



# ISOLMANT BIPLUS

## UNDERSCREED INSULATION

**HIGH PERFORMANCE PRODUCT, WITH SPECIAL ANTI TEARING TECHNICAL FABRIC FIBRE-REINFORCED SPECIFIC FOR UNDERFLOOR SOUND INSULATION IN SINGLE-LAYER STRUCTURES WITH FINISHING SCREED  $\geq 5$  CM.**

### WHAT IS ISOLMANT BIPLUS

High performance resilient layer made of 5 or 10 mm polyethylene Isolmant Special joined on the upper side to FIBTEC XT1 FIBRE-REINFORCED (screen printed anti-tearing fibre) and on the lowerside to FIBTEC XF1 (special needle-worked fibre produced according to specifications designed). It provides excellent impact sound and airborne insulation for horizontal partitions. 9 mm and 14 mm thicknesses available.

### SPECIFIC APPLICATIONS

Isolmant BIPLUS is specific for floating screeds as provided by UNI 11516:2013 standards with any type of slab. As well as being suitable for use in two-layer solutions, the fibre-reinforced top layer can also be used as FIBRE-REINFORCED top layer can also be used as a top layer which guarantees the product's high resistance to foot traffic and tearing, makes it particularly suitable for creating floating screeds in single-layer solutions. It requires the creation of a finishing screed at least 5 cm thick (for Biplus 9 mm) or 7 cm thick (for Biplus 14 mm). Screeds with lower thickness should be reinforced by means of a suitable metal mesh or fibres. In case of disjointing a floating screed from perimeter walls, it is recommended not to turn Isolmant Biplus upside down but to use Isolmant Fascia Perimetrale. To install Isolmant Biplus with the screen-printed side facing upwards.

### ADVANTAGES

- Excellent acoustic impact sound and airborne insulation.
- Suitable for use in both renovation and new construction.
- High resistance to foot traffic and tearing.
- Better load distribution.
- 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.
- Easy to trim: can be easily cut with a utility knife or box cutter.
- This product comes with adhesive to seal the overlapping fabric.

### 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.



SUSTAINABLE



HEALTHY



ECOLOGICAL

## ISOLMANT BIPLUS TECHNICAL SPECIFICATIONS

To be positioned with the screen printed fabric facing upwards.

NOMINAL THICKNESS:	9 mm	14 mm
DYNAMIC STIFFNESS:	$s' = 11 \text{ MN/m}^3$ <sup>(1)</sup>	$s' = 9 \text{ MN/m}^3$ <sup>(2)</sup>
IMPACT SOUND INSULATION:	$\Delta L_w = 34 \text{ dB}$ <sup>(3)</sup>	$\Delta L_w = 36 \text{ dB}$ <sup>(4)</sup>
"IN SITU" IMPACT SOUND INSULATION:	$L'_{n,w} = 50 \text{ dB}$ <sup>(5)</sup>	$L'_{n,w} = 47 \text{ dB}$ <sup>(6)</sup>
AIRBORNE NOISE INSULATION:	$R_w = 61 \text{ dB}$ <sup>(7)</sup>	$R_w = 63 \text{ dB}$ <sup>(8)</sup>
COMPRESSION CLASS	CP2 <sup>(9)</sup>	
CONDUCTIVITY:	$\lambda = 0.035 \text{ W/mK}$	
THERMAL RESISTANCE	$R_t = 0.260 \text{ m}^2\text{K/W}$	$R_t = 0.400 \text{ m}^2\text{K/W}$
SPECIFIC HEAT CAPACITY	$c = 2100 \text{ J/kgK}$	
VAPOUR RESISTANCE	$\mu = 3600$	
EMISSION OF VOLATILE ORGANIC SUBSTANCES:	VOC A+ <sup>(10)</sup>	
CE MARKING:	<p>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.</p>	
SIZE:	<p>Rolls of: 1.50 m x 50 m (h x L) = 75 m<sup>2</sup></p> <p>This product comes with adhesive to seal the overlapping fabric.</p>	<p>Rolls of: 1.50 m x 25 m (h x L) = 37.5 m<sup>2</sup></p>
PACKAGE:	Single rolls	

(1) ICN Galileo Ferraris test report no. 36262-01

(2) Isolmant laboratory test report no. 1001\_0416

(3) CSI Test Report No. 0019-B/DC/ACU/04

(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 and thick concrete flooring finishing screed. 7 cm

