

GENERAL
CATALOGUE 2024

ama[®]

ADVANCED MATERIALS

 **AEROPAN**
NANOTECH THERMAL INSULATION

 **AEROGIPS**
NANOTECH INSULATION BOARD

 **AEROPROOF**
ROOF THERMAL NANOTECH INSULATION

AMAGEL^{A2}
NEW NANOTECH THERMAL INSULATION

2024 GENERAL CATALOGUE

AMA GROUP	3
AEROGEL.....	4
AEROPAN	6
AEROGIPS	10
AEROGIPS GF.....	12
AEROPROOF	16
AMAGEL A2	20



AMA GROUP

The international AMA Group, with offices in 21 countries in the world, consists of 26 companies and 18 production sites. The group develops around AMA S.p.A, born in 1967 from an idea of Luciano Malavolti (still president of the group). Today AMA is the first group in Italy capable of producing components and equipment for the construction and maintenance of slow-moving vehicles, agricultural machines and for green care.

The AMA group also includes AMA ADVANCED MATERIALS, of the AMA COMPOSITES division – located in San Martino in Rio, in the province of Reggio Emilia – designed, structured, and developed for the Building & Construction sector.

Designed to meet the increasingly demanding environ-

mental standards in the field of sustainable development and living comfort, AMA ADVANCED MATERIALS has designed a range of products with unique and innovative technical and performance-related features.

Besides the range of Aerogel nanotechnological insulators – in rolls or panels – AMA ADVANCED MATERIALS has expanded the offer of solutions for the B&C field with the THERMOGEL PAINT paint line.

It consists of thermo-reflecting paint made of Aerogel and other precious nanotechnological components, without using glass or ceramic microspheres, which block the energy dispersion through walls, drastically reducing thermal bridges and preventing the formation of mold without resorting to chemical additives.

AEROGEL

Aerogels are substances we encounter in our everyday lives! Take for instance the meringues that pastry chefs have always prepared: meringues consist of whipped egg white and sugar and, when picked up after being baked, a sensation of warmth can be felt immediately. This phenomenon is due to the fact that the air contained in the meringue is trapped in millions of microscopic bubbles. As in the case of amorphous silica Aerogels, the air contained in the meringues cannot circulate and exchange heat, therefore becoming an excellent thermal insulator. The first Aerogel molecules date back to 1931, the year in which Steven Kistler - from the College of the Pacific in Stockton, California - discovered the secret to dry the gel avoiding its collapse. Aerogel is, as of today, the lightest solid substance existing in the world, along with graphene, consisting of 98% air and 2% amorphous silica, the main component of glass.

Besides being extra-light, Aerogel is an excellent thermal insulator and withstands very high temperatures. Aerogel is a type of synthetically amorphous silica which differs from crystalline silica.

Synthetically amorphous silica has no effects on health – as declared by the OECD (United Nation’s Organization for Economic Cooperation and Development).

To best use the extraordinary thermal characteristics of the product, a system has been patented to “trap” the Aerogel inside a fibrous structure, guaranteeing the same levels of insulation, without having to sacrifice the easy handling and transformation of the product.

Aerogel-based products have shown and guaranteed the same heat insulation performance, even under considerable mechanical stress.

This allows the safe use of this material even in applications with permanent and/or dynamic loads.



CERTIFICATIONS

Quality is AMA Group’s starting point and final goal from the very first phases of the design of a new product. Every AMA ADVANCED MATERIALS product is checked in every phase: from the production of the raw materials to the quality of the insulator, and through every step of the production process. The machines to produce the AMA ADVANCED MATERIALS insulation products have been developed by the internal engineering office to guarantee high productive and quality standards.

Continuous quality tests carried out at the main qualified laboratories allow the AMA ADVANCED MATERIALS products to guarantee the declared thermal conductivity, the compression resistance, the fire reaction and, most importantly, unchanged technical and performance qualities over time. **Amagel A2 has obtained the CE certification.**

Discover all the AMA ADVANCED MATERIALS products’ certifications on the website: www.aeropan.it

TYPES OF PANELS



PRODUCT	EXTERNAL WALLS	INTERNAL WALLS	ISOLAMENTO IN INTERCAPEDINE	CAVITY WALL INSULATION	ROOFING FLOOR SLABS	THERMAL BRIDGES
Aeropan®	•	•				•
Aerogips		•			•	
Aeroproof				•		
Amagel		•	•	•	•	•

AEROPAN

Aeropan® is a panel designed for the thermal insulation of building structures which require a higher degree of insulation in the least possible space. It consists of a nano-technological Aerogel insulator paired with a polypropylene breathing membrane reinforced with glass fiber and has been designed for reduced-thickness thermal insulation. With a 10 mm thickness - and heat conductivity of 0.015 W/mK - Aeropan® allows to reduce energy dispersion and recover space in civil, commercial, and residential buildings. The properties of the panel - minimum heat conductivity, flexibility and compression resistance, hydrophobicity, and

easy installation - make it an essential product for providing high levels of thermal insulation both in new buildings and in the redevelopment of older ones.

It is the ideal product for applications on external perimeter walls and internal walls, intrados, window padding, roofs and for solving thermal bridges. Aeropan® is the perfect choice for outdoor and indoor restructuring, as well as building recovery and for historical buildings subject to architectural restraints which require the highest levels of living comfort.



TECHNICAL DATA	VALUES	UoM	TEST METHOD
Panel size	1400x720	mm	
Thicknesses	6/10/20/30/40/50/60	mm	
Plasterboard thickness (λ) at 10 °C	0.015	W/mK	EN 12667
Thermal conductivity (λ 90/90)	0.016	W/mK	EN 13162
Water vapor permeability (μ)	0.07	m	EN 12086
Temperature limits	-50 +450	°C	
Compression resistance (10% deformation)	80	KPa	EN 826
Specific heat	1,000	J/kgK	ASTM E 1269
Nominal density	230 \pm 10%	kg/m ³	
Fire reaction class*	BS ₁ D ₀		EN 13501-1
Long-term water absorption by partial immersion	Wp \leq 0.01	kg/m ²	EN 1609
Color	White		

THERMAL RESISTANCE							
Thickness	6	10	20	30	40	50	60
R(m ² k/W)	0.38	0.63	1.25	1.88	2.50	3.13	3.75

* The fire reaction tests have been conducted on an integral insulation system.

THE PERFORMANCE

Aeropan® is a semi-rigid insulation panel, composed of reinforced high-density fibers, fully saturated with nanoporous Aerogel with very low thermal conductivity and a PP finish reinforced with glass fiber.

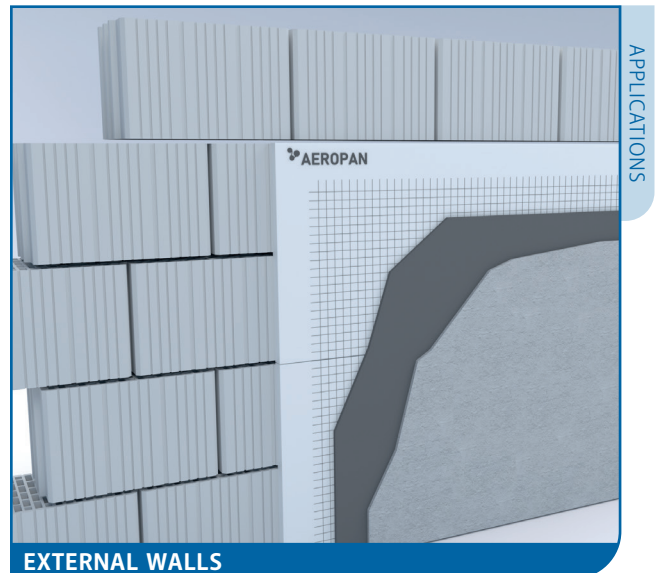
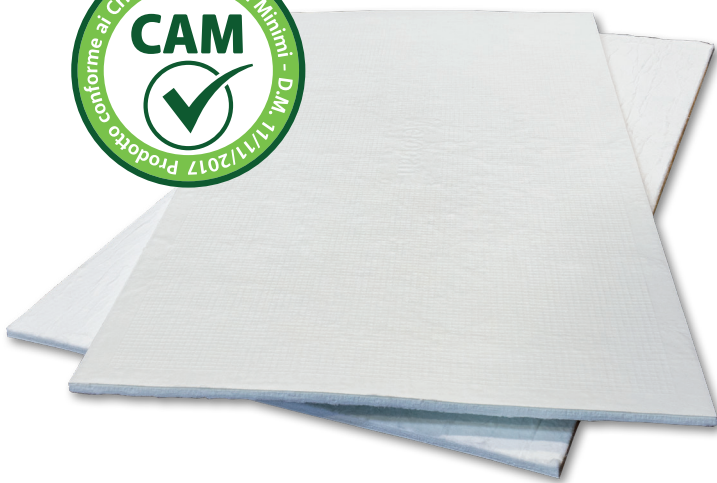
With only 10 mm of thickness, the panel is able to provide thermal insulation between -50°C and +450°C. These features make Aeropan® extremely suitable applications in a wide range of environmental conditions, without performance levels and durability being affected in any way.

