

# ISOLMANT UNDERSPECIAL 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 UNDERSPECIAL BIPLUS

High performance resilient layer made of polyethylene Isolmant Special joined on the upper side to FIBTEC XT1 FIBRE-REINFORCED (screen printed anti-tearing fibre) and on the underside to FIBTEC XF3 (special needle-worked fibre produced according to specifications designed). It provides excellent impact sound and airborne insulation for horizontal partitions. 11 mm and 16 mm thicknesses available.

#### Available thicknesses:



### SPECIFIC APPLICATIONS

Isolmant UNDERSPECIAL 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 screed 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 screed layer solutions. It requires the creation of a finishing screed at least 5 cm thick (for Biplus 11 mm) or 7 cm thick (for Biplus 16 mm). Screeds with lower thickness should be reinforced by means of a suitable metal mesh or fibres. In case of disjoining a floating screed from perimeter walls, it is recommended not to turn Isolmant UnderSpecial Biplus upside down but to use Isolmant Fascia Perimetrale. To install Isolmant UnderSpecial Biplus with the screen-printed side facing upwards.



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.



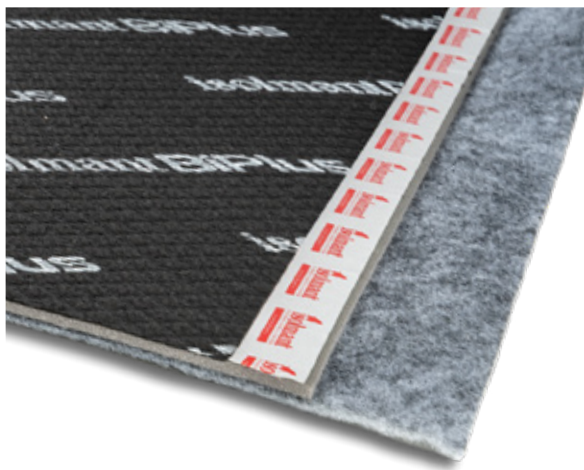
SUSTAINABLE



HEALTHY



ECOLOGICAL



## GREEN FEATURES OF ISOLMANT UNDERSPECIAL BIPLUS

- **Volatile substances free** (Indoor Air Comfort Gold certified).
- **Eco-friendly and recyclable.**
- Manufactured with **low environmental impact.**
- Recycled content **certified by ICMQ** (report no. P492).
- Contributes to achieving credits for the **environmental certification** of a building according to the **LEED or ITACA** protocols.
- 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 BiPlus meets the sustainability criteria of the main environmental protocols as shown in the following table:

CAM	✓
ITACA	✓
WELL	✓
BREEAM	✓
LEED	✓

## RECYCLED CONTENT

ISOLMANT UNDERSPECIAL BIPLUS	PE ISOLMANT	FIBTEC XF3	TESSUTO TNT
Percentages of the product components	27%	48%	25%
Percent recycled by component	0%	62%	0%
<i>Minimum value required by Italian CAM</i>	<i>NA</i>	<i>50%</i>	<i>NA</i>



### 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.
- Mould and insects resistant.

### INSTALLATION ADVANTAGES

- 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 UNDERSPECIAL BIPLUS > TECHNICAL SPECIFICATIONS

To be positioned with the screen printed fabric facing upwards.

NOMINAL THICKNESS:	11 mm	16 mm
DYNAMIC STIFFNESS:	$s'_t = 9 \text{ MN/m}^3$ <sup>(1)</sup> $s' = 23 \text{ MN/m}^3$ <sup>(1)</sup>	$s'_t = 8 \text{ MN/m}^3$ <sup>(2)</sup> $s' = 15 \text{ MN/m}^3$ <sup>(2)</sup>
IMPACT SOUND INSULATION:	$\Delta L_w = 35 \text{ dB}$	$\Delta L_w = 37 \text{ dB}$
"IN SITU" IMPACT SOUND INSULATION:	$L'_{n,w} = 50 \text{ dB}$ <sup>(3)</sup>	$L'_{n,w} = 47 \text{ dB}$ <sup>(4)</sup>
COMPRESSION CLASS	CP2 <sup>(5)</sup>	
CONDUCTIVITY:	$\lambda = 0.035 \text{ W/mK}$	
THERMAL RESISTANCE	$R_t = 0.314 \text{ m}^2\text{K/W}$	$R_t = 0.457 \text{ m}^2\text{K/W}$
SPECIFIC HEAT CAPACITY	$c = 2100 \text{ J/kgK}$	
VAPOUR RESISTANCE	$\mu = 3600$	
EMISSION OF VOLATILE ORGANIC COMPOUNDS:	Indoor Air Comfort Gold <sup>(6)</sup>	
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: $1.50 \text{ m} \times 50 \text{ m (h} \times \text{L)} = 75 \text{ m}^2$	Rolls of: $1.50 \text{ m} \times 25 \text{ m (h} \times \text{L)} = 37.5 \text{ m}^2$
	This product comes with adhesive to seal the overlapping fabric.	
PACKAGE:	Single rolls	