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

(6) Value measured on site - see structure page 4 of this data sheet

(7) Value calculated according to UNI EN 12354-1 and UNI TR 11175 on the following stratigraphy: 20+4 concrete slab with lightened concrete substrate and thick concrete floor finishing screed. 5 cm

(8) Value calculated according to UNI EN 12354-1 and UNI TR 11175 on the following stratigraphy: 20+4 concrete slab with lightened concrete substrate and thick concrete floor finishing screed. 7 cm

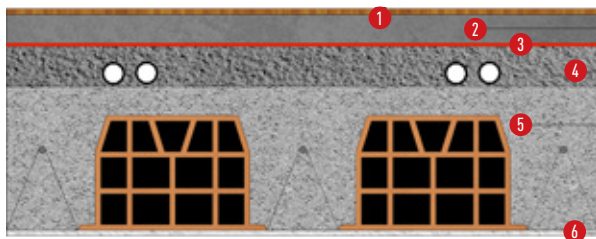
(9) Test report No. 1001\_1410 - Test report No. 1006\_1504

(10) Istituto Giordano test report no. 378402

## ITEM SPECIFICATIONS

Resilient layer made of physically reticulated expanded closed-cell polyethylene, joined on the upper side with a special needle-worked FIBRE-REINFORCED tear-proof film and on the lower side with a special needle-worked fibre that is conceived to enhance the acoustic performance (Isolmant Biplus type). To be positioned with the screen printed fabric facing upwards. This product comes with adhesive to seal the overlapping fabric. Density about 30 kg/m<sup>3</sup>. 9 or 14 mm nominal thickness. Dynamic stiffness 11 MN/m<sup>3</sup> o 9 MN/m<sup>3</sup> for versions 9 or 14 mm respectively.

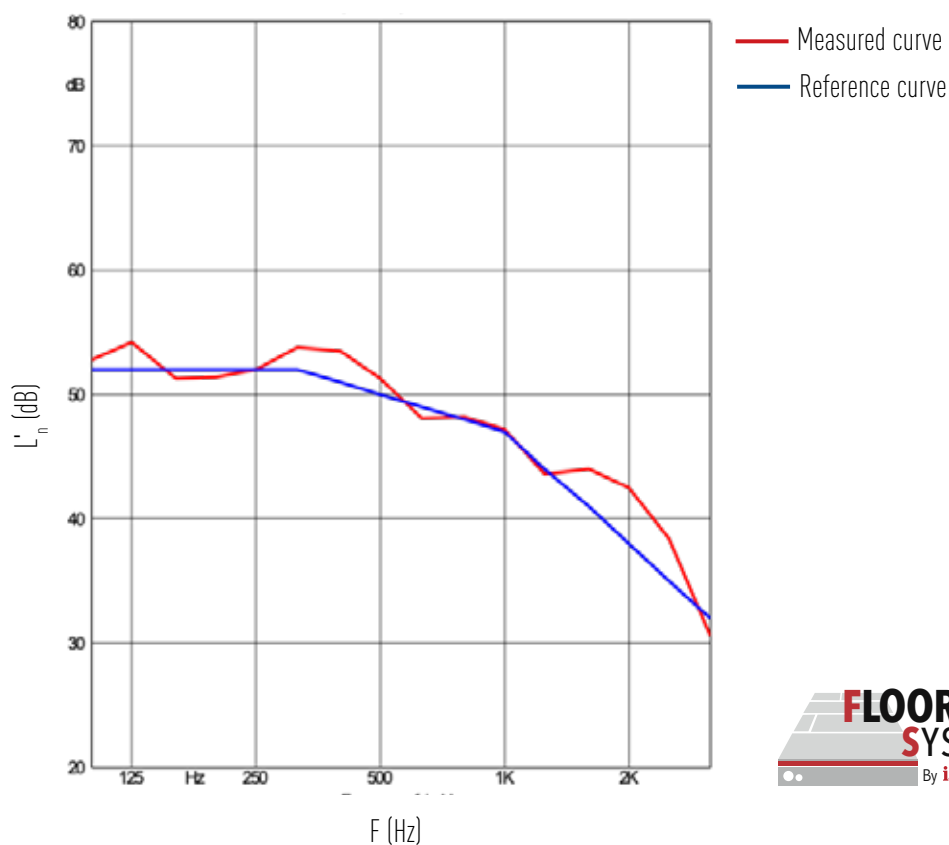
## RESIDENTIAL BUILDING IN CASIER (TV)



