

2024

ama[®]

ADVANCED MATERIALS

 **ISOCLIP[®]**
CERAMIC INSULATION PANEL





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 environmental 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 ISOCLIP® Ceramic Insulation Panel.

The ISOCLIP® system consists of an insulation panel combined with pre-assembled porcelain stoneware. Quick and easy to install.

The possibility of choosing both the insulator and the porcelain stoneware finishing allows to create, every time, a tailor-made façade with an aesthetically pleasing appearance and an improved living comfort!

AESTHETICS AND INSULATION TAILOR-MADE FOR YOU

ISOCLIP® IS THE PORCELAIN STONEWARE EXTERNAL INSULATION SYSTEM.

The new ISOCLIP® system is the ideal solution for the thermal insulation coat of an external facade combined with porcelain stoneware.

Combining the qualities of the ceramic material with an innovative application system, ISOCLIP® guarantees high performance, maximum versatility, and total creative freedom.

ISOCLIP® is a system composed by an insulation coating on which a porcelain stoneware slab is applied.

With a single, ready-to-use panel we guarantee, together with thermo-acoustic insulation, the beauty of the external walls thanks to the installation of the slabs with the desired look.

ISOCLIP® IS, THEREFORE, ABLE TO GUARANTEE:

- A quick installation even in severe thermo-hygrometric conditions
- High impact resistance

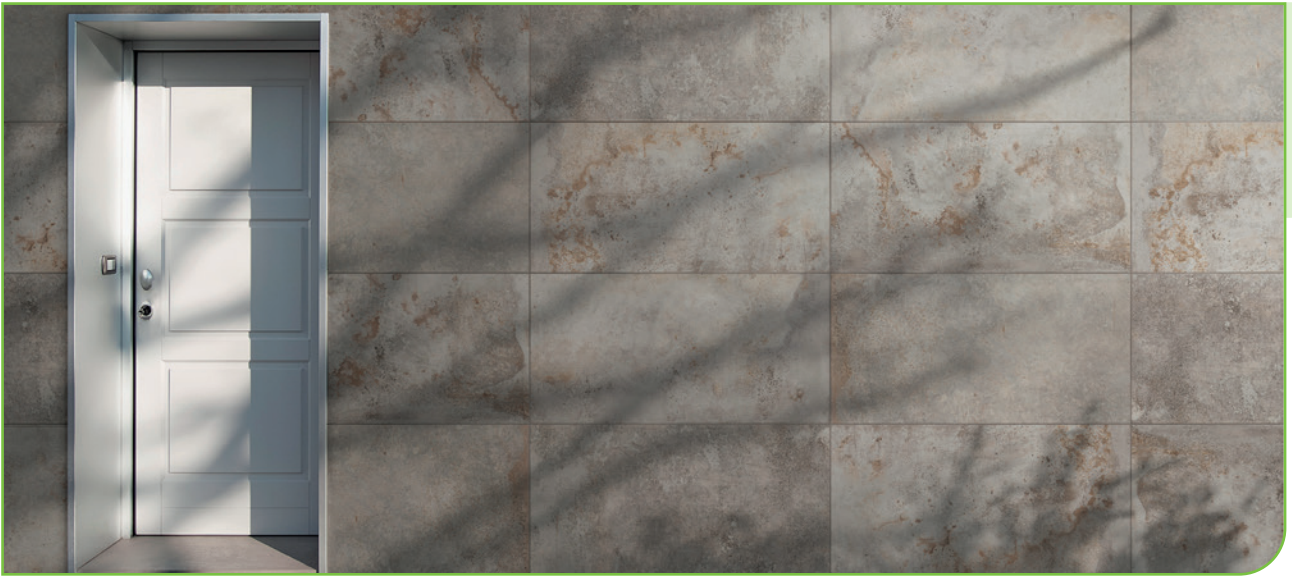
- No maintenance needed
- A wide selection of finishes and colors
- Three types of insulation materials: Aerogel, Glass Wool, and EPS

From an aesthetic point of view, ISOCLIP® offers a wide choice of porcelain stoneware with different finishes and colors in size 60x120cm. Moreover, it is possible to choose between a series of 2 cm thick, 120x120 cm flooring to maintain continuity between the vertical finishing of the wall and the horizontal finishing of the flooring.

