

ISOLMANT UNDERSPECIAL RADIANTE BV

UNDERSCREED INSULATION

Specific for underscreed impact sound in double screed layer applications with underfloor heating.
Finishing screed with average height of 5 cm.

WHAT IS ISOLMANT UNDERSPECIAL RADIANTE BV

High performance resilient Isolmant Special polyethylene layer joined on the upper side to a radiant tear-proof and aluminate film and on the underside to FIBTEC XF3 (special needle-worked fibre produced according to specifications designed to provide a better noise reduction). It provides excellent impact sound and airborne insulation for horizontal partitions. Thickness 10 mm.

SPECIFIC APPLICATIONS

Isolmant UnderSpecial Radiante BV is specific for floating screeds as provided by UNI 11516:2013 standards with any type of slab. This product is specific for applications with hot/cold water underfloor heating (a resilient underlay is always required since thermal panels do not provide impact sound insulation) even in the case of low screed thickness or anywhere a vapor barrier is required. When installed under the radiant system panel, it requires a radiant flooring finishing with 5 cm average thickness.

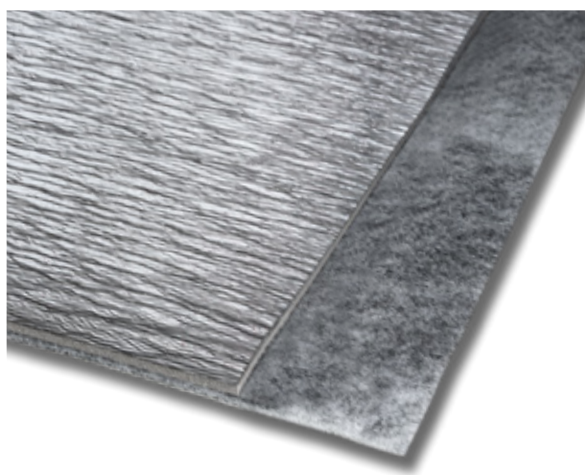
In order to disjoint a floating screed from perimeter walls, it is recommended not to turn Isolmant UnderSpecial Radiante BV upside down but to use Isolmant Fascia Perimetrale.

Install Isolmant UnderSpecial Radiante BV with the reflected film facing up and the fibre side facing down.



All our products with the "Guaranteed Green Planet" logo are compliant with the sustainability criteria of the most important environmental protocols and certified according to the major national and international standards.





GREEN FEATURES OF ISOLMANT UNDERSPECIAL RADIANTE BV

- Manufactured with **low environmental impact**.
- Contributes to achieve credits for the **environmental certification** of a building according to **LEED or BREEAM** standards.
- This product can be disposed of according to **EWC n. 170604**.
- Complies with the requirements defined by the Italian CAM Edilizia for acoustic and thermal insulation materials regarding the request for high acoustic insulation performance, the percentage of recycled material and the absence of hazardous substances.

Isolmant UnderSpecial Radiante BV meets the sustainability criteria of the main environmental protocols as shown in the following table:

CAM	✓
ITACA	✓
WELL	✓
BREEAM	✓
LEED	✓

RECYCLED CONTENT

ISOLMANT UNDERSPECIAL RADIANTE BV	PE ISOLMANT	FIBTEC XF3	TESSUTO BV
Percentages of the product components	33,3%	44,5%	22,2%
Percent recycled by component	0%	70%	0%
<i>Minimum value required by Italian CAM</i>	<i>non richiesta</i>	50%	<i>non richiesta</i>



ADVANTAGES

- Best acoustic impact sound and airborne insulation.
- Suitable for use in both renovation and new construction.
- Presence of a reflective film with a radiant function, anti-maple and vapor barrier.
- Specific in the presence of underfloor heating/cooling systems.
- Low thermal conductivity.
- Inalterable over time.
- Unlimited durability.
- Contact with water does not compromise performance or characteristics.
- Resistant to mould or insects

INSTALLATION ADVANTAGES

- Easy to lay products.
- Product with overlaps.
- Easy to trim: can be easily cut with a utility knife or box cutter.
- Unalterable to the alkali of the screed

ISOLMANT UNDERSPECIAL RADIANTE BV > TECHNICAL SPECIFICATIONS

> To be positioned with the fibre side facing down.

