GENERAL CATALOGUE 2017

ama® NANOTECH

AEROPAN
NANOTECH THERMAL INSULATION

The **AMA international group** grew up around AMA spa, which was set up in 1967 by Luciano Malavolti (who is still group president) to ensure the availability of accessories and spare parts for farming and gardening machinery.
With its 11 production facilities and 14 distribution subsidiaries in major European countries, over 1,000 employees in 20 different countries and a range of over 100 thousand articles, the AMA group is currently able to supply component parts and equipment for assembling and servicing slow-moving farm and greenery maintenance vehicles.

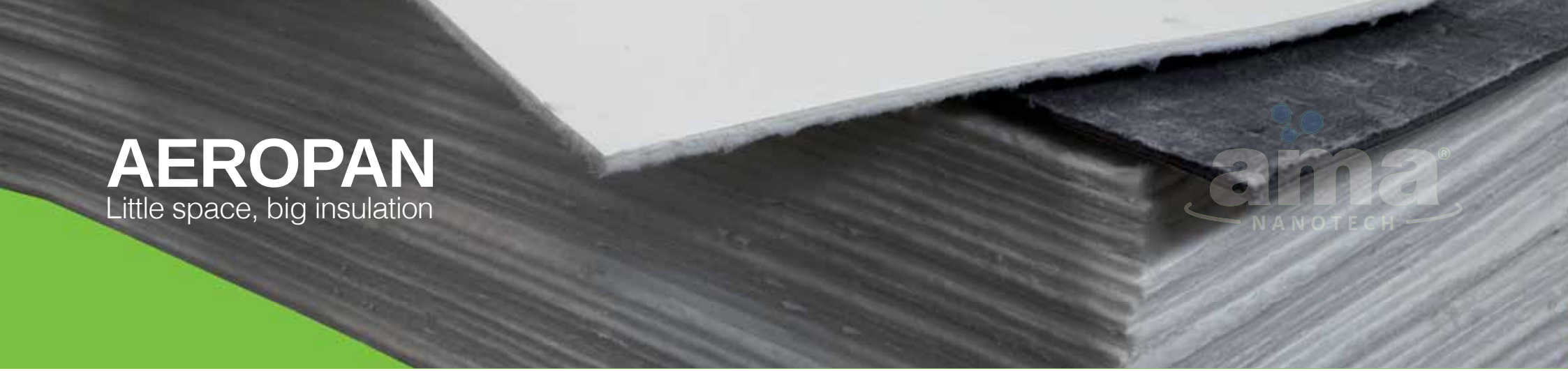
AMA includes **AMA NANOTECH**, belonging to the AMA COMPOSITES division – based in Campogalliano (MO) - **design, structuring and development for the Building & Construction sector.**

To better comply with increasingly more stringent regulations in the field of sustainable development and home-living well-being, AMA NANOTECH has designed a range of products with one-of-a-kind and innovative technical-performance characteristics. Besides the line of nano-technological insulating products in Aerogel - in rolls or panels - AMA NANOTECH has recently extended its range of B&C solutions with the THERMOGEL PAINT paint line. These are heat-reflecting paints containing Aerogel and other top-quality nano-technological components, without the use of glass or ceramic micro-spheres, which block the dispersion of energy through walls, drastically reducing thermal bridges and preventing any mould/mildew without using chemical additives.

AEROGEL
a few more details

Aerogel are substances we encounter in our everyday lives! Take for instance the meringues which pastry cooks have been preparing since time immemorial: meringue consists of whipped egg white and sugar and when baked, a feeling of heat is immediately noticed.
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 the amorphous silica Aerogels, the air contained in the meringues cannot therefore circulate and exchange heat and this way it becomes an excellent heat insulator.
The first Aerogel molecules date back to 1931, the year Steven Kistler of the College of the Pacific at Stockton in California discovered the way to dry the gel without it collapsing.
By bringing the liquid to the super-critical state, and therefore bringing both temperature and pressure to super-critical state, the pressure is gradually reduced: the super-critical fluid is then expelled by the gel without the destructive effects caused by surface tension.
What remains is an Aerogel, still 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 heat 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) – unlike crystalline silica, which can cause respiratory diseases such as silicosis.

To best use the extraordinary heat characteristics of the product, a system has been patented to be able to trap the Aerogel inside a fibrous structure, ensuring the same levels of insulation, without having to do without the easy movement and transformation of the product.
Aerogel-based products have shown themselves to maintain the same heat insulation performance even under considerable mechanical stress.
This also makes it possible to use the material in permanent and/or dynamic load conditions in total safety.



AEROPAN

Little space, big insulation

Aeropan® is a panel designed for the heat insulation of those building structures which require a higher degree of insulation in the least possible space.
It consists of a nano-technological insulation in Aerogel coupled with a polypropylene breathing membrane reinforced with glass fibre and has been designed for reduced-thickness heat insulation.
With a thickness of 10 mm - and heat conductivity of 0.015 W/mK - Aeropan® allows reducing energy dispersion and recovering 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 indispensable product for providing high levels of heat insulation both in new buildings and in the rehabilitation of older ones.
This product is ideal for application on outside perimeter walls and inside 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 historical buildings subject to architectural restraints which require top levels of living comfort.

