ISOLMANT UNDERSPECIAL FOSSIL FREE

Made of Isolmant Special 5mm Series R from renewable sources, specific for underscreed acoustic insulation in double-layer solution with finishing screed ⩾ 5 cm.

WHAT IS ISOLMANT UNDERSPECIAL FOSSIL FREE

High-end resilient layer made of polyethylene Isolmant Special **Series R Fossil Free** (completely sustainable and from renewable sources, in green colour, embossed and screen-printed on the top side, characterised by an improved and calibrated quality of the cellulation of polyethylene) joined on the underside to FIBTEC XF3 (special second-generation needle-punched fibre, produced to calibrated specifications for better noise reduction). It allows to obtain excellent insulation against impact and airborne noise for horizontal partitions.
Nominal thicknesses 10 and 15 mm.

Available thickenesses:

10 mm 15 mm

SPECIFIC APPLICATIONS

Isolmant UnderSpecial Fossil Free is specific for "floating screeds" in accordance with UNI 11516:2013, with any type of slab.
Particularly suitable for being laid under a finishing screed (two-layer solution), it requires the creation of a finishing screed at least 5 cm thick.
The screed must have adequate technical characteristics according to the actual laying and load (data supplied by the screed manufacturer).

For disjointing a floating screed from perimeter walls, it is recommended not to turn Isolmant Underspecial Fossil Free upside down but to use Isolmant Fascia Perimetrale perimeter band.

Lay Isolmant UnderSpecial Series R Fossil Free with the green embossed and silk-screen printed side Isolmant upwards and the fibre towards the bottom.

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.

UnderSpecial Fossil Free is REMADE IN ITALY certified [1], product certification, under ACCREDIA accreditation, which attests to the recycled content in the product.

This certification is accepted during the tender and award phase, in accordance with the provisions of the public procurement regulations and the CAM.

RECYCLED CONTENT CERTIFICATE REMADE UNDERSPECIAL FOSSIL FREE 10 mm N° IT335452 Issued on 03/09/2024			
Raw material	**% of raw material in the product**	**% of recycled content in 1 kg of raw material**	**% of recycled content in the finished product**
FIBTEC XF1-22	57%	62%*	69,7%
SPECIAL R	43%	80%	

RECYCLED CONTENT CERTIFICATE REMADE UNDERSPECIAL FOSSIL FREE 15 mm N° IT335452 Issued on 03/09/2024			
Raw material	**% of raw material in the product**	**% of recycled content in 1 kg of raw material**	**% of recycled content in the finished product**
FIBTEC XF1-22	40%	62%*	72,8%
SPECIAL R	60%	80%	

*** Minimum percentage required by CAM for this type of raw material 50%.**

OTHER SUSTAINABILITY CHARACTERISTICS

Composed of **ISCC PLUS certified** polyethylene made from **bio-circular renewable** material (determination of origin using the mass balance approach).

The renewable source does not compete with the food chain, is **derived from biomass**, is certified and meets the definition of waste or residue according to ISCC PLUSS.

Result to VOC emission test:
- Indoor Air Confort GOLD;
- VOC A+;

Low environmental impact.

Can be disposed according to **EWC No. 170604** insulation materials NON-HAZARDOUS plastics.

It helps achieve credits for a building's **environmental certification according to the following protocols**:

CAM ✓ | ITACA ✓ | WELL ✓ | BREEAM ✓ | LEED ✓

(1) The central aspect of the REMADE® certification is the preparation of a traceability model of material flows in the production process and transparency of the operations carried out and the relevant documentation.
It is an effective tool to respond to the growing attention paid to materials deriving from recycling, recovery and by-products, which comes from the recent global model of sustainable development of the circular economy, characterized by the maintenance, for the longest possible time, of the value of products, materials and resources in the system, which are returned to the product cycle at the end of their use, so that the generation of waste is minimised, to help develop a sustainable, low-carbon, resource efficient and competitive.

ADVANTAGES

ISCC Plus certified polyethylene made from bio-circular raw materials;

Excellent acoustic insulation against impact (see page 4);

Optimal airborne noise reduction;

Suitable in both renovation and new construction;

Low thermal conductivity;

Inalterable over time and unlimited durability;

Contact with water does not compromise performance and characteristics;

Resistant to mould or insects.

ADVANTAGES FOR INSTALLATION

Easy to lay product;

Product with overlaps;

Easy to trim: can be easily cut with a utility knife or box cutter.