(1) Istituto Giordano test report no. 359510

(2) Test report no. 1015\_1618

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

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

(5) Test report No. 1002\_1410 - Test report No. 1010\_1501

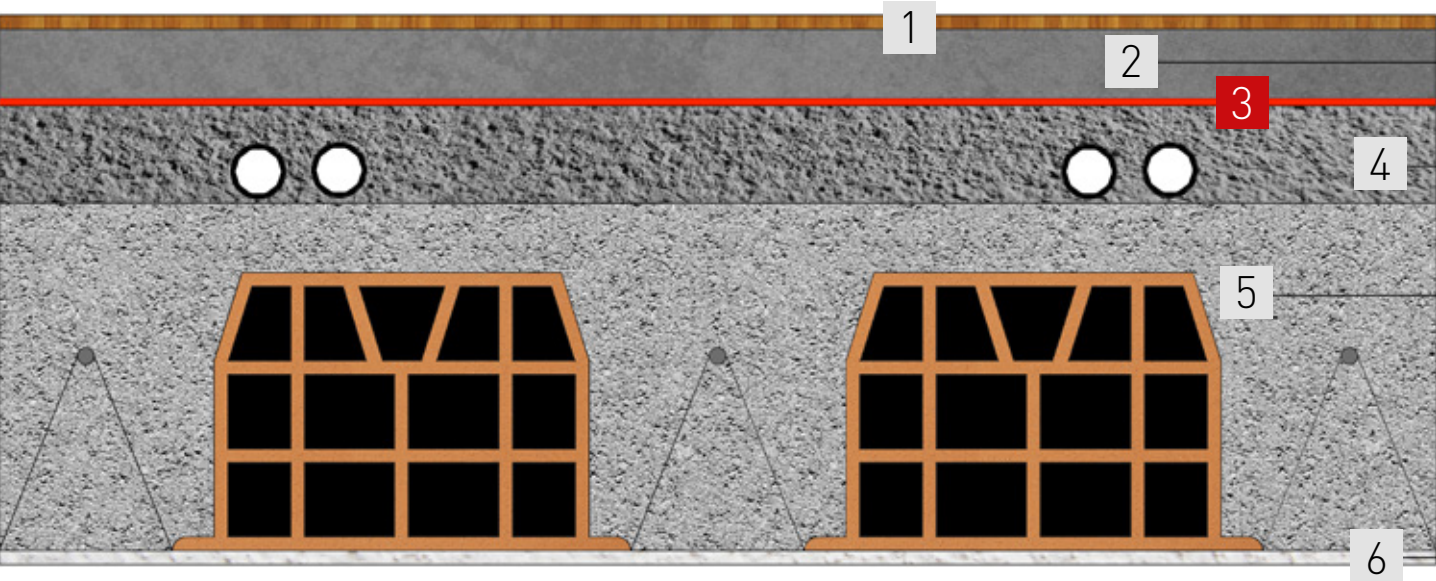
(6) Euronfins Tets report No. 392-2023-00166004\_A\_EN

## 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 UnderSpecial Biplus type). 11 or 16 mm nominal thickness. Dynamic stiffness  $s'_t = 9 \text{ MN/m}^3$ ,  $s' = 23 \text{ MN/m}^3$  for the 11 mm version (certified values) and  $s'_t = 8 \text{ MN/m}^3$ ,  $s' = 15 \text{ MN/m}^3$  for the 16 mm version. Impact sound insulation  $\Delta L_w = 35 \text{ dB}$  and  $37 \text{ dB}$  for versions 11 or 16 mm respectively. Indoor Air Comfort Gold (certified by Eurofins). Recycled content certified by ICMQ. To be positioned with the screen printed fabric facing upwards. This product comes with adhesive to seal the overlapping fabric.