PERFORMANCE LEVELS

Aeropan® is a semi-rigid insulating panel, made of reinforced high-density fibres, completely saturated with nano-porous Aerogel with very low heat conductivity and a PP finish reinforced with glass fibre.
With a thickness of just 10 mm, the panel is able to provide heat insulation between -200°C and + 200°C.
These features make Aeropan® very suitable for use in a range of environmental conditions, without performance levels and durability being affected in any way.

AEROPAN® TOOK PART IN THE CIP - ECO INNOVATION PROGRAMME

The CIP - Eco Innovation programme presents a consistent picture for increasing competitive edge and innovation potential within the European Union. The ECO Innovation section has promoted the spreading on the market of eco-innovative technologies and/or processes through support to pilot and first-application commercial projects.

In particular, it provides support to sustainable technologies, products and processes which can be replicated at community level, and which, in a synergic way, are able to reduce environmental impact and foster less and more efficient use of natural resources, including energy.

TECHNICAL SPECIFICATIONS

TECHNICAL DATA	VALUES	UNIT	TEST METHOD
Panel size	1400x720	mm	
Thicknesses	10 / 20 / 30 / 40	mm	
Heat conductivity (λ_D) a 10 °C	0,015	W/m·K	EN12667
Water vapour permeability	5		EN12086
Commitment limit temperature	-200 +200	°C	
Compression resistance (with 10% deformation)	80	KPa	EN826
Specific heat	1.000	J/kgK	ASTM E 1269
Nominal density	230 ± 10%	kg/m³	
Fire reaction class	C S_1 D_0		EN 13501-1
Long-term water absorption in case of partial immersion	Wp ≤ 0,01	kg/m²	EN 1609
Colour	grey-white		

HEAT RESISTANCE

THICKNESS	10	20	30	40
R (m² K/W)	0,67	1,34	2,01	2,68

OUTDOOR/INDOOR THERMAL INSULATION FINISHING

Heat insulation of the outdoor/indoor finishing system type, for vertical and horizontal surfaces, such as overhanging balconies and the like, consisting of a semi-rigid panel, made up of a layer of Aerogel silica reinforced with PET fibres (felt), of the Aeropan® type, water repellent and breathing, supplied in 1400x720 mm panels, with a nominal thickness of 20 mm, 30 mm, 40 mm) with volumetric density of 230 kg/m³, heat conductivity 0.015 W/mK, heat resistance Rd 0.67 m²K/W per cm of thickness, temperature of use between -200°C /+200°C, fire reaction euroclass CS1D0, permeable to water vapour (μ 5), impermeable to surface water and/or immersion with water contact angle of no less than 150°, extended on flat or curved surfaces, vertical or horizontal, after gluing, installed on smooth and dry dust-free and perfect integral surfaces devoid of any roughness

PERFECT INSTALLATION AEROPAN

THE FUNDAMENTAL COMPONENTS FOR PERFECT INSTALLATION

Plaster

The plaster layer is fundamental for obtaining a perfectly-level substrate. This requisite is ideal for correctly installing a system which envisages the use of a very reduced-thickness insulation.

Adhesive

It must ensure perfect adhesion over time. This is only possible if use on the worksite follows the instructions provided by the manufacturer and the job is done in a workmanlike manner. The adhesive must not penetrate the joints. If necessary, these must always be filled with the same insulating material to prevent the formation of thermal bridges and possible cracks. The insulating panel must be fastened to the substrate in a uniform way, applying the adhesive over the entire panel surface. We recommend a coverage of at least 2.5-4 Kg/m^2.

Insulating panel

AEROPAN®, has a thickness of just 10 mm and consists of a nano-technological insulation containing Aerogel with very low heat conductivity combined by die-casting with a special PP covering reinforced with very high-resistance glass fibre.

Smoothing product

For smoothing, the same product can be used as that for gluing. This step necessarily requires 2 coats.
The first coat creates 2/3 of the total final thickness and must be applied with a 5mm American toothed spatula, while the second coat must be applied with a smooth spatula. Total thickness of the two smoothing coats is 4-6 mm. We recommend a coverage of at least 1.5 Kg per mm of thickness.

Reinforcing mesh

Fibreglass mesh is used to prevent cracks which could be created in the facade due to mechanical forces and heat fluctuations. This will have to be suitably treated to protect it against the alkalis contained in the smoothing product which could break it down. It must also have a good gram weight, 160-220 g/m^2. The mesh must be positioned in the third external of the smoothing layer. The inner angles of architraves-soffits must be reinforced with mesh strips and at all opening angles a sweepback will have to be placed on the mesh.

