

FLOORING SYSTEM

isolmant
acoustic and thermal solutions



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“I’VE LEARNED THAT PEOPLE WILL FORGET WHAT YOU SAID, PEOPLE WILL FORGET WHAT YOU DID, BUT PEOPLE WILL NEVER FORGET HOW YOU MADE THEM FEEL.” (Maya Angelou)

ISOLMANT: LIVING THE COMFORT



Isolmant has over forty years of experience in the acoustic insulation sector and a strong R&D know-how gained through on-site activities to support sector operators. In this handbook Isolmant has presented the most used applications by describing the progress of building systems starting from the most consolidated and traditional applications up to some renovation systems that include the insertion of the insulating material below the finishing screed by means of the most advanced reduced thickness under screed applications. This handbook is intended to highlight the need to insert insulating materials that have been specifically conceived to be integrated into a flooring system.



At Isolmant's lab, we test all the main technical and mechanical features of our products to ensure that our items are always efficient and complete.

ACOUSTICS: IT IS ALL ABOUT COMFORT

It is now 20 years since the legislative decree that regulates the acoustic quality of buildings - the so-called D.P.C.M. of December 5, 1997 - has been in force. That is an important event that has not gone unnoticed, given the renewed interest in acoustic insulation in buildings.

Every day building experts mention this decree that is still to be investigated in depth and under less technical perspective.

D.P.C.M. 5/12/1997 aims at describing the acoustic quality of the buildings. And, the decree has introduced a brand-new concept since it sets out a measure to assess the comfort level that our living places should achieve. Thus, we talk about living places since D.P.C.M. 5/12/1997 does not rule just the residential or housing sector but applies to all living contexts, such as hospitals, schools, offices, shops etc. In short, this decree protects the quality of good living, the so-called Well-Being conceived to improve the comfort of everyday life, to give greater value to the experience of "living".

To fully understand the relevance of the Well-Being concept with regard to acoustic insulation, we should refer to Act No. 447 on noise pollution of October 26, 1995 which defines the responsibilities of public bodies in charge of regulate, plan and control both public and private subjects that can cause noise pollution. Furthermore, the Italian decree origins right from the above-mentioned act.

Act No. 447 rooted in the will of the Ministry of Health to protect people safety. And not surprisingly in a report by the Health Commission of the European Observatory on health systems and policies, the

definition of well-being has been proposed as "the emotional, mental, physical, social and spiritual state of well-being that allows people to reach and maintain their personal potential in society".

That is how the perspective changes and becomes clearer: whether you are at home to rest with your family, at work or school, or at the restaurant, in a gym etc., wherever you are, the acoustic comfort is a right, since the lack of acoustic comfort impacts on our health.





THE ACOUSTIC INSULATION IN ITALY

A recent Doxa survey about the relationship between the Italian people and their place has shown how important it is in Italy to have an acoustically comfortable house. And above all, this survey has highlighted how much work is still to be done in such field. In particular, when asked about the reasons for dissatisfaction with their place, Italians answered as follows:

- 40% thermal insulation
- 39% acoustic insulation**
- 35% safety
- 26% accessing new technologies

While another 2018 research argues that 78% of those surveyed consider the issue of noise pollution very or fairly important Acoustics are no longer just a normative issue of exclusive prerogative of professionals, but they concern all people who live in any type of environment and who seek, for their own well-being, a situation of acoustic comfort.

NOISE DOES NOT MAKE ANY DISTINCTION, EVERYONE CAN BE AFFECTED AND DISTURBED. THE ROLE OF BUILDING ENGINEERING IS TO FILTER OUT THE NOISE AND PROVIDE COMFORT AND CALM. THE ACTUAL LAW DEFINED PRINCIPLES TO BE RESPECTED, BUT CONSTRUCTORS HAVE A ROLE THAT GOES BEYOND STANDARDS, SINCE THEY AIM AT SOCIAL SOLUTIONS TO GUARANTEE SPACES IN WHICH THE WELL-BEING CAN BE REACHED ALSO THROUGH ACOUSTIC COMFORT.

A CONCEPT OF ACOUSTIC SYSTEM

Isolmant has always affirmed that there is no acoustic insulation, but there is an acoustic structure. It means a system that can guarantee an adequate acoustic insulation if all the insulation elements are integrated with each other to achieve a goal. For this reason, it is necessary to design each structure according to the materials that will be used and the benefits to obtain. This process can be defined by selecting the most suitable insulating material to enhance the system performance and meet each customer needs. We can consider three main steps: to define a proper design, to choose the most suitable insulating material, to perform a proper installation.

Isolmant's acoustic system does not comprise simple products, but it **consists of an actual approach that starts from the design of the solution**. A technical unit is devoted to our market needs, designing integrated solutions for the acoustic insulation.

Each product is designed to achieve its best performance by interacting with the rest of the stratigraphy. Thus, Isolmant actively collaborates with manufacturers of all types of construction technologies involved in horizontal and vertical partitions.

Then, our process is completed by an after-sales support, which supervises the correct installation that is essential to achieve the performance required.



THE FLOORING SYSTEM

Today the concept of system underlies every assumption that refers to construction activities, both for new buildings and renovation projects.