NOMINAL THICKNESS:	10 mm
DYNAMIC STIFFNESS	$s'_t = 8 \text{ MN/m}^3$ ⁽¹⁾ $s'_t = 20 \text{ MN/m}^3$ ⁽¹⁾
IMPACT SOUND INSULATION:	$\Delta L_w = 36 \text{ dB}$
"IN SITU" IMPACT SOUND INSULATION:	$L'_{n,w} = 53 \text{ dB}$ ⁽²⁾
COMPRESSION CLASS	CP2 ⁽³⁾
CONDUCTIVITY:	$\lambda = 0.035 \text{ W/mK}$
THERMAL RESISTANCE	$R_t = 0.286 \text{ m}^2\text{K/W}$
SPECIFIC HEAT CAPACITY	$c = 2100 \text{ J/kgK}$
VAPOUR RESISTANCE	$\mu = 400000$
WATER VAPOUR RESISTANCE - S_d (WVTV):	$S_d > 100 \text{ m}$
CE MARKING:	Harmonised standards for CE marking are NOT currently available for acoustic insulation products. This means that Isolmant products are currently NOT subject to CE marking, nor to the drawing up of a PDO (declaration of performance) or DDP (declaration of performance). All Isolmant products are placed on the market in compliance with the regulations in force in the country of destination and with the necessary certifications to guarantee their use in dedicated applications.
SIZE:	Rolls of: 1.50 m x 25 m (h x L) = 37.5 m ² 1.50 m x 50 m (h x L) = 75 m ² Product with overlaps. After overlapping the sheets they should be sealed by means of Isolmant Nastro Alluminio.
PACKAGE:	Single rolls

(1) Istituto Giordano test report No. 397864

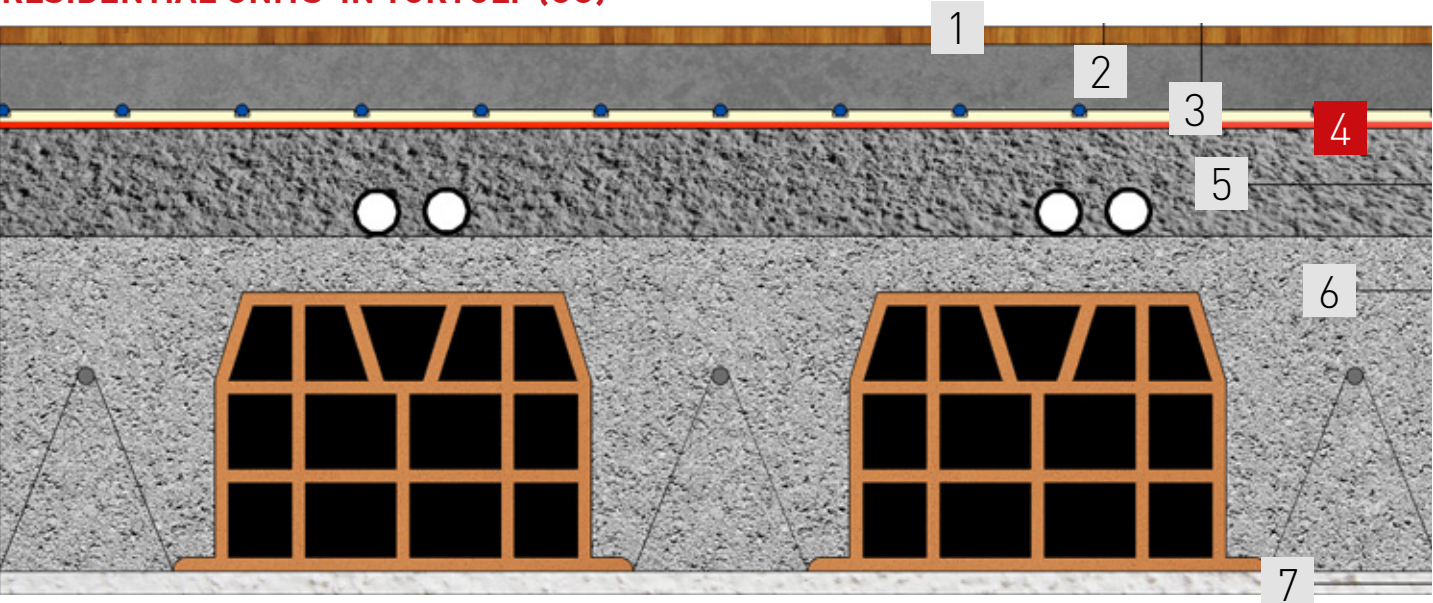
(2) Value measured on site - see structure page 5 of this data sheet