Plug

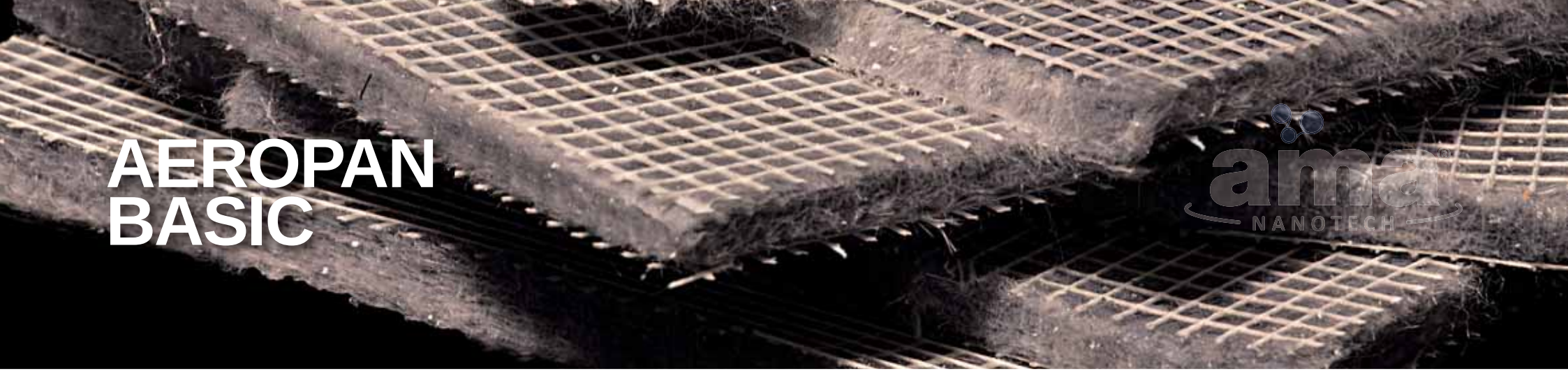
The insulating sheets must be mechanically fastened using plugs. The plugging diagram and number of plugs varies according to the type of wall, but always respecting at least 6 plugs per square metre. The choice of the correct plug will depend on the length and type of the substrate.
The length of the plugs will depend on the anchor depth, on the thickness of the old plaster, on the thickness of the glue and on the thickness of the insulating material.

Primer

Use of the primer prepares the surface and makes it uniform. This will then be covered with the finishing coat, avoiding colour irregularities due to different reactions between materials and/or different absorption possibilities.

Finish

The system must be protected against the weather with finishing coats or by painting.
Various types of products are available on the market: silica, siloxane, acrylic, vinyl, quartzes, etc. We always recommend using good-quality products with high transpiration.



AEROPAN BASIC

Aeropan Basic is a panel made using an Aerogel-based blanket.
Its flexibility characteristics and the particular two-sided finish, made up of a fibreglass mesh, make it particularly suitable for correcting thermal bridges, the heat insulation of spaces between walls (including in dry structures), or for flat application on roofs and terraces.
The panel production ensures fast and precise installation, reducing cuts and consequent material wastes on the worksite to the utmost
It can be used for the outdoor insulation of window intrados, the heat insulation of blind boxes, eliminating thermal bridges inside door and window sub frames, facing the inside radiator recesses.
Thanks to its conformation furthermore, it is suitable for insulating complex surfaces such as, for example, semi-circular or three-dimensional elements.

OUTDOOR/INDOOR INSULATION SPECIFICATION
Outdoor/indoor heat insulation, for vertical and horizontal surfaces, spaces between walls and thermal bridges, made up of a flexible panel consisting of a layer of silica Aerogel reinforced with PET fibres (felt), of the BASIC Aeropan type, water-repellent and breathing, supplied in 1400x720 mm panels, with a nominal thickness of 10 mm (or in panels with 20 mm, 30 mm, 40 mm thickness) with volumetric density of 190 kg/m^3, heat conductivity 0.015 W/mK, heat resistance Rd 0.67 m^{2}K/W per cm of thickness, working temperature between -200°C / +200°C, fire reaction euroclass CS1D0, permeable to vapour diffusion (μ 5), impermeable to surface water and/or immersion with water contact angle not below 150°, reinforced with two-sided mesh - 155 g/sq m anti-alkali to make installation on flat or curved, vertical or horizontal surfaces easier after gluing.

Make sure, installation surfaces are smooth, dry, not dusty, perfectly integral and devoid of any roughness.