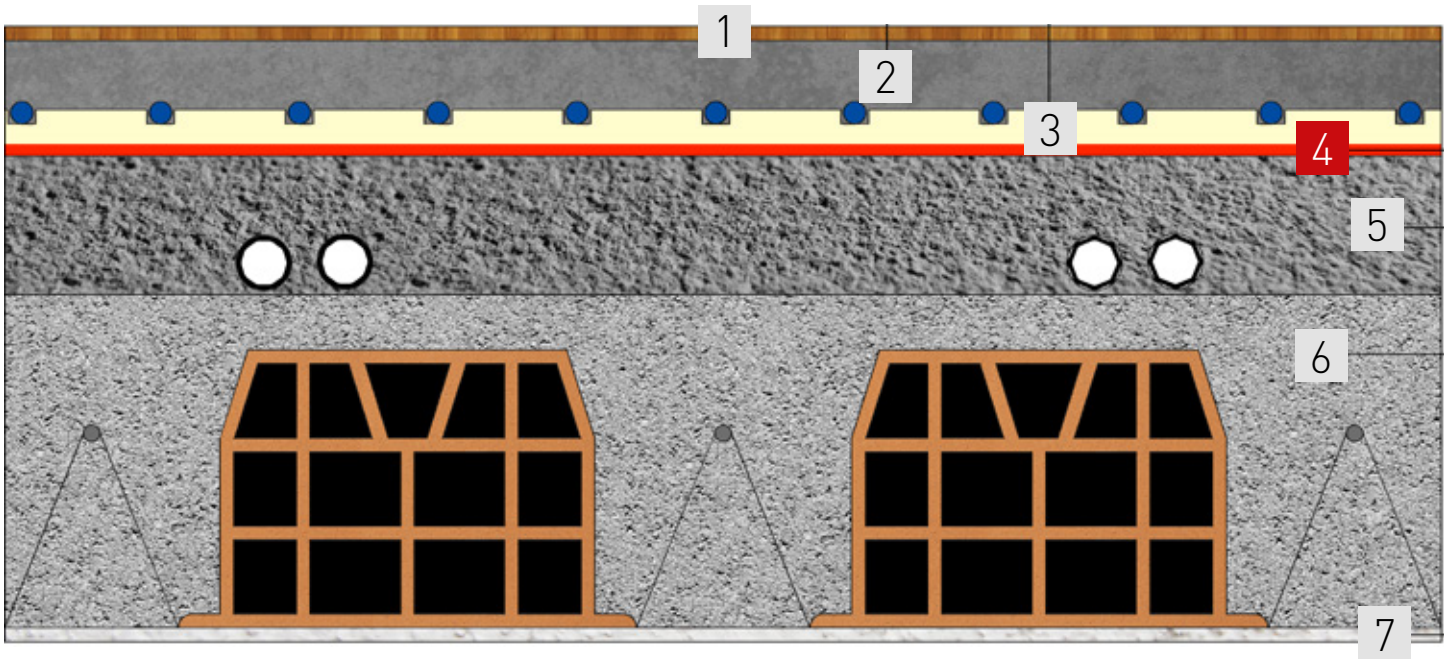
NOMINAL THICKNESS:	10 mm	15 mm
DYNAMIC STIFFNESS:	s'_t = 8 MN/m^3 (1)	s'_t = 7 MN/m^3 (2)
IMPACT SOUND INSULATION:	ΔL_w = 36 dB	ΔL_w = 38 dB
"IN SITU" IMPACT SOUND INSULATION:	$L'_{n,w}$ = 51 dB (3)	$L'_{n,w}$ = 48 dB (4)
COMPRESSION CLASS:	CP2 (5)	CP2 (5)
CONDUCTIVITY:	λ= 0,035 W/Mk	
THERMAL RESISTANCE:	R_t = 0.286 m^{2}K/W	R_t = 0.429 m^{2}K/W
SPECIFIC HEAT CAPACITY:	c = 2100 J/kgK	
VAPOUR RESISTANCE:	μ = 3600	
EMISSION OF VOLATILE ORGANIC COMPOUNDS:	VOC A+ (6) Indoor Air Confort Gold (7)	
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 DOP (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	Rolls of: 1.50 m x 25 m (h x L) = 37.5 m
	Product with overlaps. After overlapping the sheets they should be sealed by means of Isolmant Fascia Nastro or Isolmant Nastro Telato.	
PACKAGING:	Single rolls	