(3) Isolmant laboratory test report No. 1008_1504

ITEM SPECIFICATIONS

Resilient layer is made of reticulated expanded closed-cell polyethylene, with on the upper side to a radiant tear-proof and aluminate film while on the under side with a special needle-worked fibre that is conceived to enhance the acoustic performance (Isolmant UnderSpecial Radiante BV). Nominal thickness 10 mm. Dynamic stiffness $s'_t = 8 \text{ MN/m}^3$, $s'_t = 20 \text{ MN/m}^3$ (certified values). Impact sound insulation $\Delta L_w = 36 \text{ dB}$, water vapour resistance $s_d > 100 \text{ m}$. To be positioned with the reflected film side facing up. Product with overlaps.

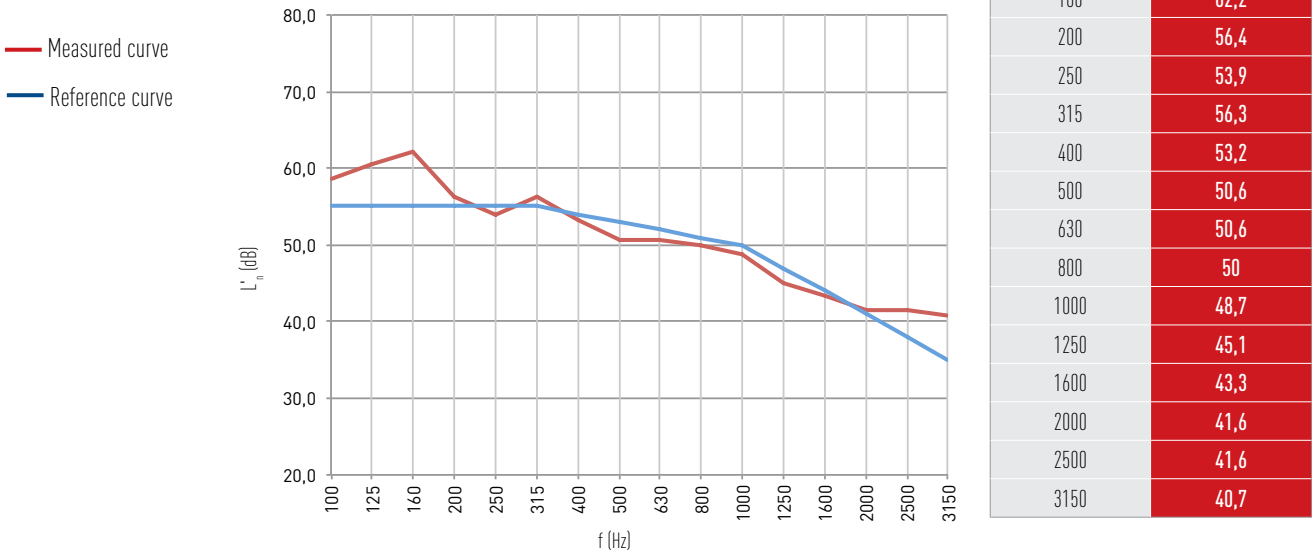
RESIDENTIAL UNITS IN TORTOLI' (OG)



No.	Layer	Material	Thickness (m)	Surface mass (kg/m²)
1	Flooring	Stoneware (grès)	0.01	
2	Supporting screed	Sand and cement	0.05	90
3	Underfloor heating	pSE panel	0.025	
4	Resilient material	Isolmant UNDERSPECIAL RADIANTE BV	0.01	
5	Levelling Screed	Lightweight concrete	0.05	15
6	Structural slab	Concrete	0.2	240
7	Plaster	Premix	0.015	21
Total thickness:			0.36	