Concerning the acoustic insulation, we cannot just talk about an insulating underlay, but we should talk about a flooring system within which each element of the structure is linked to the other elements and work in synergy to provide high-performance. **In such a system, the insulating material, which can be inserted either under the screed (levelling substrates) or under the finishing (resilient layers), has a key role** with respect to customer needs since customers should comply with the legislation in force and live in a comfortable environment.

If we talk about a “flooring system”, all the actors involved along the supply chain should communicate to create an effective system under a complete perspective. And, this not only in terms of performance, but also in terms of duration, effectiveness and resistance.

In the creation of an effective and high-performance system, three main actors are involved:

- manufacturers who are responsible for creating innovative products that integrate perfectly with modern building systems
- engineers since an accurate design defines the guidelines of the whole construction project as well as the objectives in terms of performance to achieve
- technicians since a proper installation is a condition sine qua non to ensure the effectiveness of the system





UNDER SCREED APPLICATIONS



TRADITIONAL INSTALLATION

- ▶ Isolmant Special
- ▶ Isolmant UnderSpecial
- ▶ Isolmant UnderPlus Black.E
- ▶ Isolmant BiPlus

SCREED THICKNESS | $\geq 5 \text{ cm}$

- ▶ Isolmant Radiante
- ▶ Isolmant Fibra HD
- ▶ Isolmant D311
- ▶ Isolmant Super BiPlus



INNOVATIVE INSTALLATION

- ▶ Isolmant UnderSpecial EVO

SCREED THICKNESS | **3 and 5 cm**



NEW FRONTIER

- ▶ Isolmant IsolTile and IsolTile AD

SCREED THICKNESS | $\leq 3 \text{ cm}$



UNDER SCREED APPLICATIONS

TRADITIONAL

SCREED
THICKNESS ≥ 5 cm

A floating screed installation consists in disconnecting the base slab from the floor by means of a layer of elastic material which can be placed under the screed and along the perimeter of the room.

By inserting the resilient layer, we create a framework for the screed in which the screed can float and it is not joint to the side elements of the building. This system creates an oscillating condition that absorbs and dissipates the energy that is caused by the impact. This system can be simply defined as a mass-spring-mass system. The upper mass is the screed. The lower mass is the base slab plus a further relief screed. The spring is represented by the insulating material. In this way the vibratory phenomenon tends to dissipate along this flooring system rather than spread all over the structures. In this way, vibrations can dissipate before propagating themselves through the other environments.

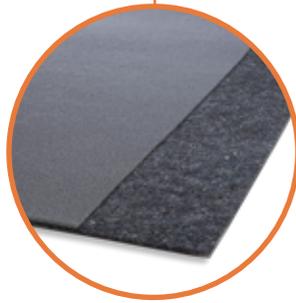


ORIGINAL



ISOLMANT SPECIAL

Our core product



ISOLMANT UNDERPLUS BLACK.E

The most cost-effective double layer product



DOUBLE-LAYER PRODUCTS

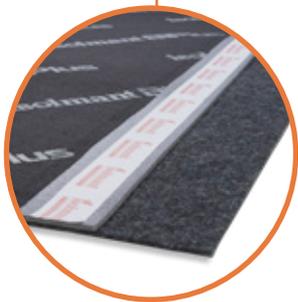
Isolmant Special | Isolmant UnderPlus Black.E | Isolmant UnderSpecial | Isolmant BiPlus

HIGH PERFORMANCE



ISOLMANT UNDERSPECIAL

Top-of-the-line double layer product



ISOLMANT BIPLUS

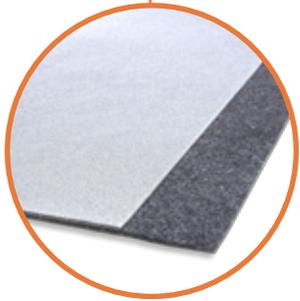
Top-of-the-line product with tear-proof fibre



SINGLE-LAYER PRODUCTS

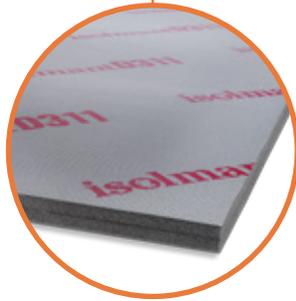
Isolmant BiPlus

SPECIAL APPLICATIONS



ISOLMANT RADIANTE

This product is suitable for hot water underfloor heating



ISOLMANT D311

This product is suitable for projects with special acoustic and thermal requirements



HOT WATER UNDERFLOOR HEATING INSTALLATIONS

Isolmant Radiante



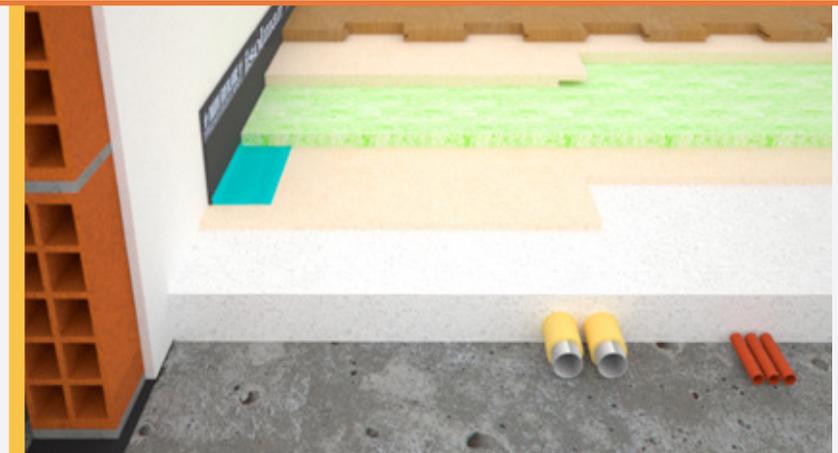
ISOLMANT FIBRA HD

This product is suitable for dry installations



ISOLMANT SUPER BIPLUS

This product is suitable for installations featured by a counterweight and higher elastic and dynamic strength