The panel should be installed with the Aeropan® label facing the outside, which will undergo the finishing smoothing process.

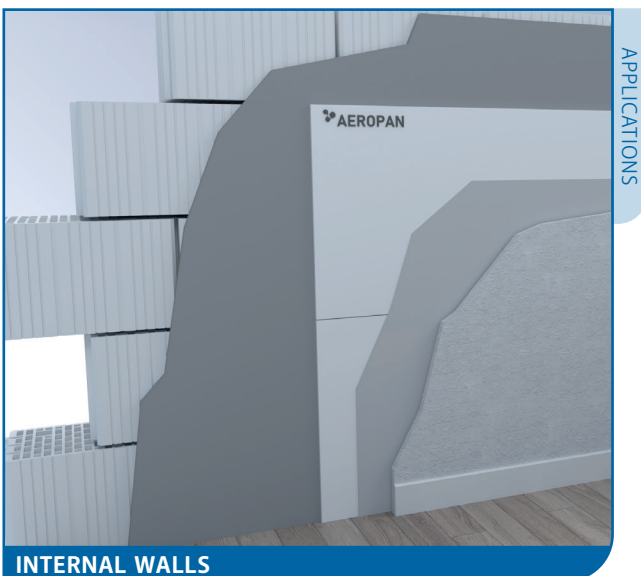
INTERIOR/EXTERIOR THERMAL INSULATION SPECIFICATION

Realization of interior/exterior thermal insulation coat system, for vertical and horizontal surfaces, such as over-

hanging balconies or similar, consisting of a semi-rigid panel, made of a layer of silica AEROGEL reinforced with partially-recycled glass fibers (felt) paired with a breathable polypropylene membrane reinforced with fiberglass mesh, of the Aeropan® type, waterproof and breathable, supplied in 1400x720 mm panels, for a nominal thickness of 10 mm (or in panels with 20 mm, 30 mm, 40 mm, 50 mm, 60 mm thickness) with volumetric density 230 kg/m³, thermal conductivity 0.016 W/mK, heat resistance Rd of 0.63 m²K/W per cm of thickness, temperature of use between -50°C /+450°C, permeable to vapor diffusion (μ 7), impermeable to surface water and/or to immersion with water contact angle not below 150°, spread on flat or curved, vertical or horizontal surfaces, after gluing and installed on smooth, dry, non-dusty, perfectly intact surfaces without any sharp roughness.



EXTERNAL WALLS



INTERNAL WALLS



THERMAL BRIDGES

AEROPAN *INSTALLATION*

EXAMINATION OF THE EXISTING SUPPORT'S CONDITION

The flawless preparation of plaster layer is the fundamental requirement to obtain the perfect flatness of the base. A support with the appropriate flatness guarantees the correct creation of a system which involves the use of an ultra-low thickness insulator. It is important to underline the necessity of preparing a cohesive and dust-free base: this is what allows the perfect adhesion of the glue. In case of necessity, it is appropriate to proceed with the application of a surface fixing primer.

GLUE

The application of the adhesive must be realized on the back of the panel (the part with the rigid crust is the one that must remain external and receive the final finishing and smoothing); use a notched trowel (teeth of 6-8 mm) and, by applying an appropriate pression, lay the adhesive evenly on the entire surface of the panel. The adhesive must not penetrate the joints, but if it does, they must be filled with the same insulating material to prevent the formation of thermal bridges and possible cracks.

No air must circulate between the insulation panel and the support; hence the insulating panel must be fixed to the support in an even way, applying the adhesive on the entire surface of the panel itself. To guarantee a better adhesion, it is possible to apply a layer of adhesive on the support too (use the same notched trowel).

Afterwards, apply the panel on the support, carefully making sure that every area adheres properly (if necessary, use a trowel to beat the surface of the panel); verify the perfect adhesion and flatness with the use of an aluminum straight edge.

DOWELS

The insulating slabs must be mechanically fastened using dowels.

The dowel installation diagram and number of dowels varies according to the type of wall, but at least 6 plugs per square meter must be installed.

The choice of the appropriate dowel will depend on the length and type of the support.

The length of the plugs will depend on the anchor depth, on the thickness of the old plaster, the glue and the insulating material.

The plugs must be installed after the hardening of the adhesive, carefully maintaining a minimum distance of 15 cm from the corners of the panel.

Use exclusively DIPK Fischer dowels or similar ones.



SMOOTHING

The same product used for gluing the panel, can be used for the smoothing process. This step necessarily requires 2 coats.

- The first coat amounts to 2/3 of the total final thickness and must be applied with a 5mm American notched trowel.
- After the first coat, the reinforcing mesh, which is a fundamental element to prevent the creation of cracks between the joints of a panel and the other, must be applied
- The second layer must be applied with a smooth spatula
- We recommend applying at least 1.5 Kg per mm of thickness.

REINFORCING MESH

Fiberglass mesh is used to prevent cracks which could be appear in the facade due to the mechanical forces and heat fluctuations that it must endure. This also is useful to prevent cracks between the joints of the panels.

The fiberglass mesh will have to be treated with a primer, which involves a treatment to protect it against the alkalis contained in the smoothing product which could damage it.

It must also have a good weight, between 160-220 g/m². The net should be placed in the outer third of the shaving layer. The inner corners of architraves-intrados must be armed with strips of net in addition to all the corners of the openings, in which a special edge protector must be placed.

PRIMER/FIXATIVE

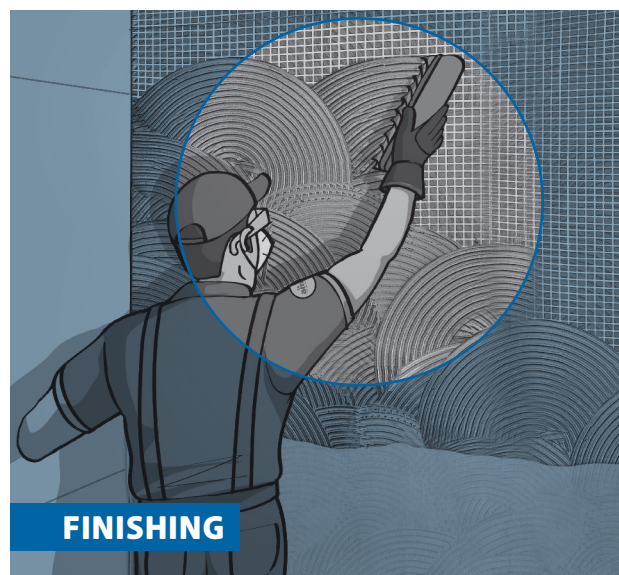
Using a primer/fixative prepares the surface - which will then be covered with the finishing coat - and makes it uniform, with the aim of avoiding color irregularities due to different reactions between materials and/or different absorption capacities.

FINISHING

The system must be protected from the weather with thick finishing coats or by painting.

Various types of products are available on the market: silica, siloxane, acrylic, vinyl, quartzes, etc.

Among this variety of alternative products, we always recommend using the best ones in terms of quality and breathability.



AEROGIPS

Aerogips is a panel designed for the interior thermal insulation of building structures which require maximum level of insulation in the least possible space.

Aerogips is a high-performance insulating panel made of a nano-technological insulator, composed of Aerogel coupled with a sheet of high-density plasterboard for excellent heat-acoustic comfort.

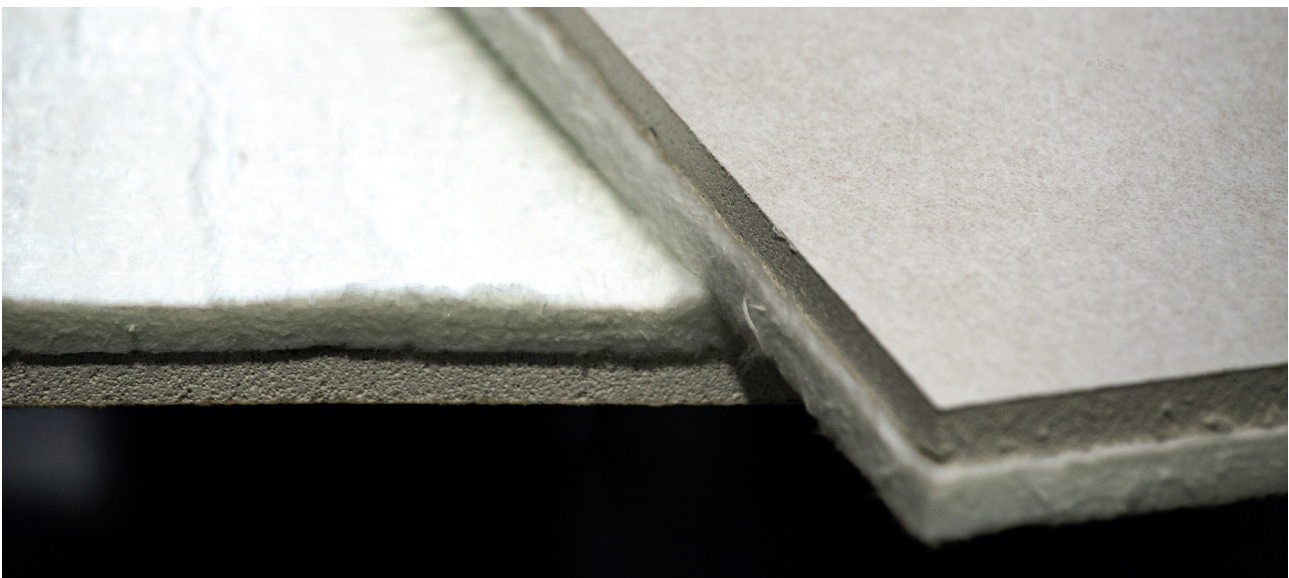
Aerogips has been designed for the energy requalification of existing buildings, for recovery and renovations where internal interventions are necessary to safeguard living spaces. It also allows to design new walls in all buildings where dry systems and lightweight walls are used.