TECHNICAL SPECIFICATIONS

TECHNICAL DATA	VALUES	UNIT	TEST METHOD
Panel size	1400x720	mm	
Thicknesses	10 / 20 / 30 / 40	mm	
Heat conductivity a 10° C	0,015	W/m·K	EN12667
Permeability to water vapour (Sd)	0,005		EN12086
Commitment limit temperatures	-200 +200	°C	
Compression resistance (with 10% deformation)	80	KPa	EN826
Specific heat	1.000	J/kgK	ASTM E 1269
Nominal density	190 ± 10%	kg/m^3	
Fire reaction class	C S_1 D_0		EN 13501-1
Long-term water absorption due to partial immersion	Wp ≤ 0,01	kg/m^2	EN 1609
Colour	grey-white		
Two-faced reinforcement mesh	4 x 4	mm	UNI 9311/2
Reinforcement thickness	0,5	mm	UNI 9311/2
Reinforcement weight	155	g/m^2	UNI 9311/2

AEROPAN FAST

The pre-finished Aerogel system for interior/exterior heat insulation

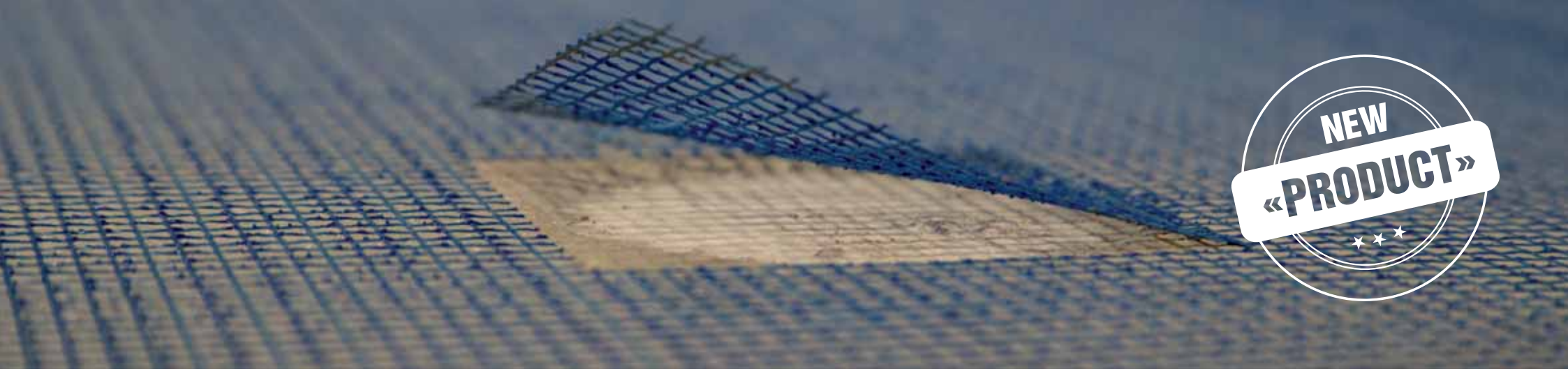
From the synergy of **Ama Composites** and **Edilteco Group,** and their international patents in the heat insulation sector comes **AEROPAN FAST**: the pre-finished Aerogel system for interior/exterior heat insulation.
AEROPAN FAST is a pre-finished heat-insulating wall and ceiling panel (indoor or outdoor). **It consists of a nano-technological Aerogel insulating product** coupled with a breathing membrane in polypropylene reinforced with fibreglass.
The **AEROPAN FAST** panel is supplied already smoothed with drowned fibreglass mesh and side overlaps, as well as ready to accommodate fastening plugs.
The panel is also pre-prepared for filling in between the various panels.

After installing the filled and smoothed **AEROPAN FAST panel** apply suitable colour finish in paste to obtain a perfect workmanlike result.
Thanks to its pre-applied finish, installation can also be performed in bad weather conditions and what is more this protects the panels during worksite jobs and handling and protects them against accidental deterioration.
The AEROPAN FAST panel provides superior-level thermal performance, which makes it ideal for reaching energy levels suitable for certification according to applicable standards even in small spaces.
AEROPAN FAST makes installation on worksites fast and safe, considerably increasing productivity.

AEROPAN FAST is perfect for indoor and outdoor heat insulation within the field of energy requalification, permitting the elimination of heat bridges and the total protection of surfaces from adverse weather conditions. It is the ideal product for applications on external perimeter walls and indoor walls, intrados, window intrados, ceilings and for solving thermal bridges.
AEROPAN FAST is the right choice for indoor and outdoor restructuring jobs, for building rehabilitation and for historical buildings subject to architectural restraints which require utmost living comfort.

In cooperation with:

EDILTECO group



TECHNICAL SPECIFICATIONS

TECHNICAL DATA	VALUES	UNIT	TEST METHOD
Panel size	1400x720	mm	
Thicknesses	10 / 20 / 30 / 40	mm	
Heat conductivity (λ_D) a 10 °C	0,015	W/m·K	EN12667
Permeability to water vapour	5		EN12086
Commitment limit temperatures	-200 +200	°C	
Compression resistance (with 10% deformation)	80	KPa	EN826
Specific heat	1.000	J/kgK	ASTM E 1269
Nominal density	230 ± 10%	kg/m^3	
Fire reaction class	C S_1 D_0		EN 13501-1
Long-term water absorption with partial immersion	Wp ≤ 0,01	kg/m^2	EN 1609
Colour	grey-white		