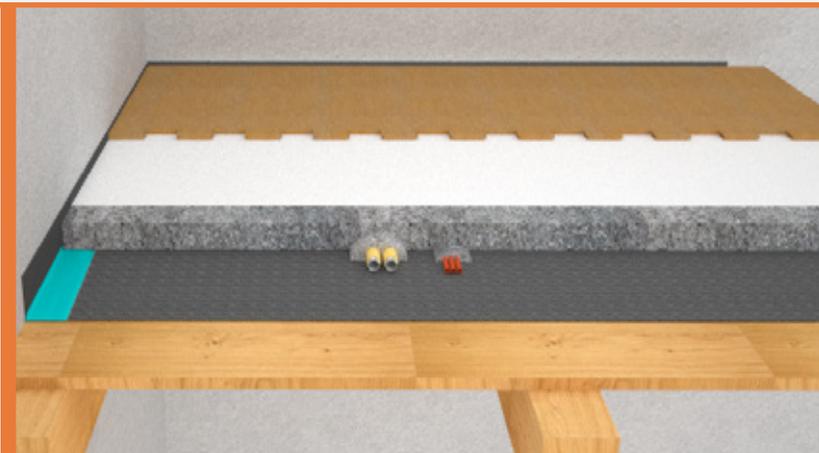
DRY INSTALLATIONS

Isolmant Fibra HD



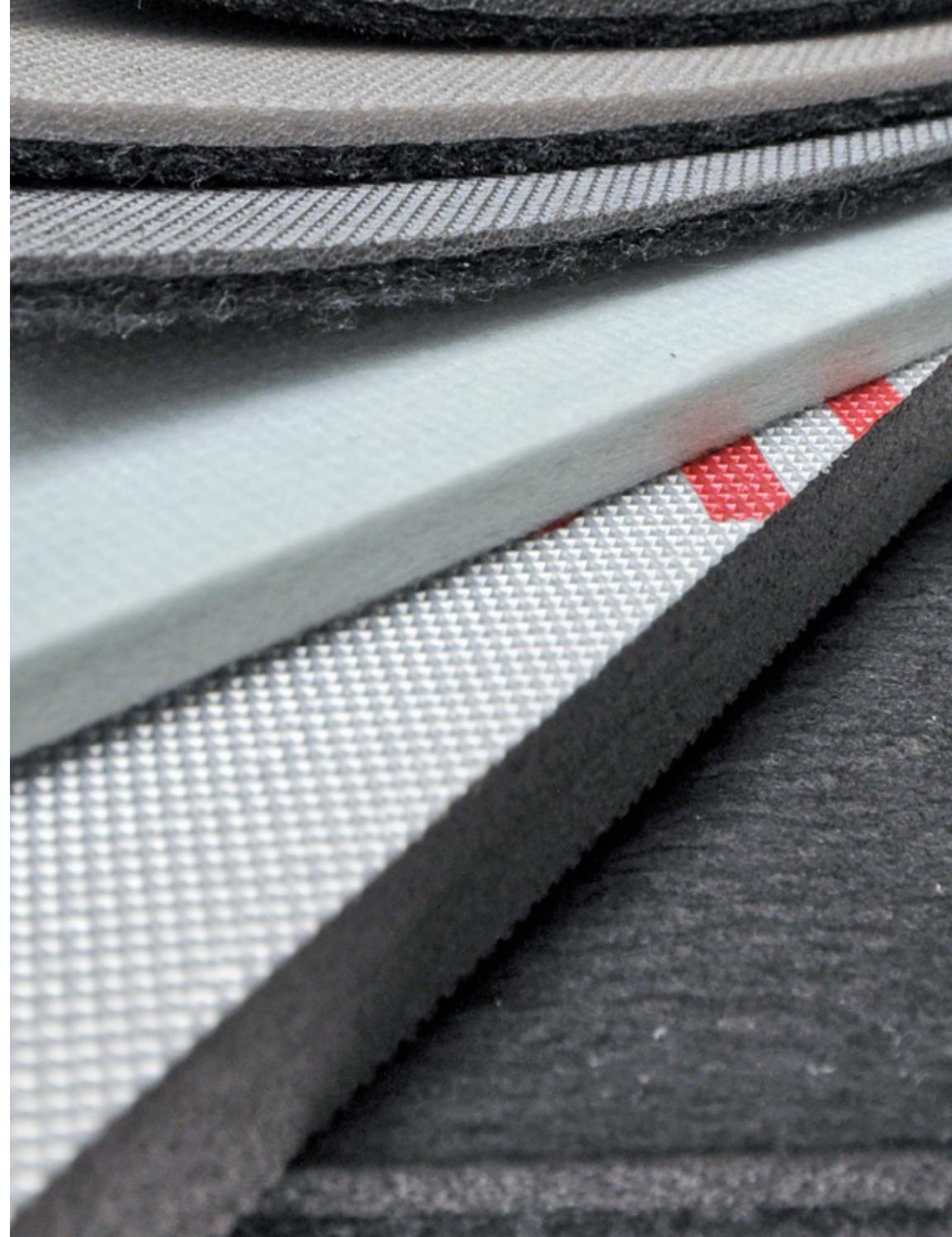
**THERMAL AND
ACOUSTIC INSULATION**

Isolmant D311



**LIGHT
INSTALLATIONS**

Isolmant Super BiPlus





UNDER SCREED SOLUTIONS INNOVATIVE

SCREED
THICKNESS

3 to 5 cm

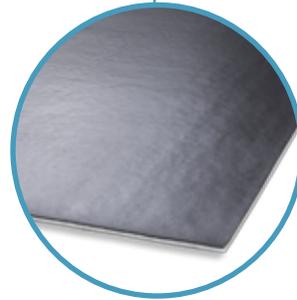
Today, one of the most common issue for designers and engineers is the lack of thickness. The expansion of the renovation sector saw the market face two critical needs that are difficult to combine: costumers requiring technologically advanced, complete and highly performing structures, while on the other hand having few centimetres available to work. Then, this need for “subtle design” moved from renovation projects to new constructions. Thus, Subtle Design became a very frequent request. To date, construction technologies increasingly developed, but innovation requires the technical know-how to combine the various elements of the flooring system, by optimizing its performance. A good sound insulation has a fundamental task: to integrate within the structure, optimise the efficiency of the elements and ensure levels of sound insulation according to the law in force.

INNOVATION