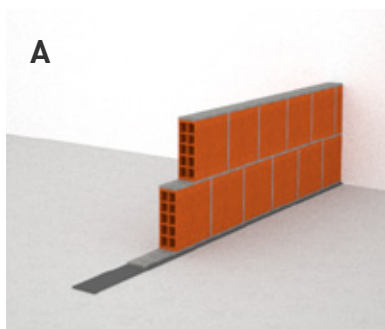
$$L'_{n,w}(C_1) = 53 \text{ (-1) dB}$$

FREQUENCY IMPACT SOUND INSULATION



STEP 1

INSTALLING FASCIA TAGLIAMURO



Before installing all the partitions, Isolmant Fascia Tagliamuro must be laid. This high density, reticulated polyethylene foam accessory is specifically designed to disjoint partitions and slabs, thereby helping to reduce the structural sound transmission from the walls to the slab. This product is available in different thicknesses and densities depending on the weight of the partitions (fig. A).

STEP 2

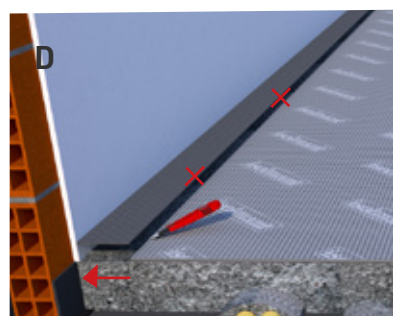
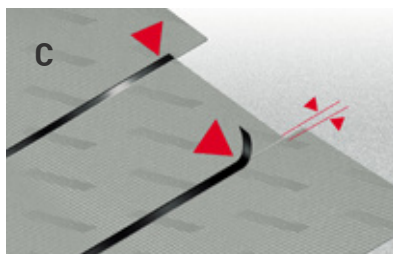
DISJOINT OF REINFORCED CONCRETE STRUCTURES

In the presence of stairwells, elevator compartments and pillars (even if contained within the vertical partitions) that rigidly connect all the structural elements from the foundations to the last floor, it is necessary to cover them with elastic material (such as Isolmant Cemento Armato) and then finish them, where possible, with a 4/5 cm board or with coated plaster panels. With a reduced thickness element, it is possible to fix a strong plaster-holding net directly onto the elastic insulating material with nylon plugs, and then plaster it over, paying particular attention to the cracks (dis. B).



STEP 3

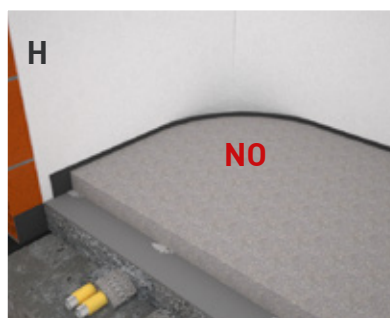
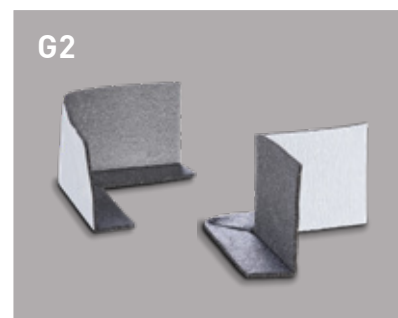
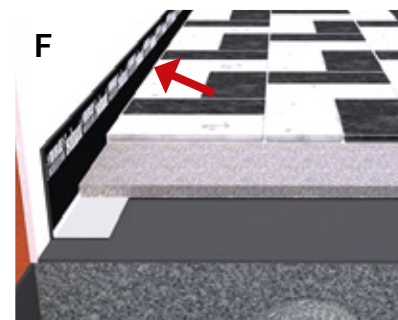
INSTALLING UNDERSPECIAL RADIANTE BV RESILIENT LAYER



UnderSpecial Radiante BV doesn't have an anti-tearing layer and is therefore not recommended for single-layer bases. Before installing the underlay, a levelling screed must be laid using suitable materials and recipes to ensure adequate mechanical support and a plain and uneven surface. Then the sheets of Isolmant UnderSpecial Radiante BV can be laid, which must be carefully joined using the special overlapping fabric and sealed with Isolmant Nastro Alluminio (fig. C). It is also necessary to be careful to start flush with the wall with the polyethylene, avoiding leaving strips of fibre only visible near the walls: the fibre, in fact, absorbs the cement and stiffens, generating a dangerous and continuous acoustic bridge. It is therefore necessary to trim only the fibre flush with the wall in order to guarantee the presence of both layers of product over the entire surface of the floor (fig. D).