Aerogips is suitable for both vertical partitions and false ceilings. With a thickness of only 16 mm (insulator and

slab) and a heat conductivity of 0.015 W/mK, Aerogips allows to reduce energy dispersion and recover space in building, residential, and commercial applications.

Aerogips uses coated plasterboard panels with 9.5 mm thickness and is available in different thicknesses and sizes. It is also available in different technical variants: standard, with vapor barrier, water repellent, water repellent with vapor barrier.

Aerogips is the best product for internal renovations, building recovery and historical buildings subject to architectural constraints and wherever a greater living comfort is required, significantly reducing the time and cost of installation.

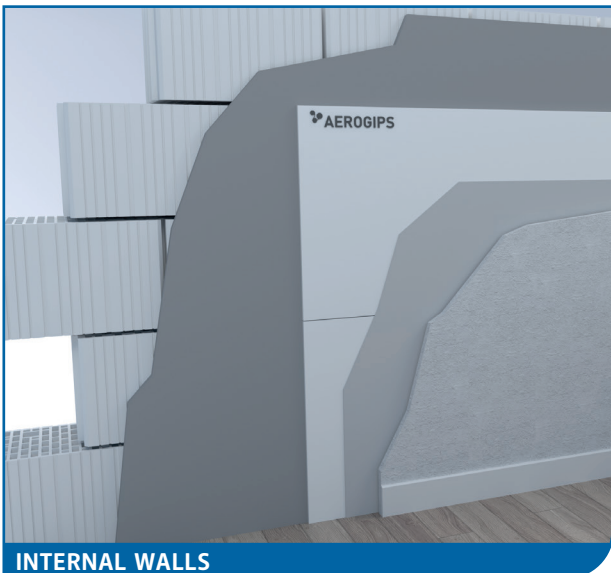


TECHNICAL DATA	VALUES	UoM	TEST METHOD
Panel size	1400x720	mm	
Thicknesses	6/10/20/30/40/50/60	mm	
Plasterboard thickness	9.5	mm	
Thermal conductivity (λ) at 10 °C	0.015	W/mK	EN 12667
Thermal conductivity (λ 90/90)	0.016	W/mK	EN 13162
Water vapor permeability (μ)	10	g/smPa	EN 10465 - 2008
Temperature limits	-90 +90	°C	
Compression resistance (10% deformation)	80	KPa	EN 826
Specific heat	1,000	J/kgK	ASTM E 826
Nominal density	11.00	kg/m ³	
Fire reaction class	A2 S ₁ D ₀		EN 13501-1
Color	Grey/White		
Border finishing	Cut		
Corrosion 60° C/95% U.R./24h	0		

INTERIOR CLADDING TECHNICAL SPECIFICATION

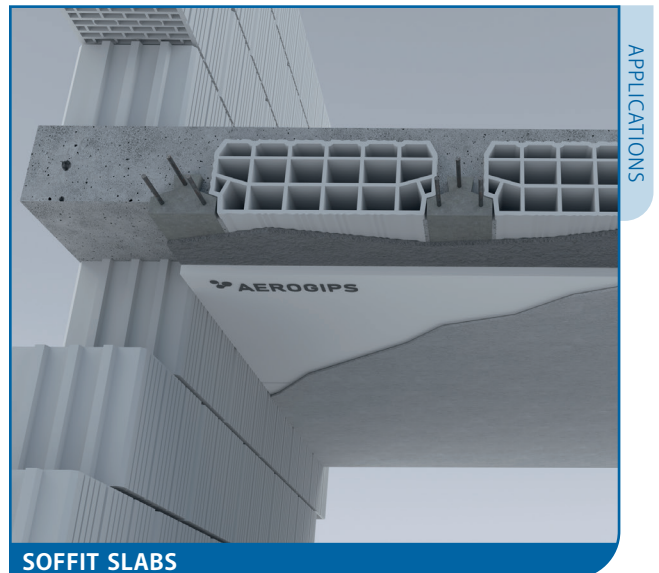
Realization of internal thermal insulation, for vertical and horizontal surfaces, such as walls, floors, ceilings or similar, consisting of a pre-coupled rigid panel, formed by a layer of silica Aerogel reinforced with glass fibers (felt), of the Aerogips type, water repellent and breathable, coupled with a sheet of coated plasterboard, supplied in 1400x720 mm panels, with a total nominal thickness of 16 mm (or in panels with 20mm, 30 mm, 40 mm, 50 mm, 60 mm thickness) with a thermal conductivity of 0.016 W/mK, heat re-

sistance R_d equal to 0.63 m²K/W per cm of thickness, temperature of use between -90°C / +90°C, fire reaction Euro class A2 S1D0, impermeable to surface water and/or immersion with water contact angle not below 150°, finished with careful grouting of joints, installed on flat, vertical or horizontal surfaces, after gluing by double-buttering, and installation on smooth, dry, dust-free and perfectly intact surfaces, free of any sharp roughness.



APPLICATIONS

INTERNAL WALLS



APPLICATIONS

SOFFIT SLABS

AEROGIPS GF

Aerogips GF is a panel designed for the interior thermal insulation of building structures which require maximum level of insulation in the least possible space. Aerogips GF is a high-performance insulating panel made up of a nano-technological insulator, consisting of Aerogel coupled with a sheet of high-density coated plasterboard for excellent heat-acoustic comfort.

Aerogips GF has been designed for the energy requalification of existing buildings, for recovery and renovations where internal interventions are necessary to safeguard living spaces. It also allows to design new walls in all buildings where dry systems and lightweight walls are used. It is also available in different technical variations: standard, with steam barrier, hydro repellent, hydro repellent with steam barrier.

Aerogips GF is suitable for both vertical partitions and for false ceilings. With a thickness of only 16 mm (isolator and slab) and heat conductivity of 0.015 W/mK, Aerogips GF allows to reduce energy dispersion and recover space in residential and commercial building applications. Aerogips GF uses fiber-reinforced plaster panels with 10 mm thickness and is available in different thicknesses and dimensions.

Aerogips GF is the best product for internal renovations, building recovery and historical buildings subject to architectural constraints and wherever a greater living comfort is required, significantly reducing the time and cost of installation.

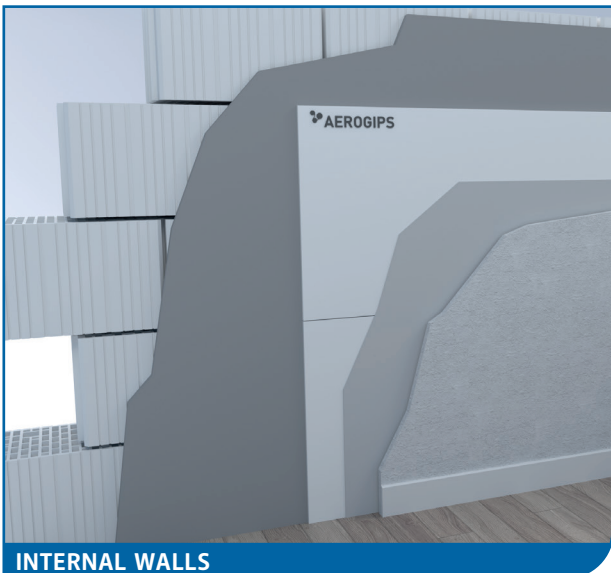


TECHNICAL DATA	VALUES	UoM	TEST METHOD
Panel size	1400x720	mm	
Thicknesses	6/10/20/30/40/50/60	mm	
Plasterboard thickness	10	mm	
Thermal conductivity (λ) at 10 °C	0.015	W/mK	EN 12667
Thermal conductivity (λ 90/90)	0.016	W/mK	EN 13162
Water vapor permeability (μ)	10	g/smPa	EN 10465 - 2008
Temperature limits	-90 +90	°C	
Compression resistance (10% deformation)	80	KPa	EN 826
Specific heat	1,000	J/kgK	ASTM E 826
Nominal density	11.00	kg/m ³	
Fire reaction class	A2 S ₁ D ₀		EN 13501-1
Color	Grey/White		
Border finishing	tagliato		
Corrosion 60° C/95% U.R./24h	0		