(1) Test Report Istituto Giordano n.397864
(2) Test Report n. 1015_1617
(3) Value measured on site - see structure page 5 of this data sheet
(4) Value measured on site - see structure page 6 of this data sheet
(5) Test Report n. 1002_1410 - Test Report n. 1010_1501
(6) Test Report Istituto Giordano n.362731
(7) Eurofins Test Report No. 392-2023-01166002_A_EN

ITEM SPECIFICATIONS

Resilient layer for the acoustic insulation of floors made of completely sustainable, closed-cell, cross-linked polyethylene foam from renewable sources, green colour, ISCC PLUS certified, embossed and silkscreen printed on the upper side, coupled on the underside with special second generation needle punched fiber to improve acoustic performance (type Isolmant UnderSpecial Series R Fossil Free). Nominal thicknesses 10 mm and 15 mm. Dynamic stiffness s'_t = 8 MN/m^3, s'= 7 MN/m^3 for 10 mm and 15 mm thicknesses (certified values). Sound reduction 36 dB and 38 dB for 10 mm and 15 mm thicknesses. VOC A+ (certified parameter). Product with overlaps. (certified values). Indoor Air Confort GOLD test report by Eurofins. Classified A for both versions by Remade in Italy for recycled content and compliant with the requirements of the CAM Decree 2022. Product with overlaps. To be installed with the green screen-printed side upwards and the fibre side downwards. Fossil free.

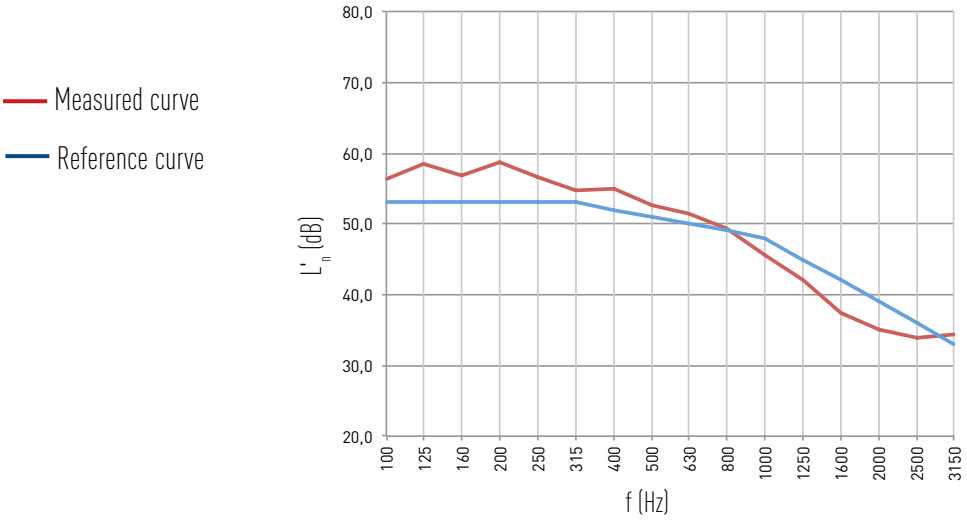
RESIDENTIAL BUILDING IN FLORENCE (FI)



No.	Layer	Material	Thickness (m)	Surface mass (kg/m²)
1	Flooring	Wooden flooring	0.01	
2	Supporting screed	Sand and cement	0.05	90
3	Underfloor heating	PSE panel	0.025	
4	Resilient material	**Isolmant UNDER-SPECIAL SERIE R FOSSIL FREE**	**0.010**	
5	Levelling Screed	Lightweight concrete	0.08	24
6	Structural slab	Concrete	0.24	290
7	Plaster	Premix	0.01	14
		Total thickness:	0.425	

