FLOORING System

SYSTEM FLOORING



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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

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.

It is now 20 years since the legislative decree that regulates the acoustic quality of buildings - the socalled 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.

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 highperformance. 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



The renovation is easier with **IsolTile** and his superpower!





UNDER SCREED APPLICATIONS



UNDER SCREED APPLICATIONS TRADITIONAL SCREET

SCREED THICKNESS ≥ 5 cm

ESOTIDDE DE COMPANDE

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-springmass 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





DOUBLE-LAYER Products

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

HIGH PERFORMANCE



ISOLMANT SPECIAL

Our core product





SINGLE-LAYER Isolmant BiPlus PRODUCTS

SPECIAL APPLICATIONS



ISOLMANT RADIANTE This product is suitable for hot water underfloor heating



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



HOT WATER UNDERFLOOR HEATING Isolmant Radiante







DRY Installations Isolmant Fibra HD



THERMAL AND Isol

Isolmant D311





Isolmant Super BiPlus



UNDER SCREED SOLUTIONS

SCREED 3 to 5 cm

INNOVATION

oday, 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.



Isolmant UnderSpecial EV0 is our new product for reduced thickness screeds (3 - 5 cm). Resulting from Isolmant's technological research and expertise in the field, Isolmant UnderSpecial EV0 meets the need to insert an acoustic material that is suitable for low-thickness flooring systems, with or without hot water underfloor heating.



INNOVATION

CERTIFIED STRUCTURES

ISOLMANT UNDERSPECIAL EVO The development of products for reduced thickness screeds.



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





REDUCED THICKNESS Double-layer product Isolmant UnderSpecial EVO



HOT WATER UNDERFLOOR HEATING INSTALLATIONS Isolmant UnderSpecial EVO | Isolmant UnderSpecial EVO BV



HOT WATER UNDERFLOOR HEATING ISolmant Under INSTALLATIONS

Isolmant UnderSpecial EVO BV

EVALUATION OF ISOLMANT UNDERSPECIAL EVO UNDER SCREED USE

Isolmant UnderSpecial EVO has undergone several tests to confirm its suitability for positioning below screeds with a thickness of 3 to 5 cm, with or without the hot water underfloor heating system. The tests carried out have shown that with Isolmant UnderSpecial Evo:

- Improve the acoustic performance of the system (floating screed);
- An effective uncoupling of the screed from the substrate is achieved
- Improves the thermal efficiency of radiant system (a downward insulation is created)

It is always necessary to refer to the technical sheet of the screed/leveling device to evaluate the required thickness, the laying method and the drying times necessary to guarantee its resistance.





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NEW FRONTIER

he biggest challenge of the acoustic insulation are selflevelling 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.



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.



NEW FRONTIER

CERTIFIED STRUCTURES



ISOLMANT ISOLTILE The acoustic Insulation system for very reduced thickness screed. With integrated vapor barrier

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





SIMPLE Isolmant IsolTile



HOT WATER UNDERFLOOR Heating applications Isolmant IsolTile

EVALUATION OF ISOLMANT ISOLTILE UNDER SCREED USE

Isolmant IsolTile has undergone several tests to confirm its suitability for positioning below screeds with a thickness less than 3 cm, with or without the hot water underfloor heating system. The tests carried out have shown that with Isolmant IsolTile:

- Improve the acoustic performance of the system (floating screed);
- An effective uncoupling of the screed from the substrate is achieved;
- Improves the thermal efficiency of radiant system (a downward insulation is created)

It is always necessary to refer to the technical sheet of the screed/leveling device to evaluate the required thickness, the laying method and the drying times necessary to guarantee its resistance.



Test n.1



Test n.2



UNDER FLOOR APPLICATIONS



UNDER FLOOR APPLICATIONS TRADITIONAL

GLUED OR FLOATING INSTALLATION

hen 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, counterbalanced, 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 selflevelling 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).



High performance 100 percent natural underlay suitable for all kinds of applications. High protection against vapour



ISOLMANT ISOLTILE

This product is recommended for glued wooden and ceramic tile flooring. With integrated vapor barrier





FLOATINGIsolmant Parquet FilmINSTALLATIONIsolmant Top

GLUED Isolmant IsolTile



UNDER FLOOR APPLICATIONS INNOVATION

MIXED/HYBRID INSTALLATION

INNOVATIVE

he installation of wooden flooring – both for new buildings and renovation, has recently experienced a great challange 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

This product is recommended to install semi-floating wooden flooring. With integrated vapor barrier

ISOLMANT ISOLTILE AD

This product is recommended to install semi-floating wooden flooring or tile flooring **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.



Isolmant IsolTile AD version comes with a removable adhesive on the lower surface that is designed to facilitate innovative installation methods.



HYBRID Installation Isolmant IsolTile

HYBRID Installation Isolmant IsolTile AD



INNOVATIVE



Isolmant Top Incollapavimento 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 instal





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



WATCH THE INSTALLATION VIDEO

UNDER FLOOR APPLICATIONS NEW FRONTIER

INSTALLATION WITH REDUCED THICKNESS HEATING SYSTEMS

NEW FRONTIER

oday, 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

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



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



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



Glued ceramic tile or wooden flooring finish. With integrated vapor barrier



Isolmant Top



Isolmant Top Incollapavimento



Isolmant IsolTile



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







ISOLMANT UNDERPLUS BLACK.E



ISOLMANT UNDERSPECIAL













ISOLMANT FIBRA HD



ISOLMANT SUPER BIPLUS



ISOLMANT UNDERSPECIAL EVO



ISOLMANT ISOLTILE (Standard and ad)





ISOLMANT PARQUET FILM



SOLMANT TOP INCOLLAPAVIMENTO

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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