ISOLMANT RADIANTE

UNDERSCREED INSULATION

SPECIFIC FOR UNDERSCREED IMPACT SOUND IN DOUBLE LAYER APPLICATIONS WITH UNDERFLOOR HEATING. FINISHING SCREED WITH AVERAGE HEIGHT ≥ 5 CM

WHAT IS ISOLMANT RADIANTE?

High performance resilient layer made of 5 mm Isolmant polyethylene joined on the upper side to a radiant tear-proof, embossed and aluminate film and on the underside to FIBTEC XF1 (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. Install Isolmant Radiante with the fibre side facing down. Thickness 8 mm.

SPECIFIC APPLICATIONS

Isolmant Radiante 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). When installed under the radiant system panel, it requires a radiant flooring finishing with 5 mm average thickness. In case of disjointing a floating screed from perimeter walls, it is recommended not to turn Isolmant Radiante upside down but to use Isolmant Fascia Perimetrale Tecnica Radiante. Lay Isolmant Radiante with the aluminate-coated side facing upwards.

ADVANTAGES

- Excellent acoustic impact sound and airborne insulation.
- Suitable for use in both renovation and new construction.
- Featured by a radiant tear-proof film.
- Low thermal conductivity.
- Unalterable over time.
- Unlimited durability.
- Contact with water does not affect performance or characteristics.
- Impervious to mould or insects.

ADVANTAGES FOR INSTALLATION

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

ISOLMANT Green Planet

- Volatile Organic Compounds free(VOC A+).
- Eco-friendly and recyclable.
- Manufactured with low environmental impact.
- Contributes to achieve credits for the environmental certification of a building according to LEED or ITACA 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.

CAM MINIMUM ENVIRONMENTAL CRITERIA — SUSTAINABLE

VOC FREE — HEALTHY

ECOLOGICAL

ISOLMANT RADIANTE TECHNICAL SPECIFICATIONS

>To be installed with the aluminate-coated side facing upwards.

NOMINAL THICKNESS:	8 mm
DYNAMIC STIFFNESS:	$s' = 15$ MN/m^3 [1]
IMPACT SOUND INSULATION:	$\Delta L_w = 30$ dB [2]
"IN SITU" IMPACT SOUND INSULATION:	$L'_{n,w} = 53$ dB [3]
AIRBORNE NOISE INSULATION:	$R_w = 60$ dB [4]
COMPRESSION CLASS	CP2 [5]
CONDUCTIVITY:	λ 0.035 W/mK
THERMAL RESISTANCE	$R_t = 0.254$ m^{2}K/W
SPECIFIC HEAT CAPACITY	c = 2100 J/kgK
VAPOUR RESISTANCE	$\mu = 3600$
EMISSION OF VOLATILE ORGANIC SUBSTANCES:	VOC A+ [6]
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. For a better system efficiency, it is recommended to use this product together with Isolmant Fascia Perimetrale Tecnica Radiante in case of a hot water underfloor heating.
PACKAGE:	Single rolls

(1) Isolmant laboratory test report No. 1003_0313

(2) Value calculated according to UNI EN ISO 12354-2 and UNI TR 11175 on the following stratigraphy: 20+4 concrete slab with lightened concrete substrate, radiant flooring finishing with 5 mm average thickness.

(3) Value measured on site - see structure page 3 of this data sheet

(4) Value calculated according to UNI EN ISO 12354-2 and UNI TR 11175 on the following stratigraphy: 20+4 concrete slab with lightened concrete substrate, radiant flooring finishing with 5 mm average thickness.

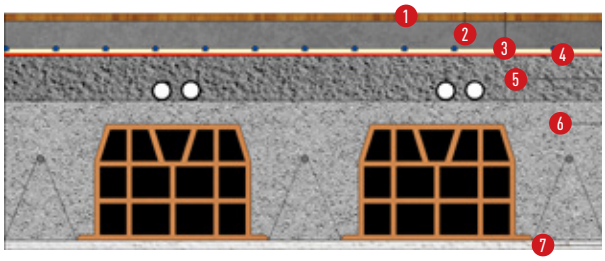
(5) Test report No.1008_1504

(6) Istituto Giordano test report no. 362731

ITEM SPECIFICATIONS

The resilient layer made of physically reticulated expanded closed-cell polyethylene, joined on the upper side with an embossed aluminate radiant tear-proof film and on the lower side with a special needle-worked fibre that is conceived to enhance the acoustic performance (type Isolmant Radiante). To be installed with the aluminate-coated side facing upwards. Product with overlaps. Nominal thickness 8 mm.
Dynamic stiffness 15 MN/m^3.

