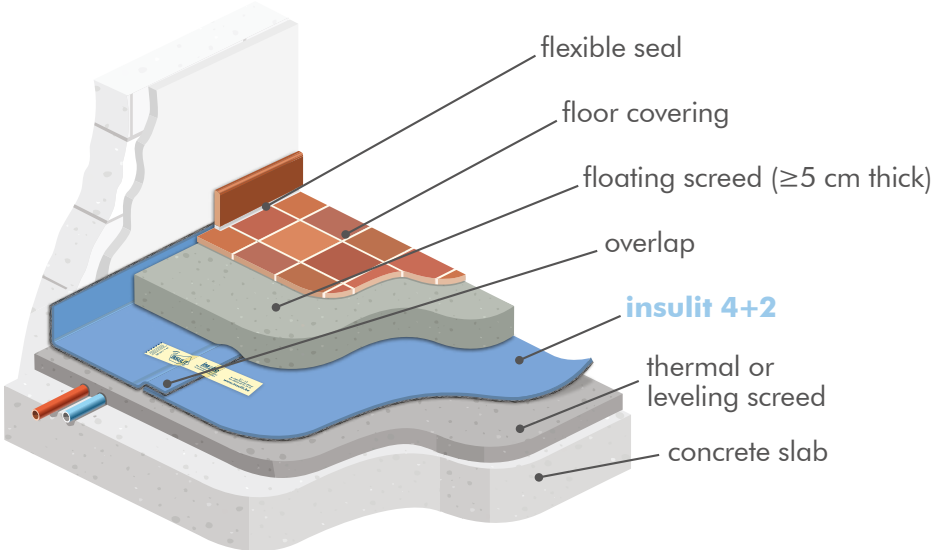
ultra thin - ultra efficient

Benefits

- Reduce impact & airborne noises
- Roll packaging for quick and easy use
- Cost-effective
- Tape provided for the overlaps
- Physically crosslinked polyolefin : lifespan guaranteed
- Closed-cells
- Very thin, light and soft
- Low dynamic stiffness : acoustical performance
- Low creeping
- Recent BBRI reports = guarantee of results

Floating screed

The acoustic sublayer insulit 4+2 is laid under ≥ 50 mm of floating screed. It disconnects the slab from the building and avoids the transmission of noises between dwellings.



Reports

insulit 4+2 has recent test reports. The tests were run following the EN ISO 717-2:2013 norm and prove the underlays quality. They are available on request.

Acoustic performances

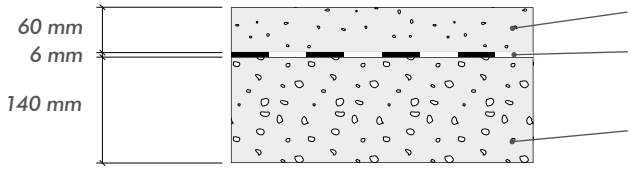
1 - Impact noises

insulit 4+2 has been tested according to the norms EN ISO 10140-3 and EN ISO 717-2. Two configurations were set up in laboratory : (A) under a floating screed of 60 mm ; (B) under a floating screed of 60 mm and above 50 mm of thermal leveling screed made of styrene concrete.

Improvement of ΔL_w – according to the norm EN ISO 717-2:2013 ; EN 10140:2010

Single value of reduction of impact sound pressure level.

Configuration (A)

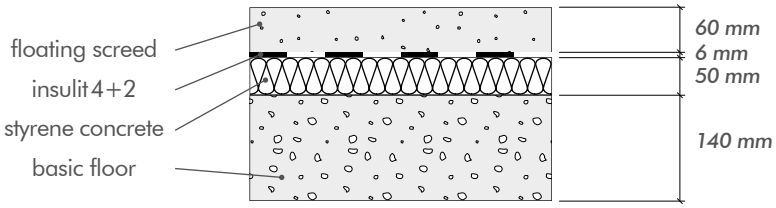


ΔL_w = 26 dB

$L_{,n,r,w}$ = 52 dB

BBRI report 2017 : AC 7613

Configuration (B)



ΔL_w = 35 dB

$L_{,n,r,w}$ = 43 dB

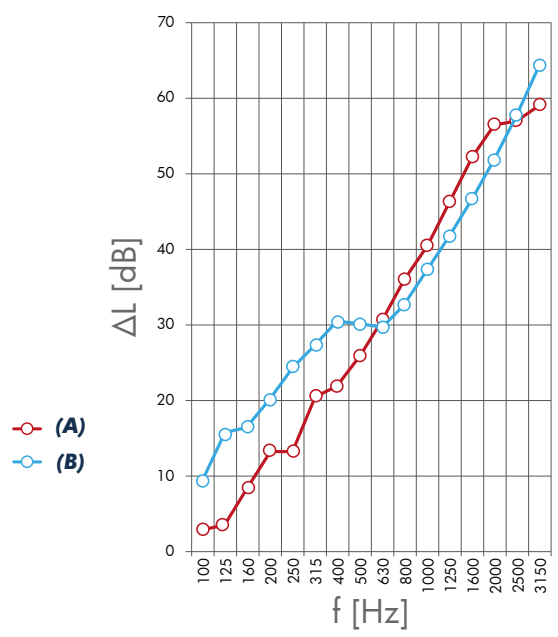
BBRI report 2017 : AC 7612

Measurements of acoustic improvements (ΔL) :

Reduction of impact sound pressure levels by adding the sublayer insulit 4+2.