HEAT RESISTANCE

THICKNESS	10	20	30	40
R (m^2 K/W)	0,67	1,34	2,01	2,68

INTERIOR/EXTERIOR HEAT INSULATION SPECIFICATION

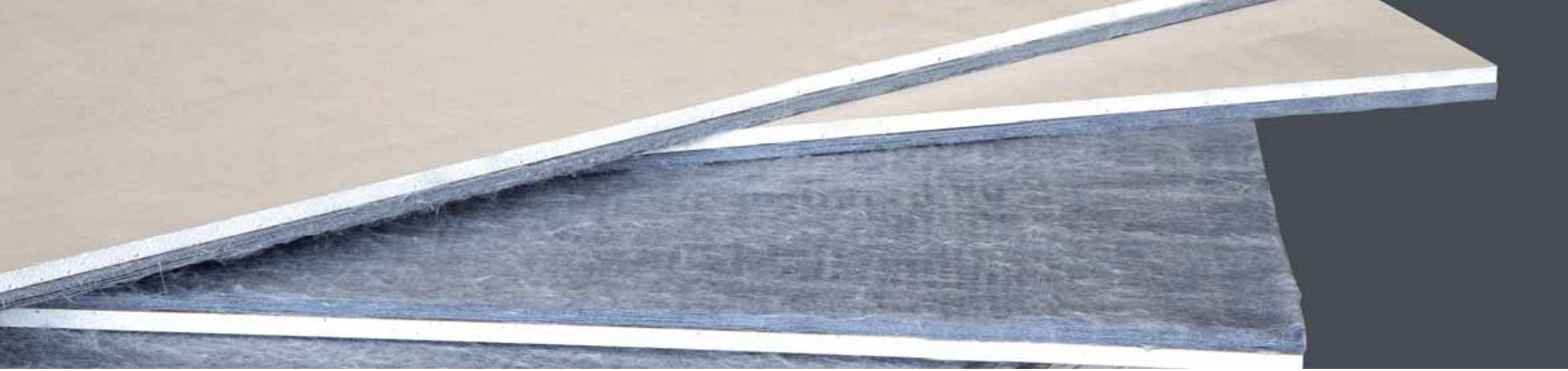
Realization of interior/exterior heat insulation, for vertical and horizontal surfaces, such as overhanging balconies or the like, made up of a semi-rigid panel, consisting of a layer of silica AEROGEL reinforced with PET fibres (felt), of the AEROPAN FAST type, water-repellent and transpiring, supplied in 1400x720 mm panels, already smoothed with drowned fibreglass mesh and with overlaps ready for fastening plugs, for a nominal thickness of 10 mm (or in panels with 20 mm, 30 mm, 40 mm thickness) with volumetric density 230 kg/m3, heat conductivity 0.015 W/mK, heat resistance Rd 0.67 m2K/W per cm of thickness, working temperature between -200°C /+200°C, fire reaction euroclass CS1D0, permeable to the diffusion of vapour (μ 5), impermeable to surface water and/or immersion with water contact angle of not less than 150°, spread on flat or curved, vertical or horizontal surfaces, after gluing and installed on smooth, dry, non-dusty, perfectly integral surfaces without any trace of roughness.

AEROGIPS

The plasterboard and Aerogel panel

Aerogips® is a panel designed for the interior heat insulation of building structures which require maximum level of insulation in the least possible space.
Aerogips® is a high-performance insulating panel made up of a nano-technological insulating substance containing Aerogel coupled with a sheet of plaster with high-density coating for excellent heat-acoustic comfort.
Aerogips® has been designed for the energy requalification of existing buildings, for rehabilitation and restructuring, where interior jobs have to be performed while safeguarding spaces. It also permits designing new walls in all those buildings where dry systems and lightweight walls are used.

Aerogips® is suitable for both vertical partitions and for false ceilings. With a thickness of only 20 mm and heat conductivity of 0.015 W/mK, Aerogips® permits reducing energy dispersion and recovering space in residential and commercial building applications.
Aerogips® uses coated plaster panels with a thickness of 9.5 mm and is available in different thicknesses and dimensions.
It is also available in different technical variants: standard, with vapour barrier, water repellent, water repellent with vapour barrier.
Aerogips® is an ideal product for interior restructuring, building rehabilitation and historical buildings subject to architectural restraints and whenever greater living comfort is required, thereby considerably reducing installation times and costs.



TECHNICAL SPECIFICATIONS

TECHNICAL DATA	VALUES	UNIT	TEST METHOD
Panel size	1400x720	mm	
Thickness Aerogel	5/10/20/30/40	mm	
Plasterboard thickness	9,5	mm	
Heat conductivity a 10 °C	0,015	W/m·K	EN 12667
Permeability to water vapour	10	g/smPa	EN 10465 - 2008
Commitment limit temperatures	-90 +90	°C	
Compression resistance (with 10% deformation)	80	KPa	EN 826
Specific heat	1.000	J/kgK	ASTM E 826
Nominal density*	11,00	kg/m^2	
Fire reaction class	A2 S_1 D_0		EN 13501-1
Colour	grey-white		
Edge finish	cut		
Corrosion 60° C / 95% U.R./24h	0		