INTERIOR CLADDING TECHNICAL SPECIFICATION

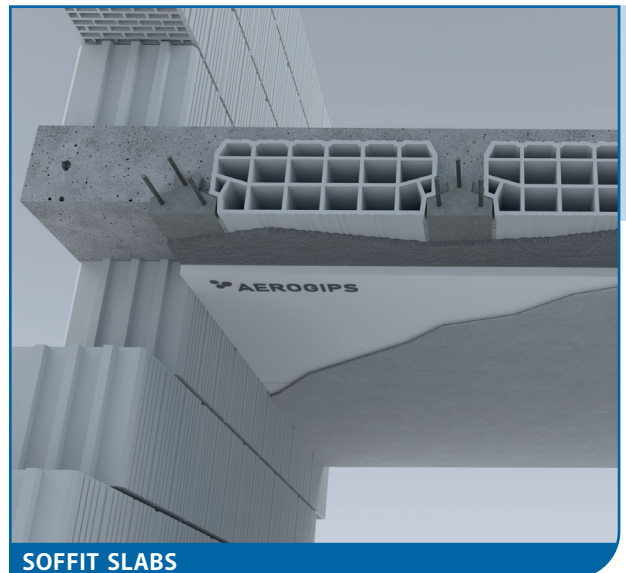
Realization of internal thermal insulation, for vertical and horizontal surfaces, such as walls, floors, ceilings or similar, consisting of a pre-coupled rigid panel, formed by a layer of silica Aerogel reinforced with glass fibers (felt), of the Aerogips GF type, water repellent and breathable, coupled with a sheet of fiber-reinforced plaster, supplied in 1400x720 mm panels, with a total nominal thickness of 16 mm (or in panels with 20mm, 30 mm, 40 mm, 50 mm,

60 mm thickness) with a thermal conductivity of 0.016 W/mK, heat resistance R_d equal to 0.63 m²K/W per cm of thickness, temperature of use between -90°C / +90°C, fire reaction Euro class A2 S1D0, impermeable to surface water and/or immersion with water contact angle not below 150°, finished with careful grouting of joints, installed on flat, vertical or horizontal surfaces, after gluing by double-buttering, and installation on smooth, dry, dust-free and perfectly intact surfaces, free of any sharp roughness.



APPLICATIONS

INTERNAL WALLS



APPLICATIONS

SOFFIT SLABS

AEROGIPS INSTALLATION

PREPARATION OF THE SUPPORT

The gluing of Aerogips can be done only on walls that are exempt from traces of dust, moisture and grease. In case of very porous surfaces, e.g. visible brickwork, it will be appropriate to wet the surface or to apply a coat of a special treatment with water dispersion resins to prevent the subtraction of water from the glue before the adhesion. Smooth surfaces, e.g. concrete walls or prefabricated manufactures obtained with a metal formwork, must be treated with a special gripping basecoat made of quartz powder. Plastered masonry with hydraulic mortar without a treatment of superficial finishing must be probed on the entire surface to individuate cavities and eventual areas detached from the plaster, which will have to be removed and restored.

The surface will therefore be treated with an insulating or wet basecoat.

Generically covered walls must be stripped of the coating in correspondence of the sticking points to proceed with the gluing directly on the brickwork.

GLUING OF THE PANELS

To fasten the Aerogips panels, use glues composed of Knauf Perlifix gypsum or similar, or polyurethane low-expansion foams like Fasterfix Dakota, which must be prepared following the personal instruction of use. Always verify, in any case, that the chosen adhesive is suitable for the support on which Aerogips should be installed. Using a notched trowel (teeth of 6-8 mm), create a full installation bed by applying the adhesive on the entire surface of the panel on the side of the insulating material. Indicative amount of gypsum-based adhesive 4/6 kg/m².

APPLICATION OF THE PANELS

Trace on the floor and on the ceiling the finished wire of the external surface and lay on the ground, against the wall to be covered, a possible separative tape to detach the slabs from the floor and the ceiling. Lean the Aerogips slabs against the wall, which will be placed higher in relation to the floor. The slabs must be struck with light strokes of the hand or by means of a metallic ruler of suitable length to obtain the perfect alignment to the floor and the ceiling. Carefully pull the adjacent panels together to prevent the leakage of the adhesive mortar and thus eliminate thermal and/or acoustic bridges. Wait for the grip of the adhesive and then proceed with the application of the mechanic fastening, installing 5 plugs every square meter; proceed with the sealing and grouting of the joints.



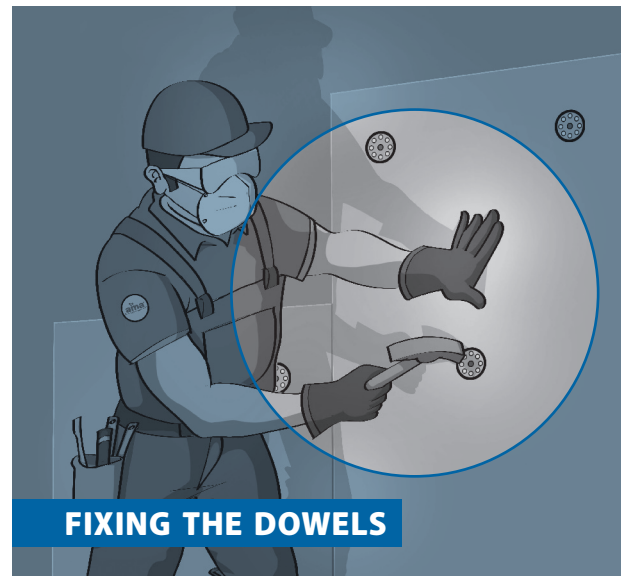
GROUTING OF THE PANELS

The grouting of the seams must be done with the use of suitable grout (such as Fugenfüller Leicht by Knauf) and joint-covering tape of micro-perforated paper, which gives an adequate mechanical resistance to grouting by absorbing the tensions exercised on the joints due to micro-movements of the support, shocks and mechanical stress, induced or due to stress of hydrothermal nature. Distribute an even and abundant coat of smoothing grout for the joints along the edge of the panels until reaching the level of the panel surface.

Lay the tape with micro-perforated reinforcement mesh with the rough side facing the panel, centered in the middle of the joint; apply adequate pressure with the spatula to remove the excess grout under and to the sides of the tape, carefully avoiding the formation of air bubbles. Before proceeding with the second and third coat, it is advisable to ensure that the previous coat has adhered and is completely dry, so that any withdrawal phenomenon is finished.

After drying, verify that there aren't any imperfections or micro-irregularities along the grouted joint. Apply the second layer of grout, which will extend to a width sufficient to bring the grouted surface on the same level of the hard-board surface.

Wait again for it to be completely dry before proceeding with the sanding if necessary and then the third finishing coat, which will be very thin. Trim the excess protruding from the tape and proceed with the finishing just like a normal wall made of coated plaster slabs. Indicative amount of stucco 0,4/0,5 kg/ m².