ISOCLIP® IS A PATENTED SYSTEM

ISOCLIP® offers a safe and durable solution to guarantee the thermal and acoustic insulation of the building and impact protection. The glue and four, properly segmented mechanical brackets simultaneously fix the porcelain stoneware slab to the insulation panel and the building, so as to withstand all the stresses the system is subjected to over time, without requiring any form of maintenance.

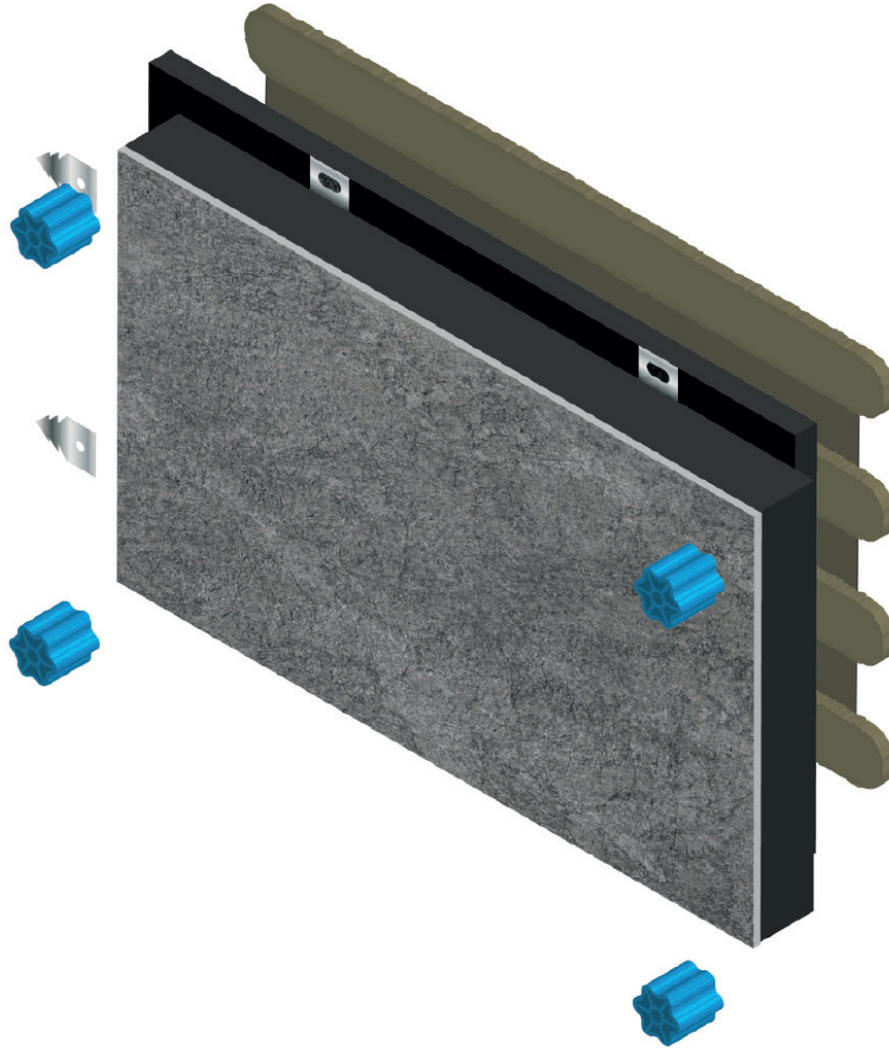




HOW IS ISOCLIP MADE

Equipped with an insulation panel (Made with Aerogel or Glass Wool or EPS with graphite), ISOCLIP® internally consists of a powerful insulation stratigraphy. The adhesive layer in direct contact with the ceramic slab and the stainless-steel hooks favor the installation of a Porcelain Stoneware slab for a quality, resistant and durable aesthetic result.

ISOCLIP® is delivered on the construction site pre-assembled and ready for the installation. It can be mounted directly on the external walls of the building, without resorting to invasive works or demolitions, with installation times reduced by 50% compared to traditional external insulation systems.



THE ISOCLIP® SYSTEM

MORTAR

Layer of mortar distributed with a double application on the external wall to reduce irregularities of the surface.

LATERAL SUPPORTS

Properly segmented brackets to maximize the stability of the insulation panel.

LEVELERS

Leveling spacers to obtain a homogeneous result, without creating height differences between contiguous surfaces.