Isolmant UnderSpecial EVO is our new product for reduced thickness screeds (3- 5 cm). Resulting from Isolmant's technological research and expertise in the field, Isolmant UnderSpecial EVO meets the need to insert an acoustic material that is suitable for low-thickness flooring systems, with or without hot water underfloor heating.

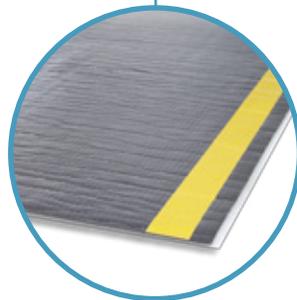
Isolmant UnderSpecial EVO is the perfect mix of patented raw materials conceived ad hoc to improve low thickness flooring systems. In particular, this product should provide:

- the proper compressive strength, which allows the system to work in an adequate and fundamental way to guarantee its acoustic performance in the long term
- the best elasticity to allow the material to perform its spring function
- the adequate stiffness to support the whole system



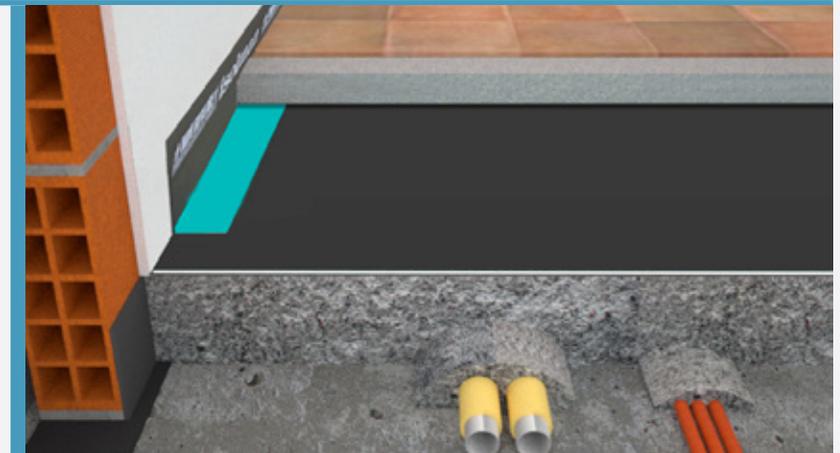
ISOLMANT UNDERSPECIAL EVO

The development of products for reduced thickness screeds.



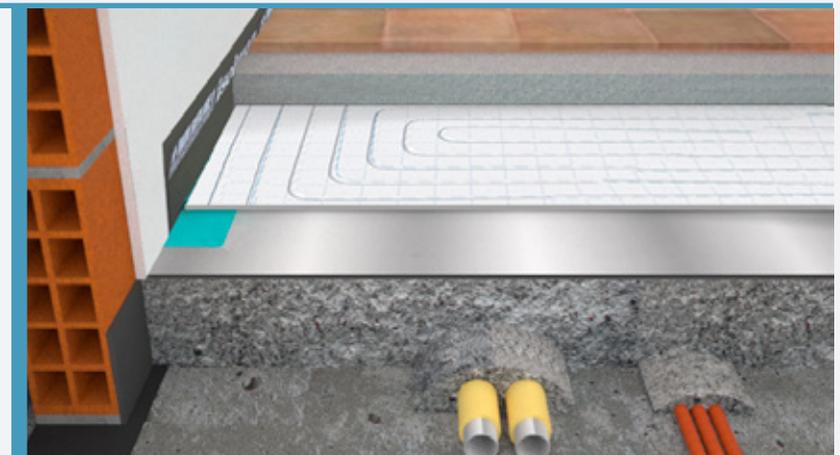
ISOLMANT UNDERSPECIAL EVO BV

Version featured by a high vapour resistant film



REDUCED THICKNESS
DOUBLE-LAYER PRODUCT

Isolmant UnderSpecial EVO



HOT WATER
UNDERFLOOR HEATING
INSTALLATIONS

Isolmant UnderSpecial EVO |
Isolmant UnderSpecial EVO BV



UNDER SCREED APPLICATIONS

NEW FRONTIER

SCREED
THICKNESS

≤ 3 cm

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ico e termico
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www.isolmant.it