STEP 4 INSTALLING FASCIA PERIMETRALE

To avoid acoustic bridges, the use of Isolmant Fascia Perimetrale is recommended, to be laid along the entire perimeter of the room without interruption. The height of Isolmant Fascia Perimetrale must be chosen by the designer/contractor, taking into account the actual height at each site, in order to guarantee that the band is about 2/3 cm higher than the flooring level. This excess must be trimmed after laying the floor (fig. E). The continuity of the installation must also be ensured along the thresholds of entrance doors and French windows, as well as in technical niches for housing the manifolds of the heating system, pillars, pilasters, doors and other wall movements. Specific accessories are available to facilitate this task: Isolmant Angoli e Spigoli e Isolmant Telaio Porte (fig. F1 - fig. F2). It is also necessary to avoid a gap between the band and the walls at the corners (fig. G) where cementitious material can penetrate, as well as ensuring that the perimeter band also adheres continuously along the slab-wall connection: the formation of the shell (fig. H) causes a reduction in the thickness of the screed resulting in a lack of flooring support at that point, risking cracking over time. In conclusion, before proceeding with the laying of the finishing screed, the contractor must be reasonably certain that he has created a perfect watertight tank in which the cement screed he is going to lay can "float" without establishing any rigid connection either with the load-bearing layers underneath or with the walls to its sides. Any uncovered points that could constitute an "acoustic bridge" must be covered with Isolmant Fascia Nastro.

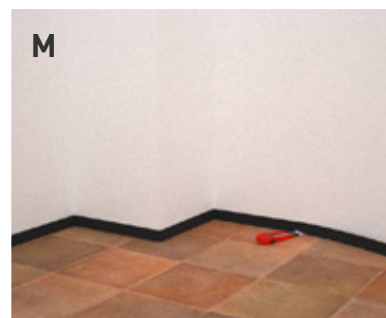


**SCREED CONSTRUCTION****STEP 5**

The finishing screed must guarantee adequate mechanical resistance according to the actual laying and loading conditions. Appropriate safety measures must be taken, such as assessing the adequate consistency of the mix, the curing time, the possible need to use collaborating elements (wire mesh or fibres), the sufficient compactness of the surface and the possible surface treatment with consolidating products (as indicated by the manufacturer of the screed and the reference standards). With regard to the thickness of the finishing screed, we recommend a minimum thickness of no less than 4 cm. In all cases, the screed must be well trodden (especially at the sides and corners), compacted throughout, smoothed and trowelled (by hand or by helicopter) to a high standard (dis. I). When pouring the screed, special care must be taken not to tear or puncture the elastic material.

STEP 6**INSTALLING FLOORING AND SKIRTING BOARDS**

It is essential to inform all site operators that the excess of the perimeter band must be trimmed only after the flooring has been laid and grouted (fig. L) and before laying the skirting board. The direct contact of the flooring with the walls creates an acoustic bridge, which impedes the "floating" of the screed on the elastic underlay and causes a loss of insulation of several decibels. Therefore, the flooring should be joint to the perimeter band, ensuring the system elastic functioning. In particular, a skirting board made of tile should not be laid on the flooring but should be raised by a few millimetres and grouted with an elastic silicone-based binder or a flexible mortar (fig. M). If the joint were rigid, it would prevent the floor from floating and would de-grout.





WARNINGS:

* This data sheet does not constitute a specification and, if it consists of several pages, please ensure that you have consulted the complete document. Although, these instructions are the result of our best expertise they are indicative. The user should establish whether the product is suitable for its intended application. The user will be also in charge of all the responsibility for the use of the product itself.

**The sound insulation values given in this technical data sheet are the result of laboratory tests or tests carried out on site: they cannot be considered a predictive value for every situation that may occur on site. Acoustic performance is closely linked to the specific conditions of each site.

***Caution: do not expose the product to direct sunlight and bad weather.



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