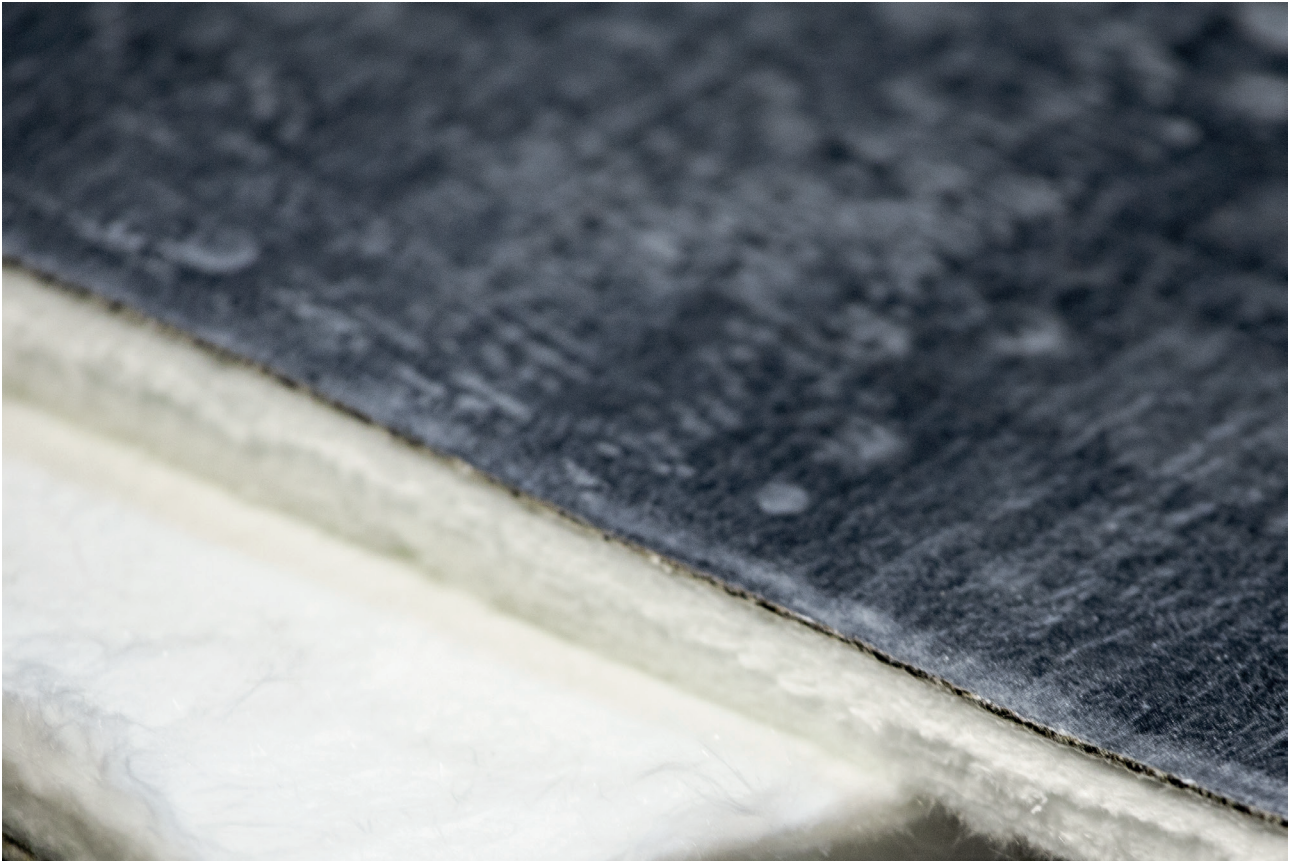


AEROPROOF

Aeroproof is a panel designed for the thermal insulation and the preparation of the support for the subsequent waterproofing of all types of flat and pitched roofs, for civil and industrial buildings.

Aeroproof is a high-performance insulation panel made of a nano-technological insulator, composed of Aerogel coupled with a bituminous membrane, which guarantees excellent heat insulation, compression resistance, dimensional stability and a first waterproof layer.

Aeroproof is suitable for being subsequently flamed to allow the application of the next layers of bituminous sheathing. The Aeroproof panels are usually installed on the roof by gluing or mechanical fastening; once the installation is completed, by flame tempering the underlying sheath, the waterproofing process will be completed through the application of one or more layers of bituminous membrane, normal of self-protected.

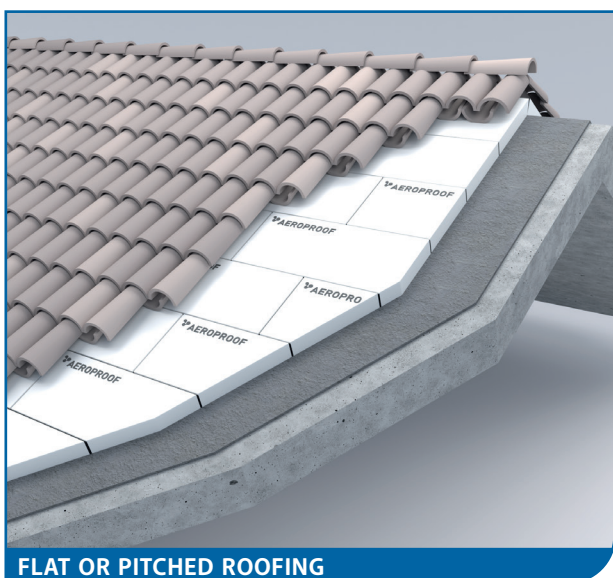
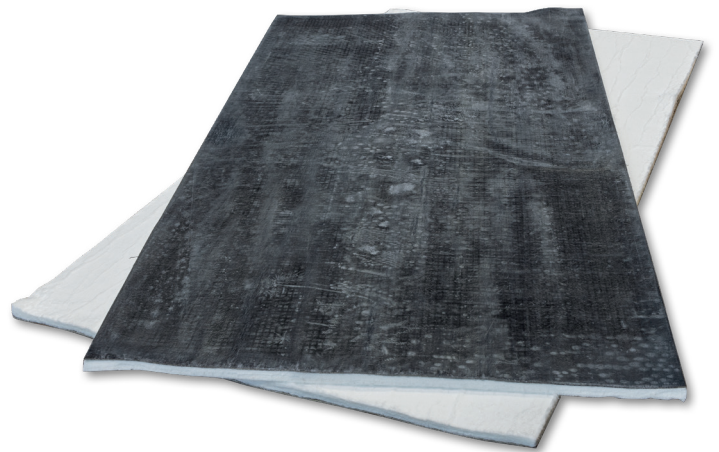


INSULATION TECHNICAL DATA	VALUES	UoM	TEST METHOD
Panel size	1400x720	mm	
Thicknesses	10/20/30/40/50/60	mm	
Thermal conductivity (λ) at 10 °C	0.015	W/mK	EN 12667
Thermal conductivity (λ 90/90)	0.016	W/mK	EN13162
Water vapor permeability (μ)	0.05	g/s ² /24h	DIN EN ISO 12572
Temperature limits	-90 +90	°C	
Compression resistance (10% deformation)	80	KPa	EN 826
Specific heat	1,000	J/kgK	ASTM E 826
Nominal density	1,600	g/m ³	
Fire reaction class	A2 S ₁ D ₀		EN 13501-1
Long-term water absorption by partial immersion	Wp ≤ 0.01	kg/m ²	EN 1609
Color	Grey/White		

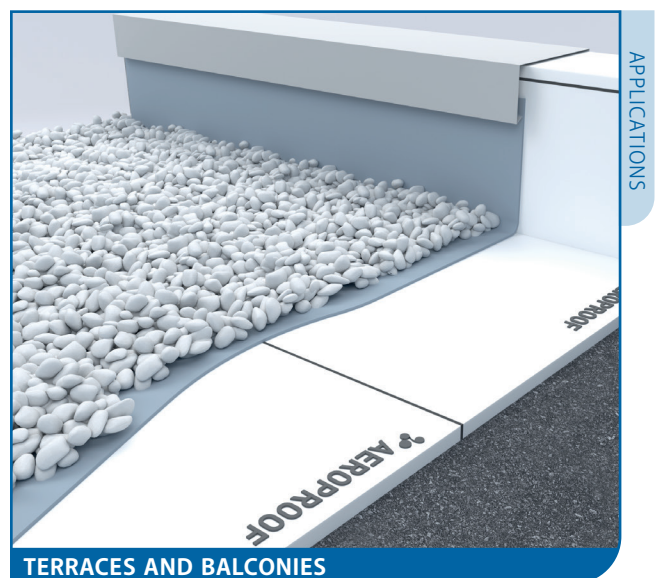
MEMBRANE TECHNICAL DATA	VALUES	UoM	TEST METHOD
Reinforcement mesh	Glass fiber tissue		
Weight	2	Kg/m ²	EN 1849-1
Thermal conductivity (λ) at 10 °C	0.2	W/mK	EN 12667
Water resistance	60	KPa	EN 1928-B
Low temperature flexibility	-25	°C	EN 1109
Tensile elongation	2%		EN 12311
Thermal capacity	3.90	KJ/K	
Water vapor permeability	100,000	g/m ²	
Fire reaction class	E		EN 13501-1
Color	Black		

FLAT OR PITCHED ROOF WATERPROOFING TECHNICAL SPECIFICATION

Realization of thermal insulation and waterproofing of flat or pitched roofs consisting of a pre-coupled, semi-rigid panel, formed by a layer of silica Areogel reinforced with glass fibers (felt), of the Aeroproof type, water repellent and breathable, paired with a bituminous sheath reinforced with fiberglass tissue weighing 2 Kg/m², supplied in 1400x720 mm panels, for a total nominal thickness of 10 mm (or in panels with 20 mm, 30 mm, 40 mm, 50mm, 60 mm of thickness), thermal conductivity 0.016 W/mK, heat resistance Rd of 0.63 m²K/W per cm of thickness, working temperature between -90°C / +90°C, impermeable to surface water and/or to immersion with water contact angle not below 150°, installed on flat, horizontal or pitched surfaces after preparation of the laying surface, laying of the panel and vapor barrier or self-levelling, with a 4 cm minimum thickness and reinforced with the appropriate mesh or fibers.



FLAT OR PITCHED ROOFING



TERRACES AND BALCONIES

AEROPROOF APPLICATION

VERIFY THE STATE OF THE EXISTENT SUPPORT

Check the flatness of the surfaces and ensure the evenness of possible significantly irregular differences in height.