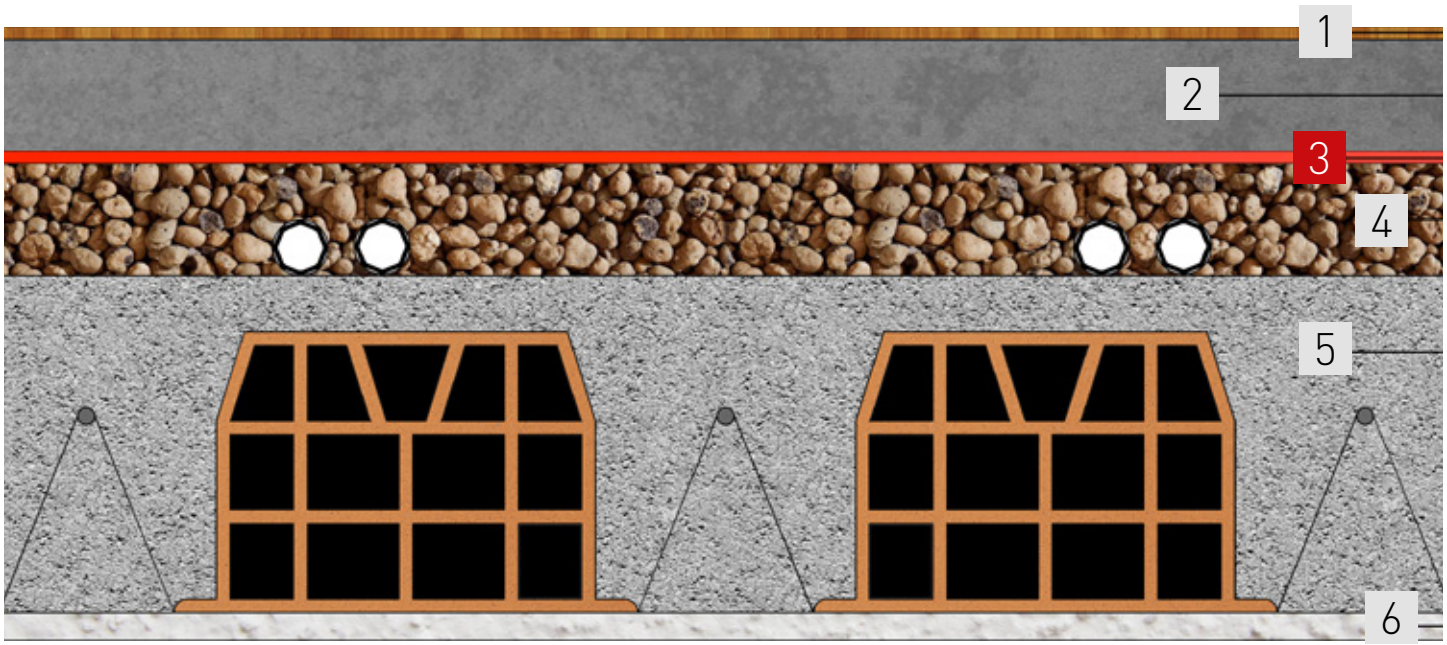
$L'_{n,w}$ (C_I) = 51 (-0) dB

FREQUENCY IMPACT NOISE REDUCTION



Frequency (Hz)	L'_n (dB)
100	56.4
125	58.4
160	56.8
200	58.8
250	56.5
315	54.8
400	54.9
500	52.7
630	51.4
800	49.4
1000	45.5
1250	42.1
1600	37.4
2000	35
2500	33.9
3150	34.4

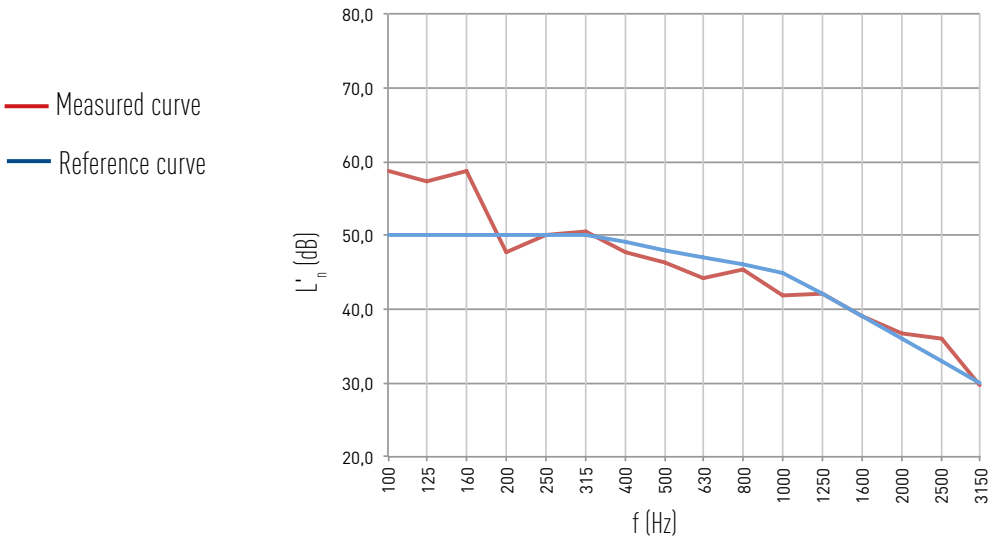
RESIDENTIAL BUILDING IN (MB)