RESIDENTIAL BUILDING IN CASIER (TV)

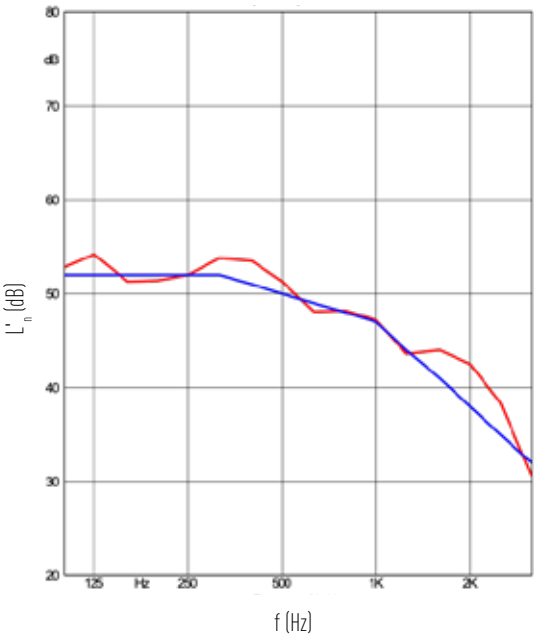


No.	Layer	Material	Thickness (m)	Surface mass (kg/m²)
1	Flooring	Wooden flooring	0.01	
2	Supporting screed	Sand and cement	0.05	90
3	Resilient material	Isolmant UNDERSPECIAL BIPLUS	0.011	
4	Levelling Screed	Lightweight concrete	0.08	24
5	Structural slab	Concrete	0.24	290
6	Plaster	Premix	0.01	14
Total thickness:			0.401	

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

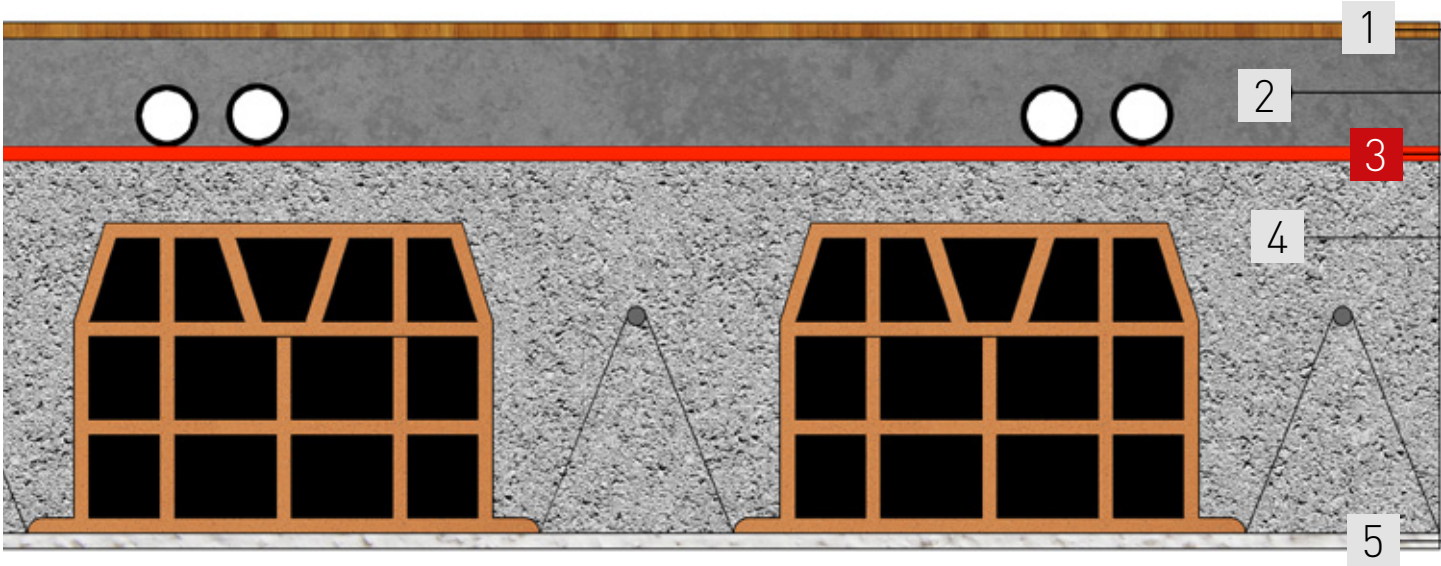
FREQUENCY IMPACT SOUND INSULATION

— Measured curve  
— Reference curve



Frequency (Hz)	L'_{n,w} (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)