Check and guarantee the continuity and the sealing of any expansion joints.

For particularly dusty surfaces, apply a primer coat.

LAYING OF THE PANELS

Proceed with the laying of the panels preferably with staggered joints, with the longest side parallel to the gutter line and transversal to the slope line.

In case of roofing with a visible waterproof coat, it will be appropriate to prevent that the seam between the panels coincides with any discontinuities in the laying surface (ex. Joints between tiles and prefabricated ceilings).

The membranes must always be placed transversally to the direction of laying/offsetting of the panels and longitudinally to the slope direction of the coverture.

The herringbone laying of the panels is also possible, which allows the laying of the sealing element in both directions.

For a more precise description of the laying methods see the norm UNI 11442.

FIXING

In applications on roofing, specifically under visible waterproof membranes, it is important that the insulation coat is appropriately fixed to the structure.

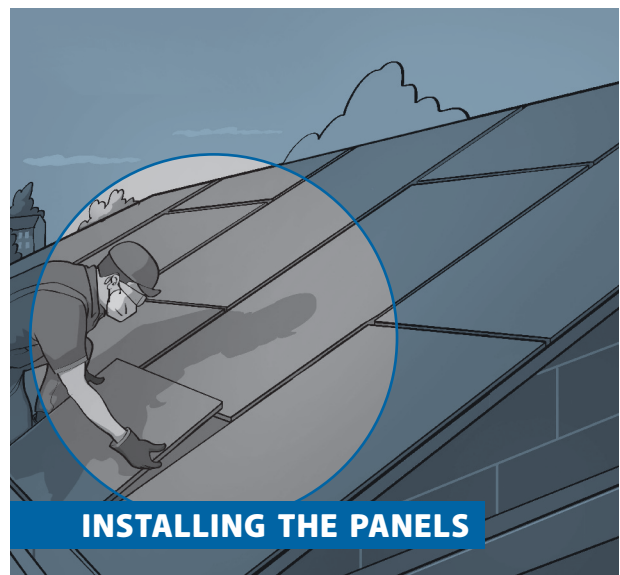
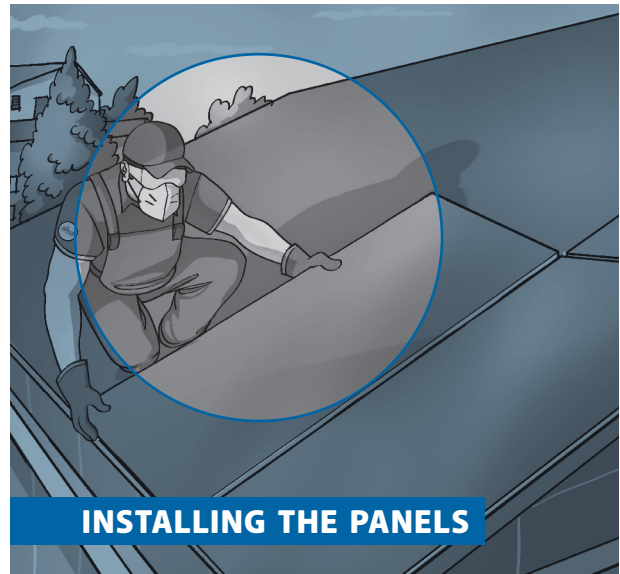
In case of visible impermeable systems, the adhesion between the panel, vapor barrier and structure must be always higher, or at least equal, to the one between the panel and the waterproofing membrane.

The AEROPROOF panels can be fastened with different methods depending on the applicative conditions and the type of coating used.

ADHESION: ADHESIVE OR POLYURETHANE FOAM.

Using polyurethane adhesives or one-component foams in cans, form a series of continue curbs distanced of approximately 15 cm.

Then, lay the panel and exercise an adequate pressure.



MECHANIC: THROUGH DOWELS OR OTHER FIXING ELEMENTS.

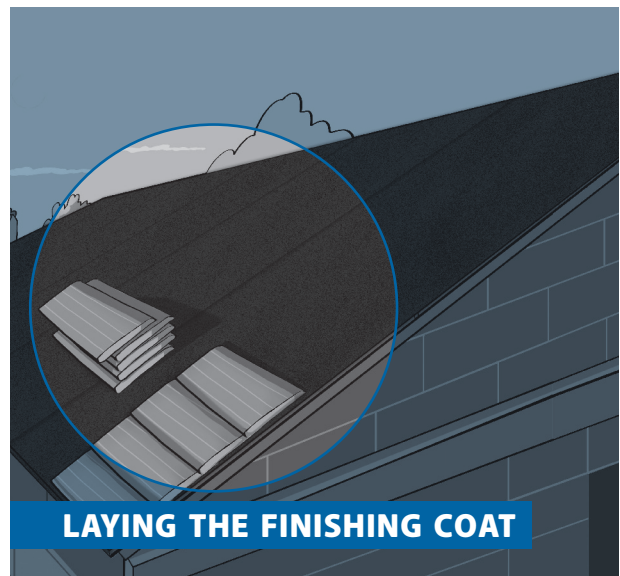
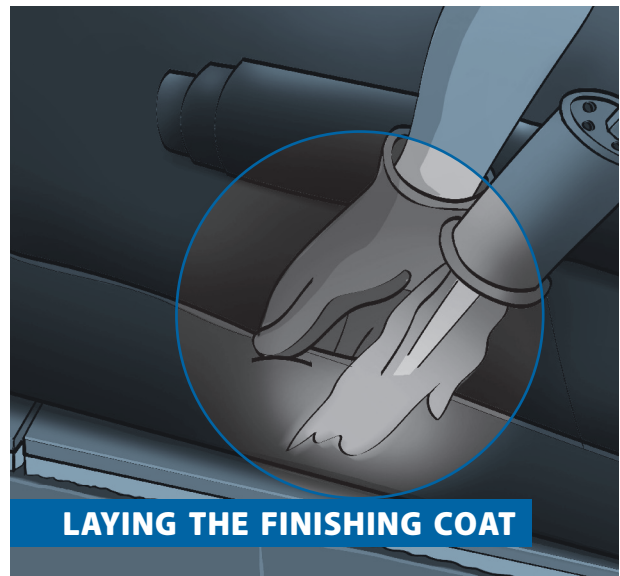
For the correct sizing of the fixing points please refer to the indications of the norm UNI 11442. Place the dowels on the corners, at a distance of at least 100 mm from the border and at least two central dowels.

The fixing methods, dowels, screws, self-tapping screws, nails, etc. depends on the type of support.

For the use of dowels, it is recommended to have a washer with a useful surface $\geq 30 \text{ cm}^2$ and, in the case of heat-applied waterproof coats, made of materials which are resistant to the temperature required by the application.

LAYING THE FINISHING COAT

After laying the panels and fixing them, proceed with the hot application of the finishing coat (reinforced membrane) transversally to the direction of the laying of the panels.



AMAGEL A2

Amagel A2, represents a new important step in the development of the nanotechnological insulation products made of siliceous Aerogel.

It's composed of an insulant flexible matrix of glass fibers and a high concentration of nanoporous Aerogel. This combination guarantees the best thermal performance in every applicative situation.

In the search for maximum thermal protection, Amagel A2 stands as an essential insulant for its unique properties: extremely low thermal conductivity – 0,015 W/mK – higher flexibility, pressure resistance, hydrophobicity, and ease of use. Amagel A2 can be used in a temperature range between -50°C and +450°C.

Amagel A2, available in thicknesses ranging from 3 to 60 mm, allows to optimize internal spaces for applications in residential and commercial buildings, guaranteeing the highest values of thermal resistance at the same thickness of conventional insulation materials.

Its use allows obtaining important results in complex situations, like insulating windows or portions of the roof, guaranteeing an actual improvement in the total energy efficiency of the building with excellent thermal and acoustic results.

Thanks to the highest R values per unit of surface compared to any insulation material, Amagel A2 is the ideal coating for the highest energy efficiency in the construction of dry walls, under floors, roofs, counter frames, and window frames.

Unlike rigid and preformed insulators, AMAGEL A2 adapts perfectly to any shape or design: the mattress is soft and flexible, physically sturdy but with an excellent recovery of the design shape and performance even after any phenomena of compression under load.

Its specific composition guarantees the best fire resistance performance (Euroclass A2), therefore allowing the installation in severe conditions or where a higher-level performance is required.

TYPES AND SIZES

AMAGEL A2 is available in 2 different sizes for applications which require an extremely low level of dustiness, typical of the products made of Aerogel.

- AMAGEL A2 roll available in of 3, 6 and 10 mm of thickness
- AMAGEL A2 panel available in 10mm, 20 mm, 30 mm, 40mm, 50mm and 60mm of thickness.