ISOCLIP®

The thermal insulation panels are made of a porcelain Stoneware slab attached to the insulation panel (Aerogel, Glass Wool, EPS with graphite) with 4 stainless steel hooks and a layer of highly-adhesive glue.

- Stainless steel hooks
- Insulation panel with varying thickness between 10 and 160 mm
- Porcelain stoneware slab with 6 or 10 mm thickness.

THE ADVANTAGES OF ISOCLIP®

THERMAL INSULATION

The insulation panels (EPS with graphite, Glass Wool or Aerogel), with variable thickness (from 10 to 160 mm), keep the indoor temperature of the building constant and reduce the humidity levels.

ACOUSTIC INSULATION

The external porcelain stoneware layer contributes, with its compact mass, to create a protective barrier which absorbs ambient noise and improves the living comfort.

SAFETY

The adhesive mortar, the expansion dowels and the stainless-steel hooks safely fasten ISOCLIP® on the wall of the building and allow to safely cover walls with porcelain stoneware, even at great heights.

IMPACT RESISTANCE

The compact surface of porcelain stoneware has an excellent hardness and guarantees high resistance to accidental impact, hail, or scratches.

AESTHETICS

The innovative ISOCLIP® system allows the installation of an external insulation system with whichever type of ceramic surface, to design every façade with the desired finishing.

QUICK AND EASY INSTALLATION

ISOCLIP® is the ready-to-use thermal insulation system. The installation requires from 24 up to 36 hours, often without requiring scaffolding.

NO MAINTENANCE NEEDED

It will not be necessary to repaint the façade anymore. Porcelain Stoneware lasts forever: waterproof, resistant to pollution and vandalism, keeps colors and finishes unchanged over time.

CERTIFICATION

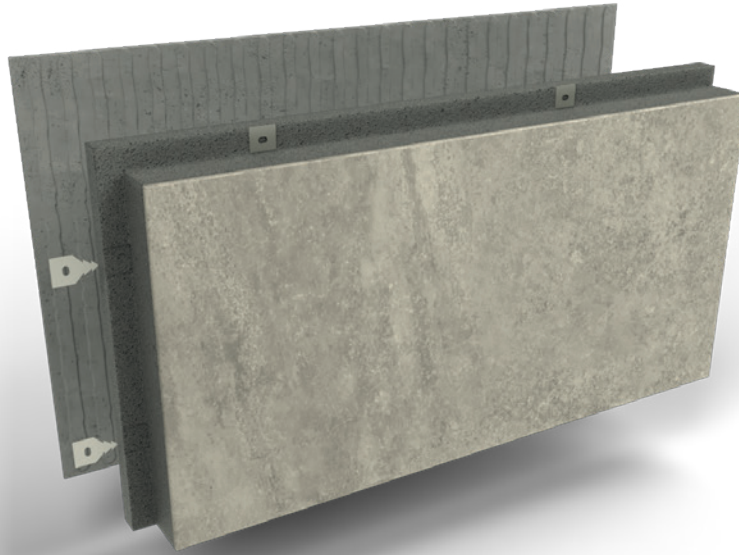
The ISOCLIP® products are CAM certified.



ISOCLIP® *LAYING AND INSTALLATION*

The correct direction for the installation of the ISOCLIP® panels is from bottom right to left. The ideal team of workers is made of 3 up to 4 people who are able to install

from 70 to 90 sqm daily. The glue can be applied at temperatures ranging between 5° and 35°C.



PRELIMINARY WORKS

STEP 1

Verify the flatness of the surface with a 2.5m control ruler and a spirit level. In case of height differences which may compromise the installation of the ISOCLIP system, proceed with a preliminary smoothing of the wall.

In the case of a plastered wall, check the stability and resistance of the surface layer and remove any deteriorated parts.

STEP 2

Fasten the starter profile with flat-head, expansion dowels. Use the spirit level to install the starter profile parallel to the ground. It is advisable to keep a distance of at least 5 cm from the ground.

INSTALLATION

STEP 1

Apply the adhesive mortar with a 10 cm notched trowel with the ridges parallel to the short side both on the base and the Isoclip® panel.

In case of an irregular surface, distribute the adhesive mortar in points, on the borders and in the central parts of the panel.

STEP 2

Fasten the panel with the expansion dowels and check with horizontal alignment with the spirit level.