isolmant
benessere acustico e termico
www.isolmant.it

The biggest challenge of the acoustic insulation are self-levelling screeds, for which the thickness is further reduced. At this level, the technological development in product processing plays a decisive role, since we need to guarantee not only a number tested in the laboratory, but the total efficiency of a system in place. Efficiency means not only acoustic performance, but also system stability and durability. The structures featured by very low thickness are very delicate compared to traditional structures: It is clear that the lack of centimetres has a negative impact on the acoustic performance of the whole system. The balance lies in finding a tailored solution that allows to obtain the maximum noise reduction possible by ensuring stability and durability of the structure itself.

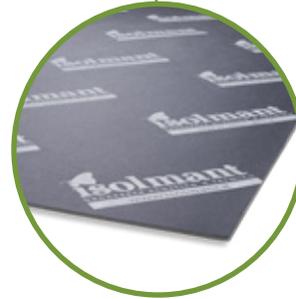


NEW FRONTIER

Conceived for the acoustic renovation under the tiles, over the years Isolmant IsolTile has demonstrated that this product is suitable for being inserted under screed in structures with low thickness (less than 3 cm). In particular, its features make it the ideal product for ultra-low thickness screeds even in the presence of hot water underfloor heating. In this kind of installation, the designer or the installer can choose IsolTile standard or IsolTile AD (version equipped with a removable adhesive layer to facilitate the positioning of the sheets) according to the existing underlay.

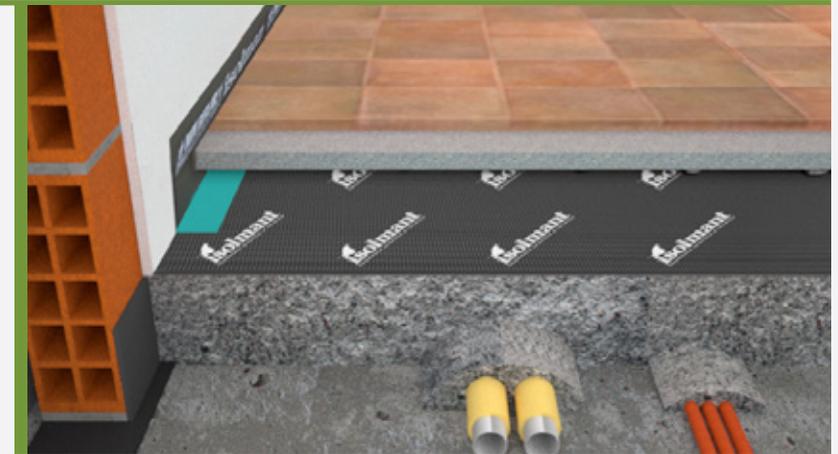
In reduced thickness projects, Isolmant IsolTile technology ensures:

- correct compressive strength which allows the system to properly work to ensure the acoustic performance in the long term
- optimal elasticity to allow the material to play its own spring function
- appropriate stiffness to support the whole system



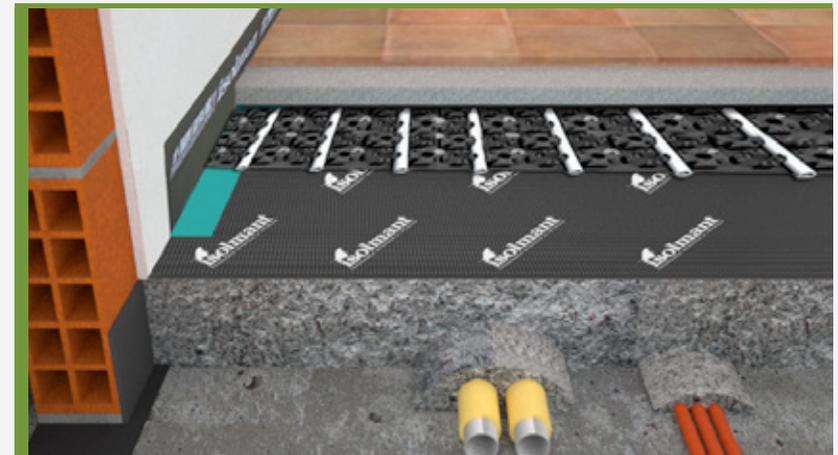
ISOLMANT ISOLTILE (STANDARD E AD)

The acoustic insulation system for very reduced thickness screed (AD version with adhesive fabric to connect and seal the sheets)



SIMPLE INSTALLATION

Isolmant IsolTile | Isolmant IsolTile AD



HOT WATER UNDERFLOOR HEATING APPLICATIONS

Isolmant IsolTile | Isolmant IsolTile AD



UNDER FLOOR APPLICATIONS



TRADITIONAL INSTALLATION

- ▶ Isolmant IsolTile and IsolTile AD
- ▶ Isolmant Top
- ▶ Isolmant Parquet Film



INNOVATIVE INSTALLATION

- ▶ Isolmant IsolTile and IsolTile AD
- ▶ Isolmant Top Adesivo



NEW FRONTIER

- ▶ Isolmant IsolTile and IsolTile AD
- ▶ Isolmant Top
- ▶ Isolmant Top Adesivo



UNDER FLOOR APPLICATIONS

TRADITIONAL



When renovating a place, a private user basically tries to improve two features: aesthetics and comfort. When renovating a flooring, the acoustic insulation is fundamental for those who walk on the floor and for the neighbours. The insertion of an insulating underlay under any kind of flooring is essential to ensure an adequate acoustic comfort. The underlay should be selected based on the flooring system and according to the installation technique that has been considered as the most suitable.