THERMAL INSULATION TECHNICAL SPECIFICATION

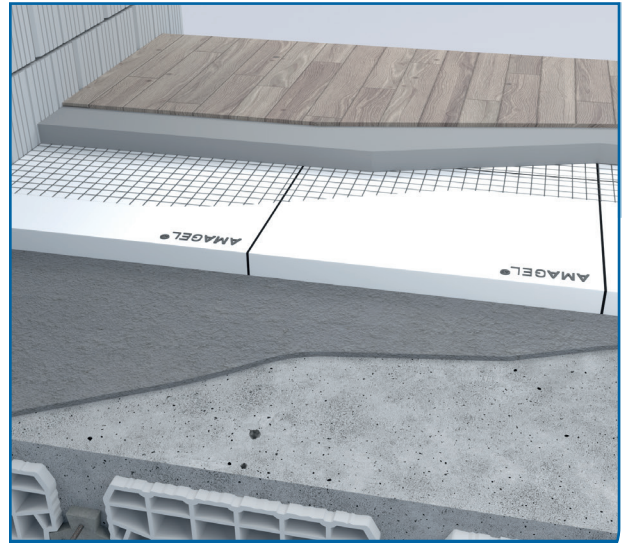
Realization of panel-based thermal insulation, made from silica Aerogel reinforced with partially- recycled glass fibers (felt) and compliant with CAM, certified according to ISO14021:2016, of Amagel A2 type, water repellent and breathable, supplied in panels with a nominal thickness of 10/20/30/40/50/60 mm, with a volumetric density of 200 kg/m³, a thermal conductivity of 0.016 W/mK, a temperature of use between -50 °C/ +450, fire reaction Euroclass A2 S1D0, permeable to vapor diffusion (Sd= 0,07), impermeable to surface water and/or to immersion with water contact angle not below 150°, certified in A+ Class for VOC emissions.

CE certified product according to ETA 20/0562 of 16/07/2020. Suitable for use in dry applications, cavities, roofing, under screed applications and for the thermal insulation of complex surfaces.



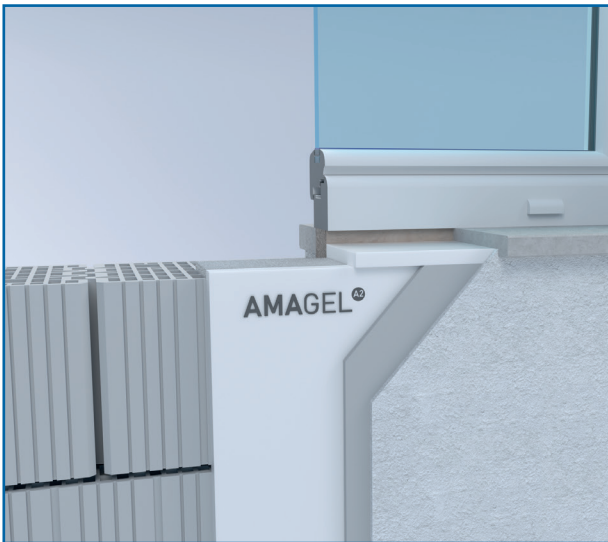


Amagel A2 has obtained the CE certification which certifies compliance with all energy and performance requirements of the European Union and the fulfilment of the highest standards of quality and safety.