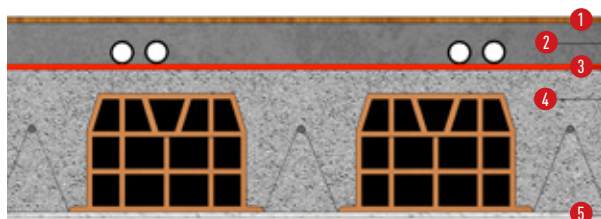
$$L'_{n,w} (C_1) = 50 (-3) \text{ dB}$$

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	Resilient material	<b>Isolmant BIPLUS</b>	0.009	
4	Levelling Screed	Lightweight concrete	0.08	24
5	Structural slab	Concrete	0.24	290
6	Plaster	Premix	0.01	14
		<b>Total thickness:</b>	<b>0.4</b>	

Frequency (Hz)	$L'_n$ (dB)
100	52.8
125	54.2
160	51.3
200	51.4
250	52
315	53.8
400	53.5
500	51.3
630	48.1
800	48.2
1000	47.2
1250	43.6
1600	44
2000	42.5
2500	38.4
3150	30.6



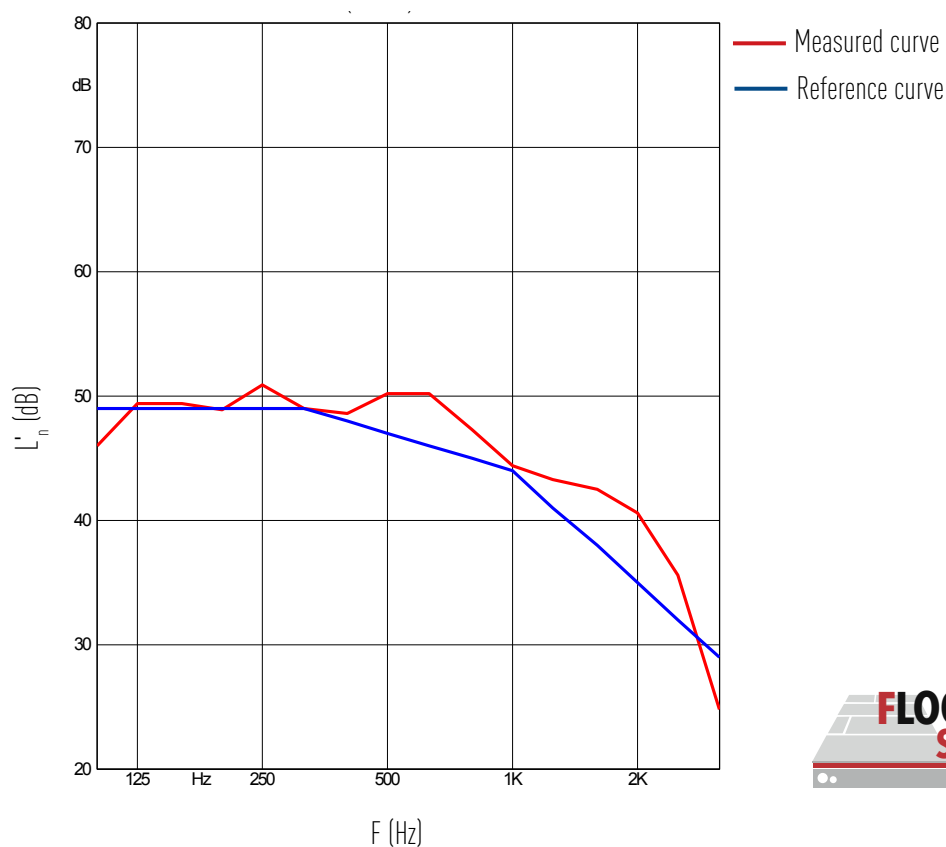
## RESIDENTIAL BUILDING IN CIMADOLMO (TV)