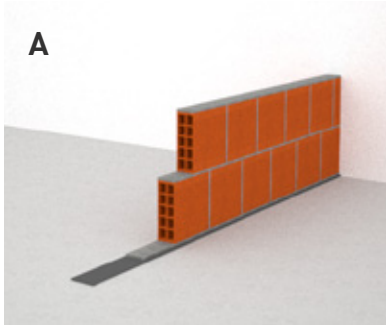
Nr.	Layer	Material	Thickness (m)	Surface mass (kg/m²)
1	Flooring	Wooden flooring	0.01	
2	Supporting screed	Sand and cement	0.07	126
3	Resilient material	**Isolmant UNDERSPECIAL CLASSIC**	**0.015**	
4	Levelling Screed	Expanded clay	0.08	40
5	Structural slab	Concrete	0.24	290
6	Plaster	Premix	0.01	14
		Total thickness:	0.425	

$$L'_{n,w} (C_I) = 48 (1) \text{ dB}$$

FREQUENCY IMPACT NOISE REDUCTION



Frequenza (Hz)	L'_n (dB)
100	58,8
125	57,4
160	58,7
200	47,7
250	50,1
315	50,6
400	47,7
500	46,3
630	44,3
800	45,4
1000	41,9
1250	42,1
1600	39
2000	36,8
2500	35,9



INSTALLING FASCIA TAGLIAMURO

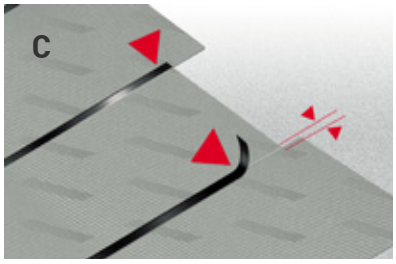
STEP 1

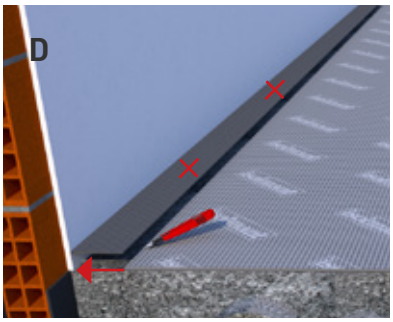
Before installing all the partitions, Isolmant Fascia Tagliamuro must be laid. This high density,reticulated polyethylene foam accessory is specifically designed to disjoint partitions and slabs, thereby helping to reduce the structural sound transmission from the walls to the slab. This band is available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

STEP 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. B).



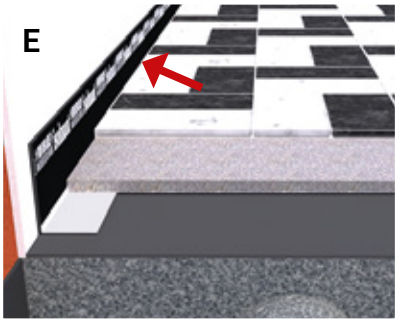


INSTALLING ISOLMANT UNDERSPECIAL FOSSIL FREE RESILIENT LAYER

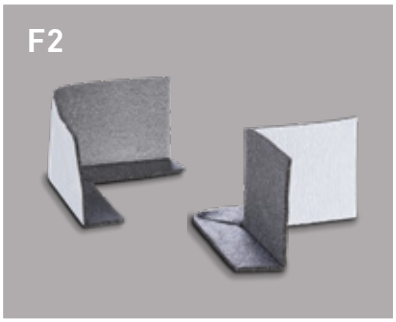
STEP 3

Isolmant UnderSpecial Fossil Free does not have an anti-tearing layer and is therefore not recommended for single-layer bases (in this case, Isolmant UnderSpecial BiPlus Fossil Free is recommended). 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 Serie R Fossil Free can be laid, which must be carefully joined using the special overlapping fabric and sealed with Isolmant Nastro Telato or Isolmant Fascia Nastro (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 reference to the thickness of the finishing screed, it is advisable to create a minimum thickness of no less than 5 cm in the case of the laying of Isolmant Underspecial Classic 10 mm and no less than 7 cm in the case of the laying of Isolmant Underspecial Classic 15 mm. If the thickness is less than 4.5 cm in some places, it is advisable to reinforce the screed with galvanised electro-welded mesh. 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 (fig. 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 scape.

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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