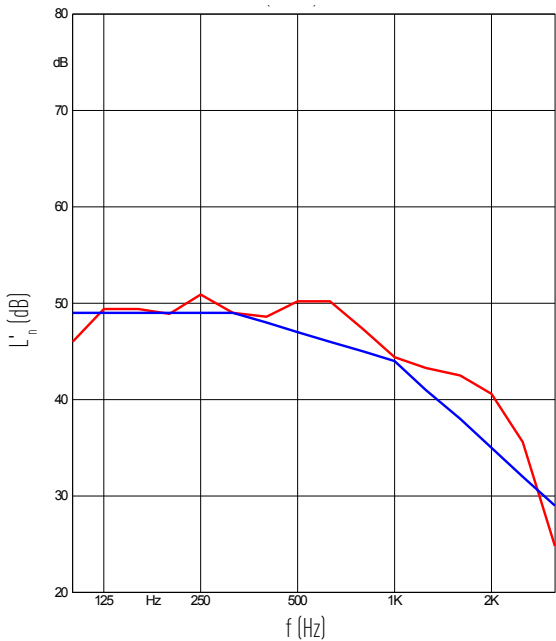


No.	Layer	Material	Thickness (m)	Surface mass (kg/m²)
1	Flooring	Wooden flooring	0.01	
2	Supporting screed	Sand and cement	0.08	144
3	Resilient material	Isolmant UNDERSPECIAL BIPLUS	0.016	
4	Structural slab	Concrete	0.25	300
5	Plaster	Premix	0.01	14
Total thickness:			0.366	

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

FREQUENCY IMPACT SOUND INSULATION

— Measured curve  
— Reference curve

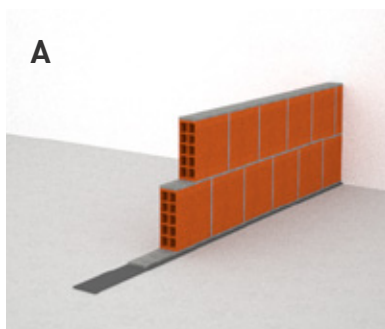


Frequency (Hz)	L'ₙ (dB)
100	46
125	49,4
160	49,4
200	48,9
250	50,9
315	49
400	48,6
500	50,2
630	50,2
800	47,3
1000	44,4
1250	43,3
1600	42,5
2000	40,6
2500	35,6
3150	24,8



## STEP 1

### INSTALLING FASCIA TAGLIAMURO

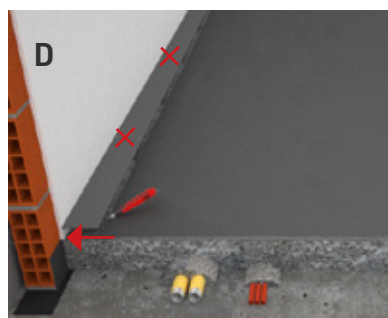
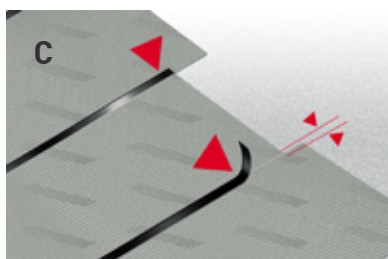


Before installing all the partitions, Isolmant Fascia Tagliamuro must be laid. This high density, reticulated polyethylene foam accessory is specifically designed to disjoin partitions and slabs, thereby helping to reduce the structural sound transmission from the walls to the slab. This band is available 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).



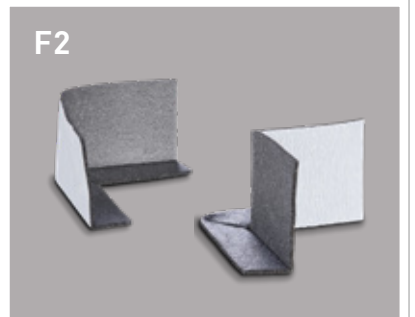
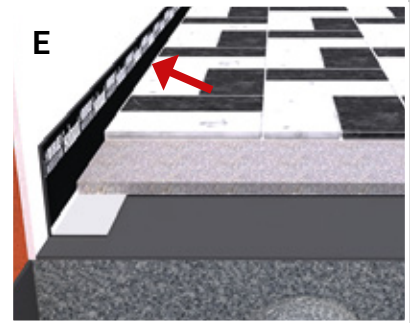
### INSTALLING ISOLMANT UNDERSPECIAL BIPLUS RESILIENT LAYER

## STEP 3

Isolmant UnderSpecial 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 UnderSpecial 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 UnderSpecial Biplus must be accurately joined using the entire batten and sealed using the adhesive selva on the sheet (Figure C). 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. 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 4.5 cm in the case of the laying of Isolmant Underspecial 8 mm and no less than 7 cm in the case of the laying of Isolmant Underspecial 13 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

## 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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