**referred to panel with thickness 9.5+10 mm*

INTERIOR CLADDING SPECIFICATION

Realization of interior heat insulation, for vertical and horizontal surfaces, such as walls, floors, ceilings or the like, made up of a pre-coupled rigid panel, consisting of a layer of silica Aerogel reinforced with PET fibres (felt), of the Aerogips® type, water repellent and breathing, coupled with a sheet of coated plaster, supplied in 1400x720 mm panels, with a total nominal thickness of 20 mm (or in panels with thicknesses 30 mm, 40 mm, 50 mm) with heat conductivity 0.015 W/mK, heat resistance Rd 0.67 m^{2}K/W per cm of thickness, working temperature between -90°C / +90°C, fire reaction euro class CS1D0, impermeable to surface water and/or immersion with water contact angle not below 150°, finished with careful filling of joints, installed on flat, vertical or horizontal surfaces after full-spread gluing and installation on smooth, dry, dust-free and perfectly integral surfaces devoid of any roughness at all.

AEROPROOF

Reduced-thickness panel for roofs

Aeroproof is a panel designed for heat insulation and the preparation of the substrate for the subsequent waterproofing of all types of flat and pitched roofs, for civil and industrial buildings.
Aeroproof is a high-performance insulating panel made of a nano-technological insulating product containing Aerogel coupled with a bituminous membrane able to ensure excellent heat insulation, compression resistance, dimensional stability and a first waterproof layer.
Aeroproof is suitable for being subsequently flamed to allow the application of successive layers of bituminous sheathing.

The Aeroproof panels are usually applied to the roof by gluing or mechanical fastening; after installation, waterproofing is completed by recovery of the underlying sheath by means of the application of one or more layers of bituminous membrane, either standard of self-protected.

INSULATING PRODUCT TECHNICAL SPECIFICATIONS

TECHNICAL DATA	VALUES	UNIT	TEST METHOD
Panel size	1400x720	mm	
Thickness Aerogel	10/20/30/40	mm	
Heat conductivity a 10 °C	0,015	W/m·K	EN 12667
Permeability to water vapour	0,05	$g/s^2/24h$	DIN EN ISO 12572
Commitment limit temperatures	-90 +90	°C	
Compression resistance (with 10% deformation)	80	KPa	EN 826
Specific heat	1.000	J/kgK	ASTM E 826
Nominal density	1.600	g/m^2	
Fire reaction class	$C\ S_1\ D_0$		EN 13501-1
Long-term water absorption with partial immersion	Wp < 0,01	Kg/m^2	EN 1609
Colour	grey-white		

MEMBRANE TECHNICAL SPECIFICATIONS

TECHNICAL DATA	VALUES	UNIT	TEST METHOD
Reinforcement	Fibreglass		
Weight	2	Kg/m²	EN 1849-1
Heat conductivity a 10 °C	0,2	W/m·K	EN 12667
Impermeability	60	KPa	EN 1928-B
Cold flexibility	-25	°C	EN 1109
Traction elongation	2%		EN 12311
Heat capacity	3,90	KJ/K	
Permeability to water vapour	100.000	g/m²	
Fire reaction class	E		EN 13501-1
Colour	black		

FLAT OR PITCHED ROOF WATERPROOFING SPECIFICATION

Realization of heat insulation and waterproofing of flat or pitched roofs made up of a pre-coupled, semi-rigid panel consisting of a layer of silica Areogel reinforced with PET fibres (felt), of the Aeroproof type, water repellent and breathing, coupled to a bituminous sheath reinforced with fibreglass weighing 2 Kg/m², supplied in 1400x720 mm panels, with a total nominal thickness of 10 mm (or in panels with thicknesses of 20 mm, 30 mm, 40 mm) heat conductivity 0.015 W/mK, heat resistance Rd 0.67 m²K/W per cm of thickness, working temperature between -90°C / +90°C, impermeable to surface water and/or immersion with water contact angle not below 150°, installed on flat, horizontal or pitched surfaces after preparing the installation surface, installing the panel and the vapour barrier.