- Laminate or vinyl flooring (LVT) - floating installation
- Ceramic tile flooring, some types of wooden floors (solid parquet, double layer laminated parquet) - glued installation
- Some types of wooden flooring (laminated, counter-balanced, with dry joints) - floating or glued installation

TRADITIONAL APPLICATIONS



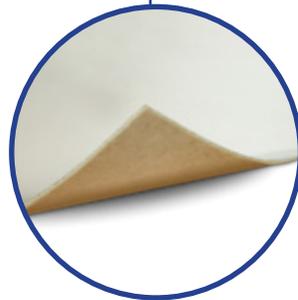
ISOLMANT PARQUET FILM

An underlay for floating wooden and laminate flooring with integrated protection against vapour

There are several advantages with both floating and glued installations. The floating installation allows not to damage / completely cover the existing flooring since it avoids the need to consolidate the existing flooring as well as applying a primer film or a self-levelling finishing. Moreover, no water, glues or solvents are needed as well as drying time.

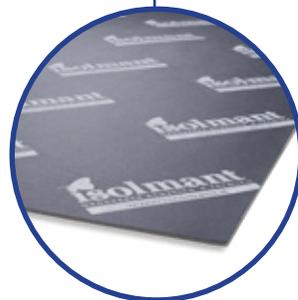
In addition to being the only laying method possible for some types of flooring, the glued installation ensures high stability to the flooring system.

In particular, IsolTile allows to install a new flooring on an excellent sliding layer which reduces the risk of cracking of the new ceramic due to shrinkage, deformation and humidity of the substrate (new buildings) or to planarity, surface and consistency of the existing flooring (renovation projects).



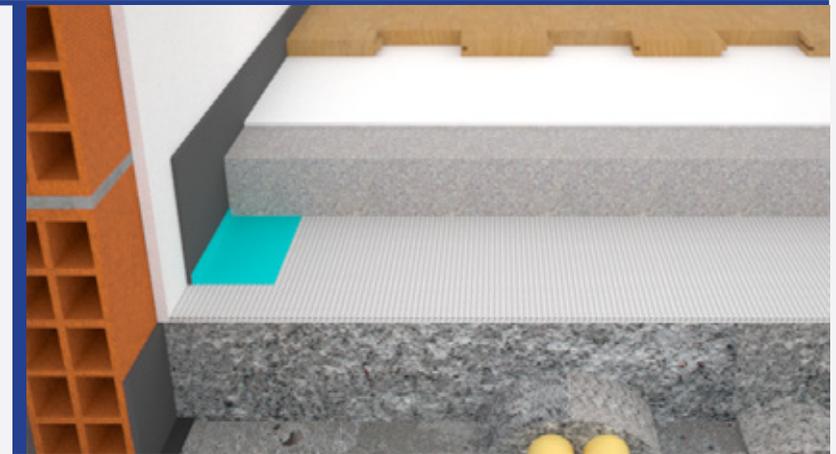
ISOLMANT TOP

High performance 100 percent natural underlay suitable for all kinds of applications. High Protection Against Vapour



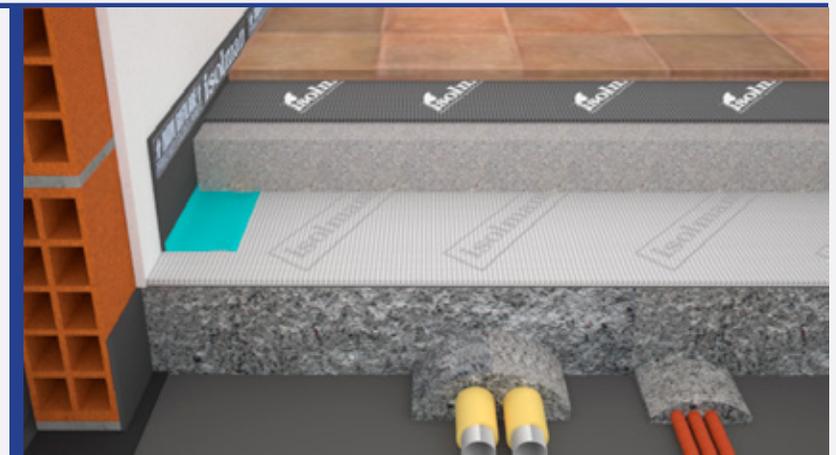
ISOLMANT ISOLTILE (STANDARD E AD)

This product is recommended for glued wooden and ceramic tile flooring.