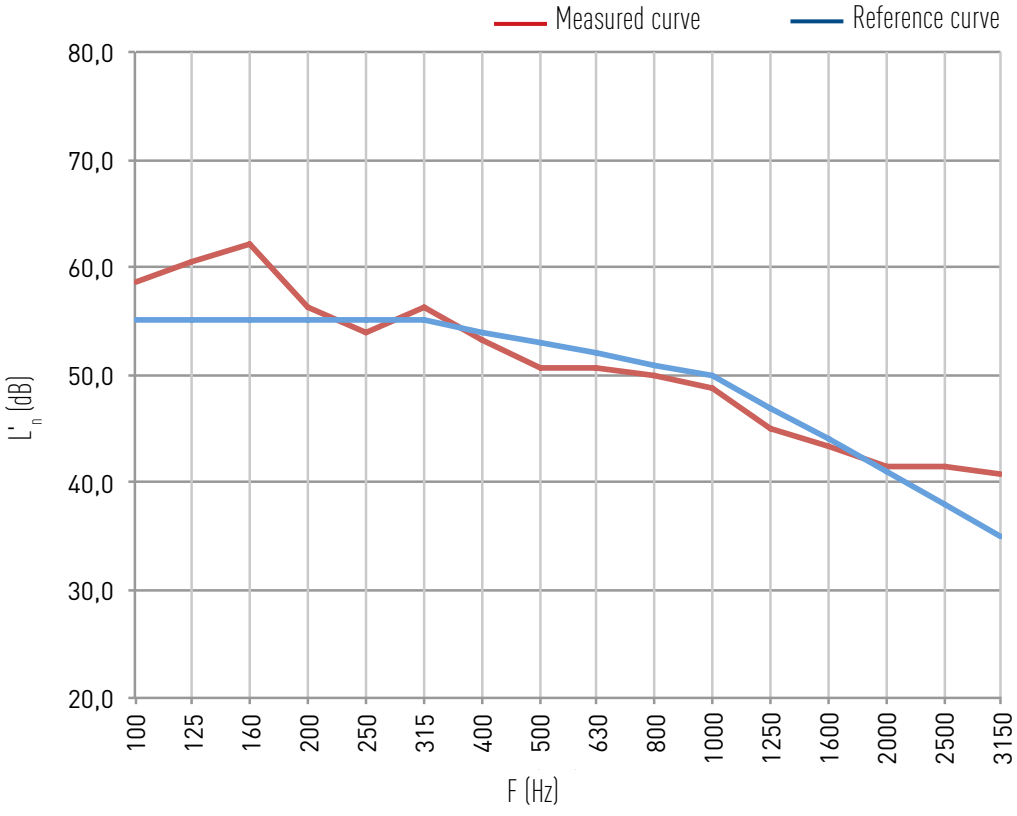
RESIDENTIAL UNITS IN TORTOLI' (OG)



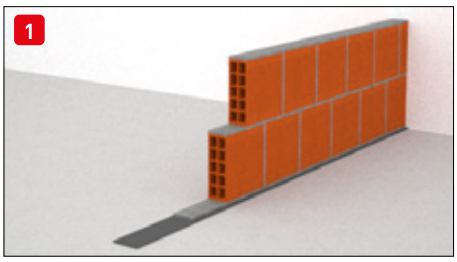
$L'_{n,w}(C_l) = 53\ (-1)$ dB

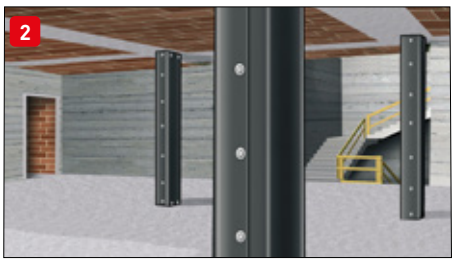
No.	Layer	Material	Thickness (m)	Surface mass (kg/m²)
1	Flooring	Stoneware (grès)	0.01	
2	Supporting screed	Sand and cement	0.05	90
3	Underfloor heating	pSE panel	0.025	
4	Resilient material	**Isolmant RADIANTE**	0.008	
5	Levelling Screed	Lightweight concrete	0.05	15
6	Structural slab	Concrete	0.2	240
7	Plaster	Premix	0.015	21
		Total thickness:	0.36	

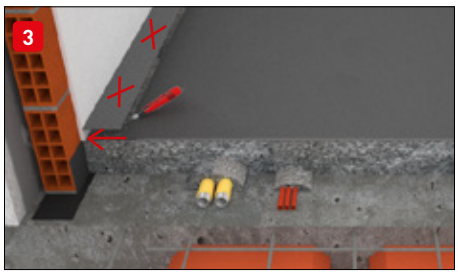
Frequency (Hz)	L'_n (dB)
100	58.7
125	60.5
160	62.2
200	56.4
250	53.9
315	56.3
400	53.2
500	50.6
630	50.6
800	50
1000	48.7
1250	45.1
1600	43.3
2000	41.6
2500	41.6
3150	40.7