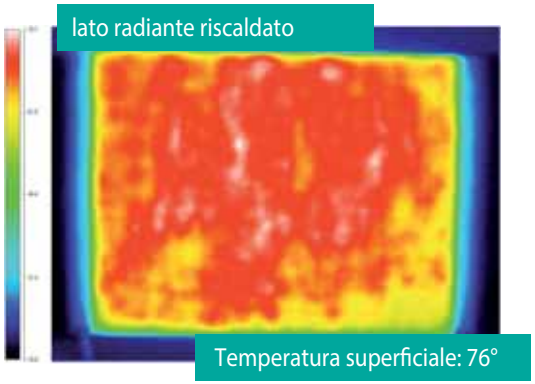
AKTIVEPAN

Energy evolution

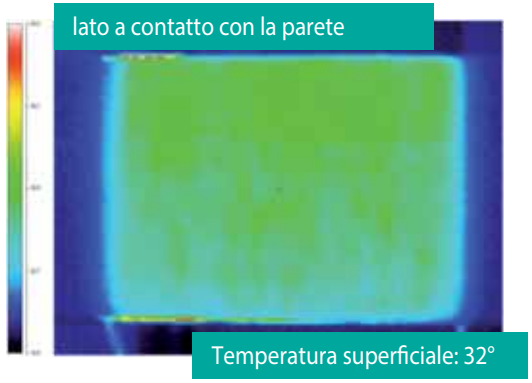
From the evolution of Aeropan® comes the **Aktivepan**, heat-radiation panel, able to combine maximum insulation performance with the quickest and most innovative heating system. The insertion of a reduced-thickness (60 micron) carbon-based film permits combining an effective increase in the thermal performance of the walls with an innovative and non-invasive low-voltage (24V/36V) electric radiation system. Aktivepan permits overcoming, once and for all, any problem associated with thermal bridges and mould, and all this with a non-invasive and in fact aesthetically appealing integration in the existing home heating system. The Aktivepan anti-mould heat-radiating system is able to overcome mould problems once and for all with a series of positive collateral effects, such as improvement of health, property value and quality of life inside the home.

Application requirements are few: a wall and a connection to the power mains, i.e., all features which a standard building normally offers.
The time required for installation, which can also be performed by an interior decorator, is short, but benefits are evident and long-lasting.
The Aktivepan heat-radiating system package consists of a plaster covering, as conductor, a **hicoTHERM** heating film as heat source integrated in an Aeropan® insulating panel, a heat sensor, a transformer, a cable, an ON/OFF switch and a thermostat.
Once the substrate is ready for installation, i.e., when it is smooth and dry, the panel is normally installed, just like traditional insulation and, once connections have been made, these simply have to be connected to the transformer, the switch and the thermostat. The last stage envisages plaster-based surface smoothing.

The Aktivepan panel is available in a broad range of sizes and either with standard or customized texture.
Thanks to this finish, Aktivepan appears like a photographic print, but while it decorates the environment, it helps heat it like a traditional heat source and with the added advantage of energy saving.


lato radiante riscaldato

Temperatura superficiale: 76°


lato a contatto con la parete

Temperatura superficiale: 32°

pannello Aktivepan™

TECHNICAL SPECIFICATIONS

TECHNICAL DATA	VALUES	UNIT
Mains voltage	230 V AC	
Power supply for each toroid transformer of 300W	1,3	A
Power (heating film)	220 / 134	W/m²
Secondary voltage	24/36	V
Protection	16	A
Max number of heating leads per power circuit	10	
Radiating material	heating film in polyethylene of carbon and charged	
Protective measure	30	mA
Nominal limit temperature	+70%	°C
Minimum processing temperature	+5%	°C
Transformer primary line	1,5	mm²
Transformer secondary line (max 2 m)	1,5	mm²
Heating film width	59 / 62 / 54	cm
Max transmission resistance Rλ	0,15	m² K/W
Texture	customizable	

AMA AEROGEL

The evolution of the species of Aerogel-based insulating products

AMA AEROGEL® represents a new major step in the development of silica Aerogel-based nano-technological insulating products.
It consists in a fibreglass-based flexible insulating matrix and a **high concentration of nanoporous aerogels,** able to ensure the very best heat performance in any condition of application.
In the quest for utmost heat protection, AMA AEROGEL® stands as an **essential insulating product thanks to its unique properties:** extremely low heat conductivity – 0.016 W/(m*K)-, superior flexibility, compression resistance, hydrophobicity and ease of use. AMA AEROGEL® can be used within a temperature range of -200°C e +450°C.
AMA AEROGEL®, available in thicknesses of 3. 6 or 10 mm, permits optimizing interior spaces in building applications for commercial and residential buildings, providing the very highest values of heat resistance – thickness being equal - compared to insulating materials of conventional type.
Its use permits achieving major results in complex situations, e.g., in insulating windows or roof sections, resulting in an effective increase in the total energy efficiency of the building with excellent heat and acoustic insulation results.

Thanks to **maximum R values** per unit of surface compared to any other insulating material, AMA AEROGEL® is the ideal covering for achieving extremely high energy performance in making dry walls, under floors and roofs, mock frames and window frames.
Unlike rigid and preformed insulation, **AMA AEROGEL® adapts perfectly to any shape or design: the blanket is flexible, physically sturdy, but with excellent shape and project performance recovery even after any load compression.**
Its specific composition also ensures the **best fire resistance performance** (Euroclass A2) thus permitting use even in very heavy-duty conditions and where superior performance levels are required.