**FLOATING
INSTALLATION**

Isolmant Parquet Film | Isolmant Top



**GLUED
INSTALLATION**

Isolmant IsolTile | Isolmant IsolTile AD



UNDER FLOOR APPLICATIONS INNOVATION

The installation of wooden flooring – both for new buildings and renovation, has recently experienced a great challenge due to a new regulatory framework and indications on good practice. An important role has been played also by the technology development of the sector, which has led to innovative development not of the finishing itself but also of the lower layers: the insulating underlay and hot water underfloor heating.

This is the case of the so-called hybrid installation, which satisfies the need for those finishes or situations that require the flooring to join the underlay while remaining disconnected from the installation surface, (e.i solid or double layer laminated wooden flooring).

The hybrid or semi-floating installation provides many of the advantages of the floating installation without completely renouncing the possibility of fixing the floor to the underlay by using traditional glues or adhesive layers.

These solutions are particularly appreciated in the case of:

- wooden flooring installation on low thickness heating screeds
- installation on pre-existing flooring that must remain intact
- laying on inconsistent or uneven installation surfaces
- installation on flooring prone to dimensional modifications

INNOVATIVE

Isolmant IsolTile ensures the installation of semi-floating wooden flooring: the underlay and the screed are not coupled. The underlay is covered by a layer of glue to fix the finish. The AD version comes with a removable adhesive on the lower surface that is designed to facilitate innovative installation methods.

Isolmant Top Adesivo is not just a product but **an innovative installation system**. It is a cutting-edge product with just 1.8 mm thickness, thanks to the innovative adhesive coating to which the flooring is directly connected without any kind of glue.



CLEAN:

this kind of installation does not require the use of any glue



FAST:

this kind of installation does not require drying times



FUNCTIONAL:

this product is recommended for drum sound insulation and impact sound reduction



ECOLOGICAL:

this product is made with natural elements



BLUE ANGEL:

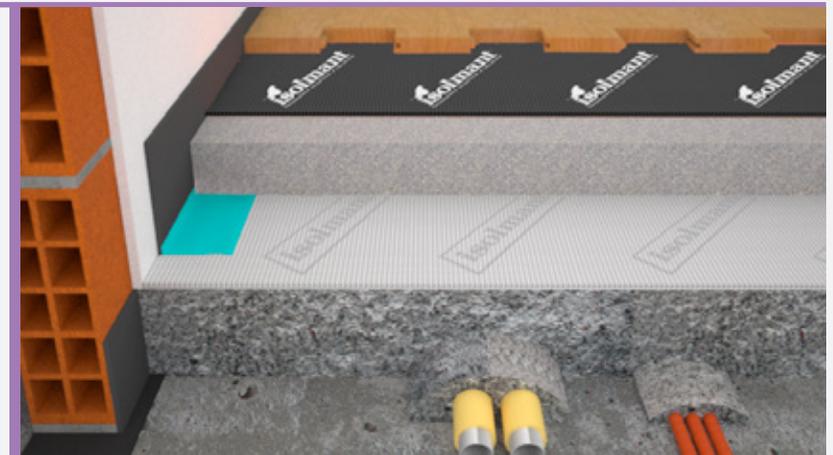
UE Eco-blue label certified

www.bauer-engel.de/uz156



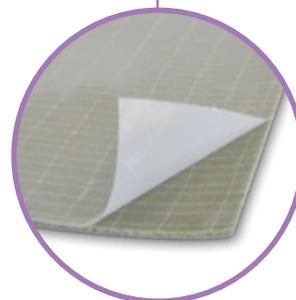
ISOLMANT ISOLTILE (STANDARD E AD)

This product is recommended to install semi-floating wooden flooring



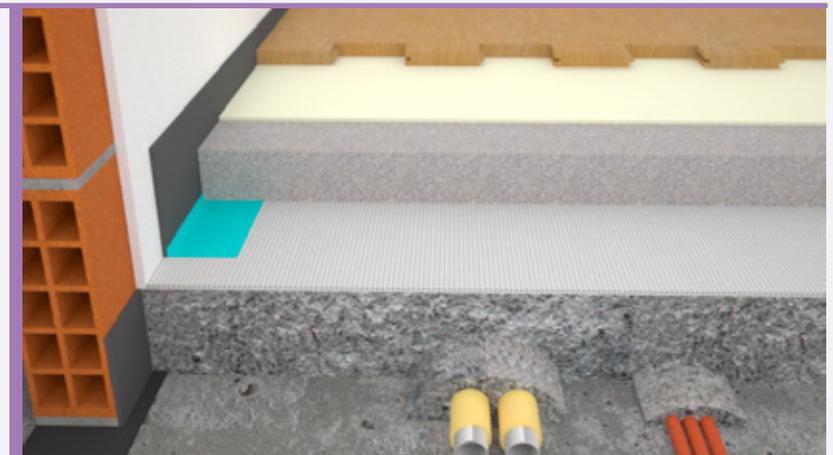
HYBRID
INSTALLATION

Isolmant IsolTile | Isolmant IsolTile AD



ISOLMANT TOP ADESIVO

Underlay specific to wooden flooring mixed/hybrid installation



HYBRID
INSTALLATION

Isolmant Top Adesivo

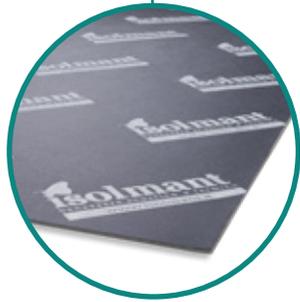


UNDER FLOOR APPLICATIONS **NEW FRONTIER**

Today, ultra-low thickness hot water underfloor heating systems have been developed. These can be covered by means of insulating material over the panel itself. These systems are mostly used for renovation projects since they allow to work on the existing flooring by creating above it a small but complete and very efficient stratigraphy. The goal is to improve the energy consumption performance of a building through a renovated flooring, and its reduced thickness becomes a key point both on a structural level - to avoid adding extra weight on the base slab and the underlying structures - and on a functional level - to avoid extra works on flooring as lifting the doors.