Frequencies	Config. (A)	Config. (B)
250 Hz	13,3 dB	24,4 dB
500 Hz	25,9 dB	30,2 dB
800 Hz	35,9 dB	32,6 dB
1250 Hz	46,3 dB	41,8 dB
2000 Hz	56,6 dB	51,8 dB
4000 Hz	64,8 dB	66,1 dB

Reduction of impact sound pressure level



insulit 4+2 has a CE marking and its declaration of performance linked.

CE

DOP/2017-08-30/INSULIT 4+2 - EN16069

2 - Airborne noises

Improvement of R_W – according to the norm EN 12354-1

The underlay insulit 4+2 efficiently separates the screed from the compression slab (principle of mass – spring – mass).

insulit 4+2 has a low resonance frequency (f_0) ≤ 35 Hz, that determines the low dynamic stiffness.

The effect of this attractive property is that, for a slab with a weighted sound reduction index (R_W) of between 20 dB and 60 dB, it is possible to achieve an improvement in the acoustic insulation of airborne noise of ≤ 7 dB – $R_W/2$ compared with underlays whose resonant frequency is greater than 160 Hz.

Note : *The dynamic stiffness (s') is given by the resonance frequency of the underlay (f_r), the basis weight of the supporting floor (m'1) and the basis weight of the screed (m'2).*
Most of the underlays available in the market have a dynamic stiffness higher than 160 Hz.

VOC FREE

According to the CEN/TS 16516 method (ISO 16000-3), the insulit underlays have a very low Volatile Organic Compound emissions level (VOC), in compliance with the following current requirements :

	French regulations	Belgian decree	M1 label	Italian regulations	Blue Angel	Emicode	AgBB
S1	A+	✓	M1	✓	✓	✓	✓

Laboratory NEW

Research and development Control – CE.

Internal test procedures :

– Dynamic stiffness (EN 29052/1)
– Thermal resistance (EN 12667)
– Creeping (loaded)
– Compression /traction/ tear - resistance
– Weight
– Thickness (EN 823)

Creeping with time :

The underlay insulit 4+2 is made to last. We choose components that are not flatted with time under floating floor.

- Tested with load ≥ 2 kPa

insulit 4+2

Made in Belgium

Installation

1 Preparation

Place a first screed in order to cover the tubes and other sheaths if needed. If the placement of this pre-screed is impossible, unroll the insulit 4+2 directly on the technical tubes. The concrete slab will have to be flat and carefully brushed. At the crossing of the tubes, equalize with sand or cement so that there is no hollow space under the insulit membrane.

2 Installation of the underlay

Unroll the insulit 4+2 with the felt side down. Make an overlap of 5-10 cm, with the foam and felt on the previous laid strip (1).

Maintain the overlaps with the adhesive tape provided (30 cm of tape perpendicularly stuck on the overlaps, every 1 m is enough) (2). Pull-up more or less 15 cm of insulit 4+2 along the walls (3). In case of a flowing screed, make sure that the underlay is totally waterproofed.

Insulate carefully the vertical tubes from the flooring they cross with the help of insulation sleeves made on the spot from the insulit 4+2 or with the adhesive Stickelfoam from insulco.

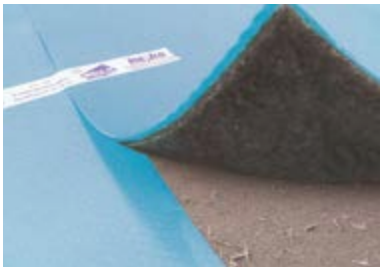
3 Application of the screed

Immediately after the laying, pour a reinforced screed of minimum 5 cm thick on the insulit 4+2 (4). Once the screed is poured and the floor covering laid, cut the surplus of insulit 4+2. Lay the baseboard slightly higher than the final floor covering, in order to avoid any lateral acoustic transmission. Finally, make a flexible joint under the baseboard.

The screed is made according to the official regulations (in Belgium please follow the NIT 189-193).

Underfloor heating system ?

It is possible to use the insulit 4+2 in combination with an underfloor heating system. In this case, we advise that the heating system should be placed above the insulit 4+2. The piping system will be maintained in a soft structured membrane designed to be put in floating installation. The pipes cannot be fixed under any circumstances through the insulit 4+2.



(1) Unroll the insulit 4+2 with a covering of 5 to 10 cm

(2) Keep the overlap maintained with the adhesive provided

(3) Place the underlay alongside the wall (±15 cm)

(4) Make a ≥5 cm thick screed up the insulit 4+2

insulco insulation products — The specialist against impact noises

Z.I. Sud (1) • Rue Buisson aux Loups 1a • 1400 Nivelles • Belgium

Phone : +32 (0)67 41 16 10 • Fax : +32 (0)67 41 16 16

e-mail : insulco@insulco.be • Web : **www.insulco.be**

enterprise number : BE 0405.642.815 – RPM Nivelles

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Visit our website :
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