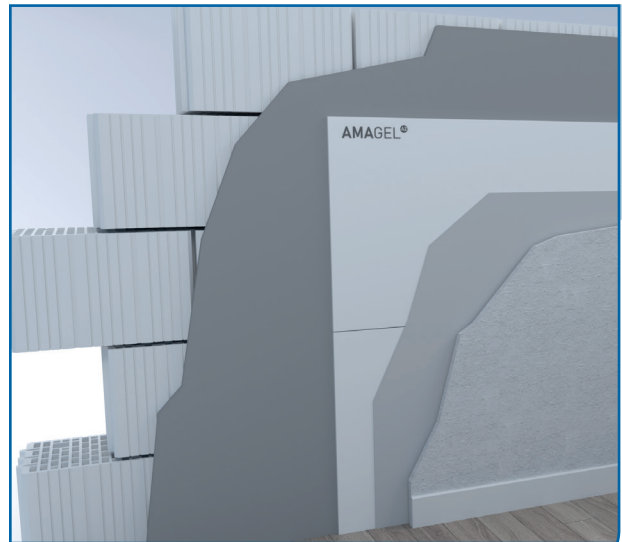
APPLICATIONS

FLOOR SLABS



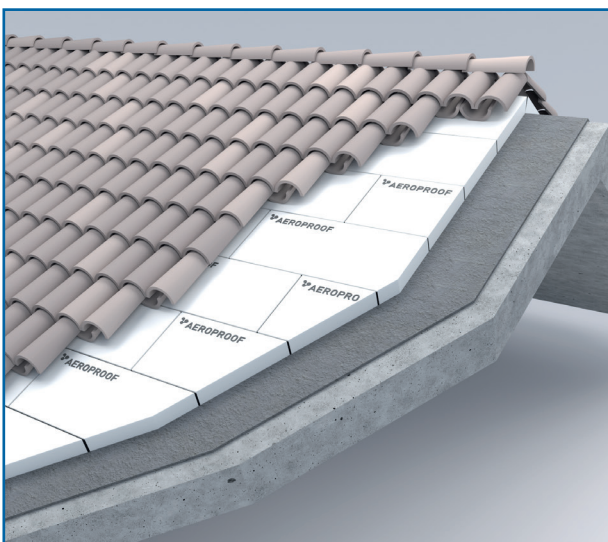
APPLICATIONS

THERMAL BRIDGES



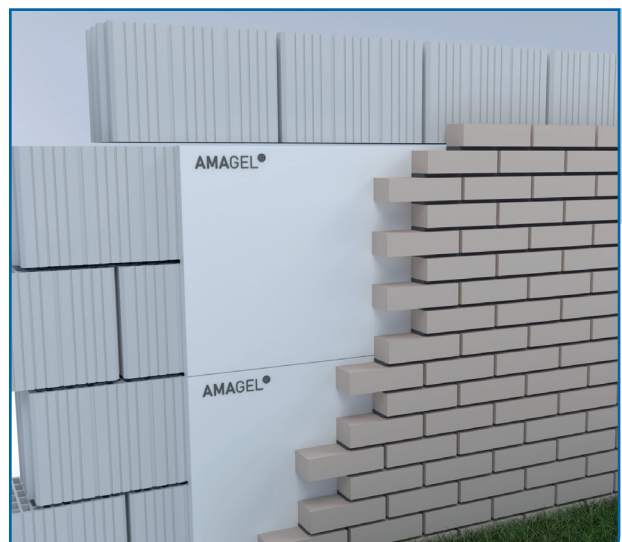
APPLICATIONS

INTERNAL WALLS



APPLICATIONS

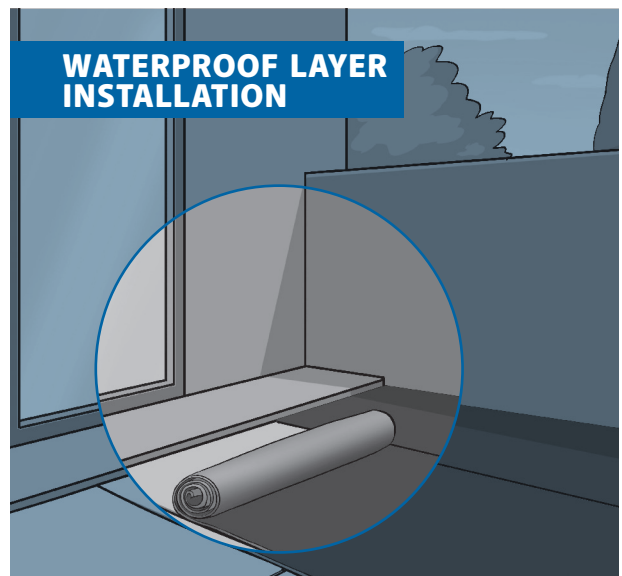
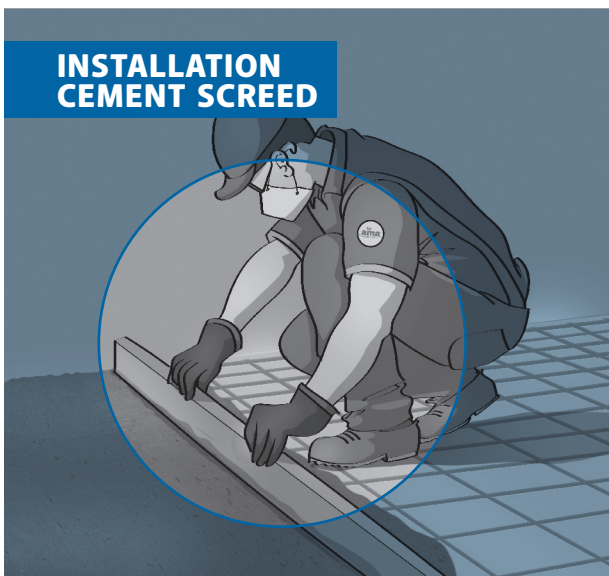
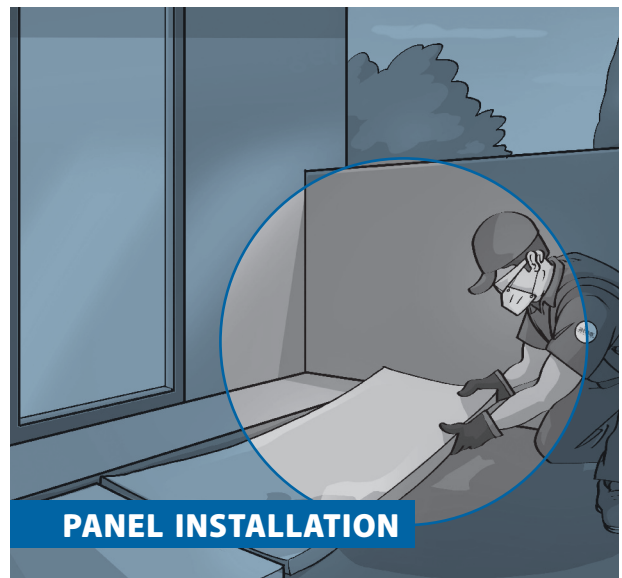
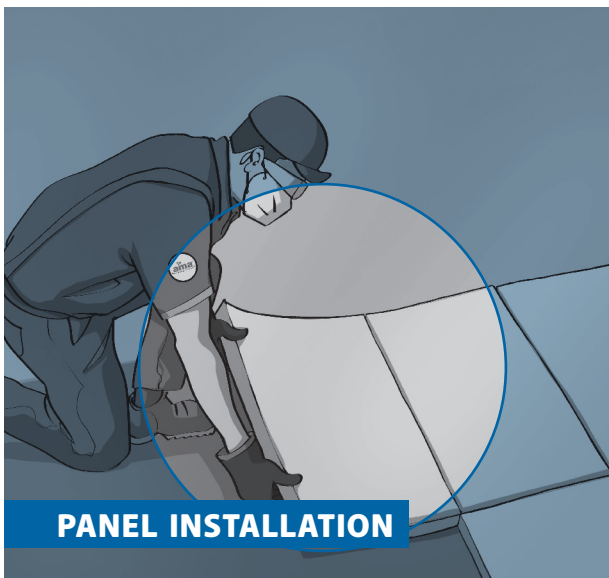
ROOFING



APPLICATIONS

CAVITY WALLS

TECHNICAL DATA	VALUES	UoM	TEST METHOD
Roll thicknesses	3/6/10	mm	
Panel thickness	10/20/30/40/50/60	mm	
Thermal conductivity (λ) at 10 °C	0.015	W/mK	EN 12667
Thermal conductivity (λ 90/90)	0.016	W/mK	EN 13162
Water vapor permeability	0.07	m	EN 12667
Temperature limit	-50 +450	°C	
Compression resistance (deformation 10%)	30	KPa	ASTM 165
Specific heat	1,000	J/kgK	ASTM E 826
Nominal density	200	kg/m ³	
Fire reaction class	A2 S ₁ D ₀		EN 13501-1
Dimensional Stability	<1%		EN 1604
Perpendicular tensile strength	>17	KPa	EN 1607
Concentrated load resistance	>2550	N	EN 12430
Color	White		



AMAGEL A2 *INSTALLATION*

- under screed application
- roofing application
- cavity wall application
- internal wall insulation application

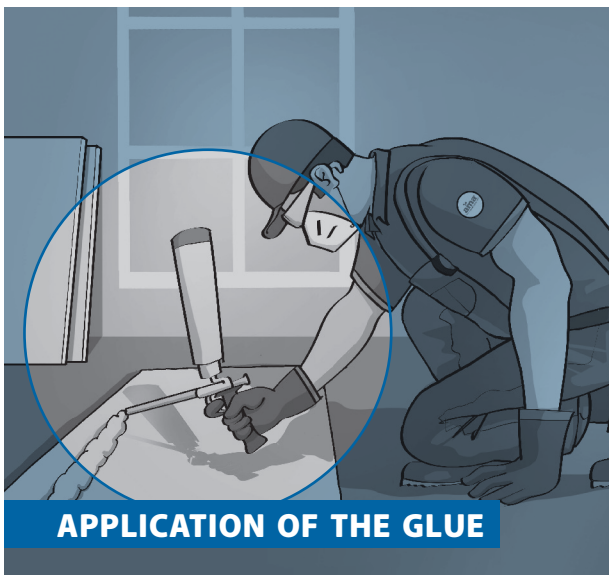
UNDER SCREED

Before laying the insulation, make sure that the laying surface is completely clean, free from any roughness and/or unevenness, and significant height differences.

Proceed with the application of the panels with staggered joints to cover the entire surface, including the vertical turn-up on the walls for a height not below the final height of the works (screed and flooring).

When necessary, it is possible to proceed with the application of a layer of polyethylene to protect the panel.

Then, proceed with the laying of the cement screed with at least 40 mm of thickness, reinforced with the appropriate mesh, and the subsequent installation of the finishing flooring.



ROOFING

Before installing the insulator, check that the installation base is totally clean, free from any roughness and/or unevenness, and significant height differences.

Proceed with the installation of the panels with staggered joints to cover the entire surface, with the long side parallel to the gutter line.

For a thorough understanding of the installation methods, it is possible to analyze in detail the UNI 11442 norm.

In this type of applications, the insulation panel must be properly secured to the base, through bonding, mechanical fastening or both solutions.

In case of flat roofing, proceed with the application of the screed with at least 40 mm of thickness, reinforced with the appropriate mesh, and the subsequent laying of the finishing flooring and/or waterproofing layer.

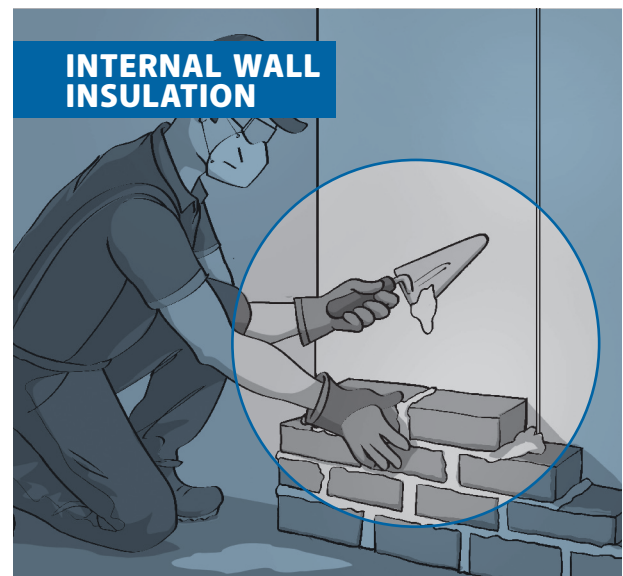
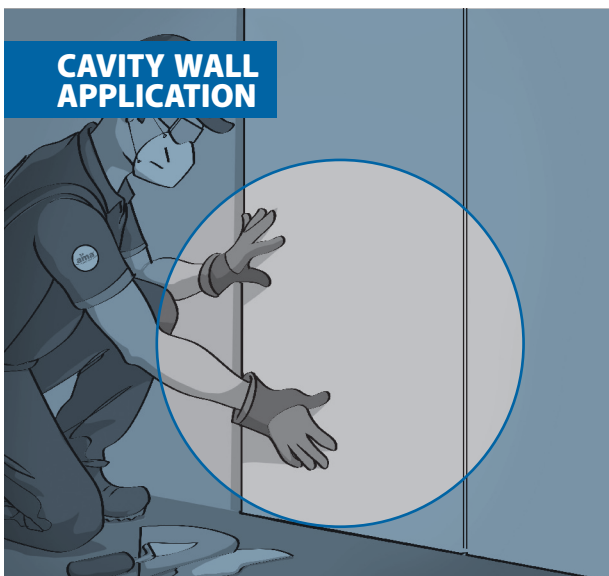
CAVITY WALL OR INTERNAL WALL INSULATION

Before installing the insulator, check that the installation base is totally clean, free from any roughness and/or unevenness, and significant height differences; otherwise, it is possible to regularize the base with the application of a smoothing product or a rough cast.

Proceed with the installation of the panels with staggered joints to cover the entire surface.

The insulation panel must be adequately secured to the base, through bonding, mechanical fastening or both solutions.

Proceed with the internal wall insulation; it is possible to create the wall cladding in adhesion to the wall or leave an air cavity.





AMA ADVANCED MATERIALS
Via della Resistenza, 60
42018 San Martino in Rio
Reggio Emilia - Italy

Tel. +39 - 0522 - 636304

Fax +39 - 059 - 5221161

www.aeropan.it

info@aeropan.it