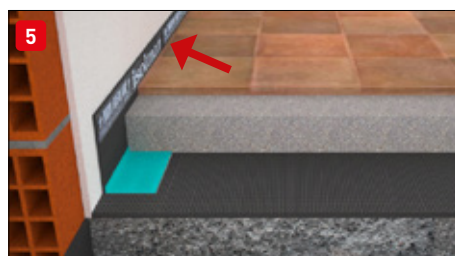
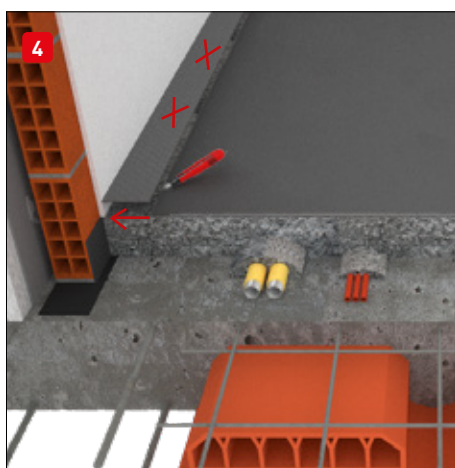
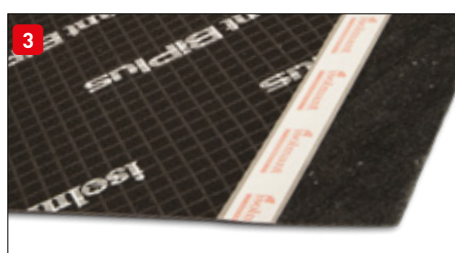
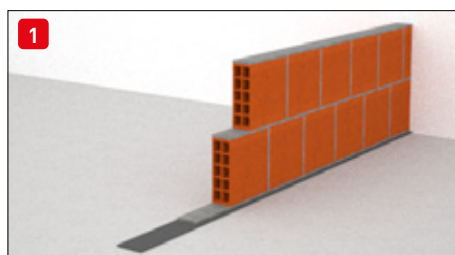


$$L'_{n,w} (C_1) = 47 (-2) \text{ dB}$$

Nr.	Strato	Materiale	Spessore (m)	Massa superficiale (kg/m²)
1	Flooring	Wooden flooring	0.01	
2	Supporting screed	Sand and cement	0.08	144
3	Resilient material	<b>Isolmant BIPLUS</b>	0.014	
4	Structural slab	Concrete	0.25	300
5	Plaster	Premix	0.01	14
		<b>Total thickness:</b>	<b>0.364</b>	

Frequency (Hz)	$L'_n$ (dB)
100	46
125	49.4
160	49.4
200	48.9
250	50.9
315	49
400	48.6
500	50.2
630	50.2
800	47.3
1000	44.4
1250	43.3
1600	42.5
2000	40.6
2500	35.6
3150	24.8





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).

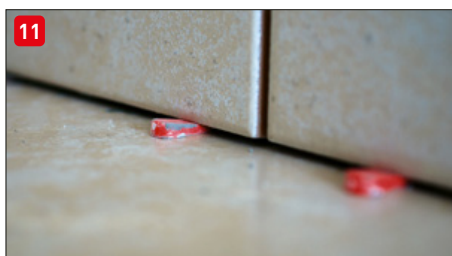
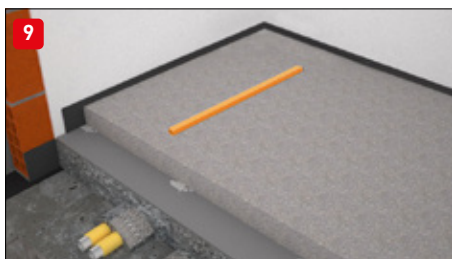
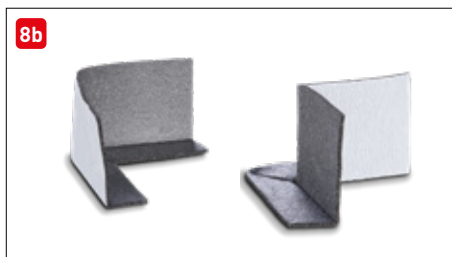
3

**Installing Isolmant Biplus resilient layer.** Isolmant Biplus does not have an anti-tearing layer and is therefore not recommended for single-layer bases. In this case, since no levelling screed is provided (which is always advisable), Isolmant Biplus must be laid directly onto the slab (which must have a flat, even surface) and then the systems must be laid in order to avoid the risk of tearing and the possible formation of air bubbles underneath. The sheets of Isolmant Biplus must be accurately joined using the entire batten and sealed using the adhesive selvage on the sheet (Figure 3). 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. 4).

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 strip is about 2/3 cm higher than the flooring level. 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 strip 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.





4

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 Isomant Fascia Nastro.

5

**Screed construction.** 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 when laying Isomant Biplus 9 mm and no less than 7 cm when laying Isomant Bisplus 14 mm. If the thickness is less than 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 (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.

# isolmant



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