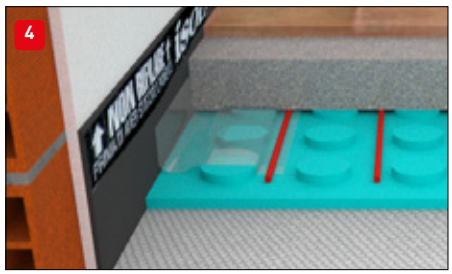


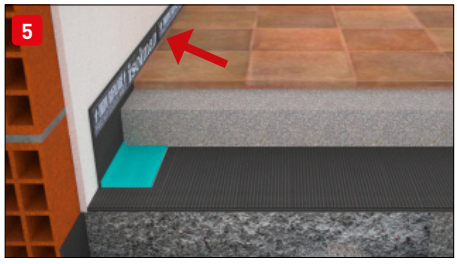
FLOORING SYSTEM By isolmant











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.1)

2

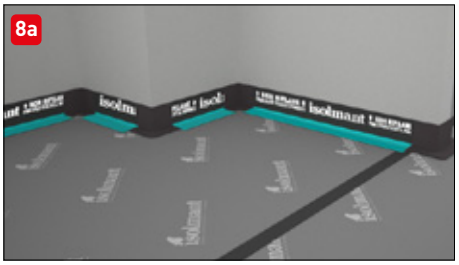
Disjointing of reinforced concrete structures. In the presence of stairwells, elevator compartments and pillars (even if contained within the vertical partitions) that rigidly connect all the structural elements from the foundations to the last floor, it is necessary to cover them with elastic material (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 (Fig. 2).

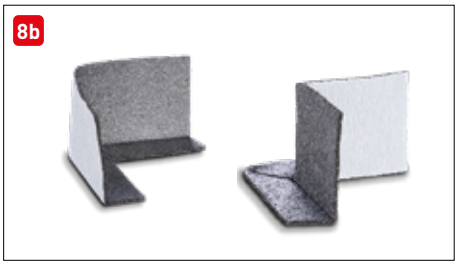
3

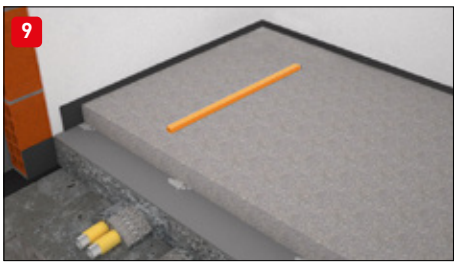
Installing Isolmant Radiante resilient layer. Isolmant Radiante is specifically designed to be installed under the panels for hot/cold water underfloor heating and on top of a systems levelling screed which must be made of suitable materials and compound to ensure adequate mechanical support and a flat, uneven surface. Once laid a levelling screed, the sheets of Isolmant Radiante can be installed.These sheets must be accurately joined by using their overlapping fabric and sealed with Isolmant Nastro Alluminio. It is also necessary to be careful to start flush with the wall with the polyethylene, avoiding leaving visible strips of fibre 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. 3).

4

Installing Fascia Perimetrale. To avoid acoustic bridges, the use of Isolmant Fascia Perimetrale Tecnica Radiante is recommended. This product should be installed along the entire perimeter of the room without interruption. In particular, in systems with underfloor heating or cooling, the use of Isolmant Fascia Perimetrale Radiante is recommended, which will be fixed to the wall using a medium-strength tape by making this tape adhere properly to the insulating underlay (the adhesive side of this strip should be positioned downwards) and by spreading the transparent film so that it is stapled under the first passage of the pipe (Fig. 4). The height of the strip must be such as to ensure that it exceeds the floor level by approximately 2/3 cm. This excess must be trimmed after laying the floor (Fig. 5). 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 and Isolmant Telaio Porte (Fig. 8a - 8b). It is also necessary to avoid gaps between the strip and the walls at the corners (Fig. 6) 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. 7) 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







4

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.

5

Laying a radiant screed. 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 medium thickness of no less than 5 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. 9). When pouring the screed, special care must be taken not to tear or puncture the elastic material.

6

Installing flooring and skirting boards. It is essential to inform all site operators that the excess of the flanking strip must be trimmed only after the flooring has been laid and grouted (fig. 10) 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 flanking strip, ensuring the system elastic functioning. In particular, a tiled skirting board 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. 11). 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.

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Via dell'Industria 12, Località Francolino 20074 Carpiano (Mi) Tel. +39 02 9885701 Fax +39 02 98855702
clienti@isolmant.it - www.isolmant.it - www.sistemapavimento.it - www.isolmant4you.it