FIELDS OF APPLICATION

Building
- floor insulation
- roof insulation
- thermal bridge insulation on beams and/or pillars
- lift shaft insulation
- insulation of radiator recesses
- insulation of frames, wall ends and cornices
- insulation of window blind boxes
- insulation of doors, armoured doors and swing doors
- insulation of dry plasterboard walls

Industry
- insulation of pipes, ducts and tanks
- insulation of engines
- insulation of refrigerators, ovens
- insulation of lift shafts
- insulation of bulwarks and heat shields
- insulation of metal elements
- insulation of bonnets, bodywork and the interiors of vehicles in general
- insulation and protection of power supply batteries
- insulation and protection of drainpipes

TECHNICAL SPECIFICATIONS

TECHNICAL DATA	VALUES	UNIT	TEST METHOD
Roll width	1500	mm	
Thicknesses	3 / 6 / 10	mm	
Heat conductivity a 10°C	0,016	W/m·K	UNI-EN 12667:2002
Permeability to water vapour	0,05	m	EN12086
Commitment limit temperatures	-200 +450	°C	
Compression resistance (with 10% deformation)	80	KPa	ASTM 165
Specific heat	1.000	J/kgK	ASTM E 826
Nominal density	200 ± 10%	kg/m³	
Fire reaction class	A_2		EN 13501-1
Colour	white		

TYPES AND SIZES

AMA AEROGEL® is available in 3 different thicknesses depending on application needs and required performance levels, and 2 different sizes; wherever very low dust levels are required, typical of aerogel-based products, a specific version is available with two-sided anti-dust treatment.

- AMA AEROGEL® in rolls, available in 3, 6 and 10 mm thickness.
- AMA AEROGEL® in panels available in 10 mm thickness
- AMA AEROGEL® in panels with two-sided anti-dust treatment available in 10 mm thickness.

SPACELOFT

Flexible Aerogel insulating blanket

Spaceloft® is a flexible nanoporous Aerogel insulating blanket able to reduce energy dispersion and save interior space in building applications, for commercial and residential buildings.
The one-of-a-kind properties of Spaceloft® - extremely low heat conductivity, superior flexibility, compression resistance, hydrophobicity and ease of use - make it a must for anyone seeking utmost heat protection.
Thanks to patented nano-technology, the Spaceloft® blanket combines amorphous silica gel with reinforced fibres in order to obtain heat performance at industrial level in an ecologically safe and easy-to-use product.

Spaceloft® is a tested insulating blanket, effective in buildings thanks to maximum R values compared to any other insulating material, for highest energy performance in walls, floors, roofs, frames and windows.

THE MAIN ADVANTAGES

• Superior heat performance: up to 5 times better compared to other insulating products.

• Reduced thickness and profile: same heat resistance in a fraction of the thickness.

• Easy to cut and form in complex shapes, to adapt to narrow corners and limited-access spaces.

• Spaceloft® is soft and sturdy but with excellent recovery of shape and heat performance even after compression of over 50 psi.

• The low volume of the material, the high density of the packaging and very low reject rate can cut logistics costs by 5/10% compared to preformed and rigid insulation.

• Spaceloft® repels water but allows vapour transpiration.

• Safe for the environment: disposable through standard waste dumps, it does not lose its fibres and the long-fibre fabric is not breathable.

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aspen aerogels

TECHNICAL SPECIFICATIONS

TECHNICAL DATA	VALUES	UNIT	TEST METHOD
Thickness	5/10	mm	
Heat conductivity (λ_D) a 10 °C	0,015	W/m·K	EN12667
Water vapour permeability	5		EN12086
Commitment limit temperature	-200 +200	°C	
Compression resistance (10% deformation)	80	KPa	EN826
Specific heat	1.000	J/kgK	ASTM E 1269
Nominal density	150 ± 10%	kg/m^3	
Fire reaction class	C S_1 D_0		EN 13501-1
Long-term water absorption for partial immersion	Wp ≤ 0,01	kg/m^2	EN 1609
Colour	grey		

FLOOR INSTALLATION SPECIFICATION

Realization of floor heat insulation by means of a geo-synthetic flexible blanket, consisting of a layer of silica Aerogel reinforced with PET fibre (felt), of the Spaceloft, water-repellent, breathing type, supplied in 145 cm high rolls, with a nominal thickness of 10 mm or in panels with height 1400 mm and width 720 mm, with volumetric density of 150 kg/m^3, heat conductivity 0.015 W/mK, heat resistance Rd 0.67 sq m K/W per cm of thickness, working temperature between -200°C / +200°C, fire reaction Euroclass CS1D0 permeable to the diffusion of vapour (μ 5), impermeable to surface water and/or immersion with water contact angle of not less than150°.

This insulation adds excellent walkover acoustic insulation thanks to the high mass. Dynamic Rigidity 51 MN/m^3. Possible installation of a concrete sand/cement walkover screed or self-levelling, with minimum thickness 4 cm reinforced with mesh or fibre.

SPACELOFT FLEXIBLE NANOTECH INSULATION
AEROPAN NANOTECH THERMAL INSULATION
AEROGIPS NANOTECH INSULATION BOARD
AKTIVEPAN NANOTECH THERMAL INSULATION
THERMOGEL NANOTECH THERMAL PAINT
AEROPROOF ROOF THERMAL NANOTECH INSULATION
ama AEROGEL

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