These are technologically very advanced structures, which require the use of dry installation panels or in some cases the housing of the heating system, through a milling system, in order to create a zero thickness system.

NEW FRONTIER



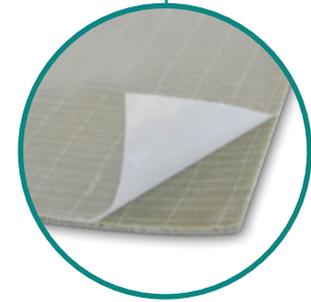
ISOLMANT ISOLTILE GLUED INSTALLATION

Glued ceramic tile or wooden flooring finish



ISOLMANT TOP FLOATING INSTALLATION

Product suitable for floating finish: wooden, laminate or LVT flooring



ISOLMANT TOP ADESIVO MIXED/HYBRID INSTALLATION

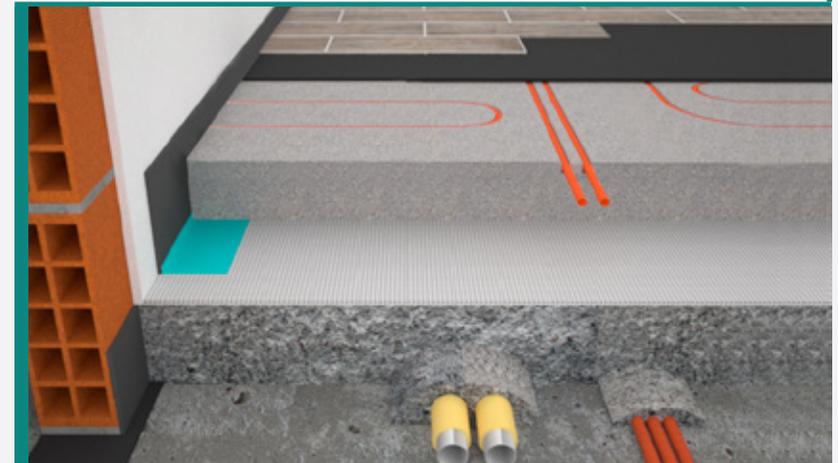
Product suitable for mixed/hybrid finish: wooden, laminate or LVT flooring

The reduce thickness heating systems or “zero” thickness require the insulating material not only to provide high acoustic performance to increase the value of the flooring, but also clear thermal characteristics to work in synergy with the heating panel to enhance the system performance. In addition, insulating materials run a key role. These systems, in fact, require a separating layer between flooring and heating system to avoid these two elements could join together by means of the glue. Thus, the insulation material becomes a key element for the installation as well as an element that enhances the system by ensuring its acoustic performance.

The choice of insulating material is made on the basis of all the parameters that contribute to the technological package and relevant expected results.

The most critical criteria are:

- panel type for the actual heating/cooling system
- flooring to install and kind of installation
- expected performance
- the final use for the room to insulate



Isolmant IsolTile | Isolmant Top | Isolmant Top Adesivo

Scan the QR Code to download our complete technical data sheets from the website www.isolmant.it



ISOLMANT SPECIAL



ISOLMANT UNDERPLUS BLACK.E



ISOLMANT UNDERSPECIAL



ISOLMANT BIPLUS



ISOLMANT RADIANTE



ISOLMANT D311



ISOLMANT FIBRA HD



ISOLMANT SUPER BIPLUS



ISOLMANT UNDERSPECIAL EVO



**ISOLMANT ISOLTILE
(STANDARD E AD)**



ISOLMANT TOP



ISOLMANT PARQUET FILM



ISOLMANT TOP ADESIVO

THE ACOUSTIC SYSTEM: DO NOT FORGET THE ACCESSORIES

After carrying out a proper design and choosing the correct acoustic material, the third essential element to obtain a comfortable and efficient system is a proper installation. A rough installation can vanify calculations, checks and design choices, making everyone unsatisfied. This is why also the installer has a key role. When designing new products, Isolmant's R&D unit takes into account not only their effectiveness within the various systems but also their applicability during installation, since the greater is the ease of installation the better the result will be.

In the construction of an acoustic system, whether it is under screed or under-floor, it is essential to use the accessories suitable for the stratigraphy to install. Isolmant provides different types of Fascia Perimetrale (to place along the perimeter of the room) and Fascia Nastro (to tape the sheets between them). To make the installation of the acoustic system easier, faster and more effective, Isolmant provides a specific set of accessories that guarantee the separation of the screed from the walls at the closed corners (concave) or on the edges (open and convex corners). Isolmant Angolo e Spigolo e Isolmant Telaio Porte, already shaped to size and provided with adhesive, avoid to cut and bend the Perimental Band in case of not straight walls.



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