Install the stainless hooks on the shortest, left side of the ISOCLIP® panel. They will allow you to fix the adjacent panels together.

STEP 3

Place the levelers in the adequate places, in order to align the joints of the ISOCLIP® panels. Once you will have placed at least 4 panels, screw the tie rods on the levelers to obtain the perfect planarity of the coating.

FINAL STEPS

STEP 1

Unscrew the tie rods and break the top clip of the levelers 48 hours after the installation. You can facilitate the process through a light hammer blow or by putting a little pressure with the tie rod.

STEP 2

Fill the joints between the panels with plaster. Proceed with the final cleaning.



ISOCLIP® WITH AEROGEL INSULATION

ISOCLIP® with silicious Aerogel insulation is a panel - 600x1200 mm - coupled with Porcelain Stoneware (6-10 mm), equipped with stainless steel safety hooks.

It is endowed with Euroclass A2-S1, d0 fire resistance according to the DIN 13501-1 regulation and thermal conductivity of 0.016 W/mK, according to the UNI EN 12667 standard. The Aerogel insulation panel is available in different thicknesses, from a minimum of 20 mm up to 60 mm.



SILICIOUS AEROGEL PANEL SPECIFICITIES

| THICKNESS mm | DECLARED THERMAL RESISTANCE R_D (m ² K/W) | QUANTITY m ² /PALLET |
|--------------|--|---------------------------------|
| 20 | 1.25 | - |
| 30 | 1.88 | - |
| 40 | 2.50 | - |
| 50 | 3.13 | - |
| 60 | 3.75 | - |

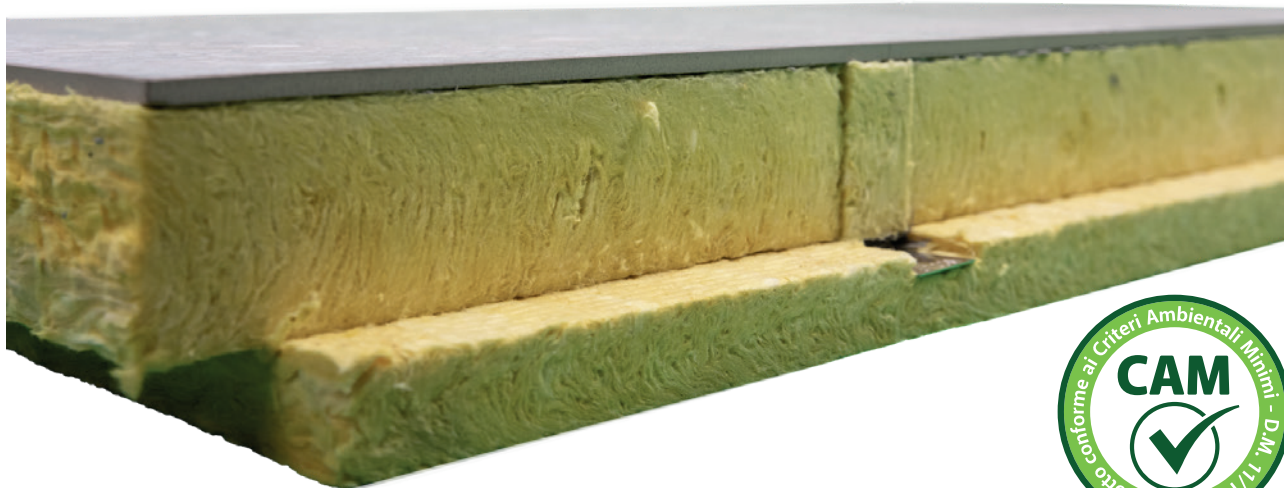
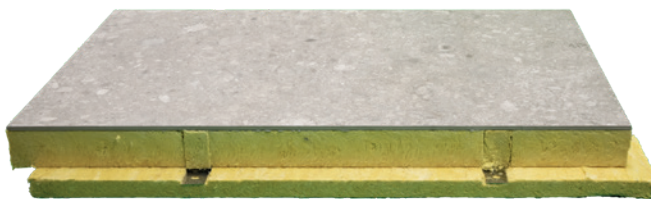
TECHNICAL DATA

| PROPERTY | REGULATION | VALUE | U.M. |
|---|---------------|----------------------------------|-------------------|
| Declared Thermal Conductivity λ_D | EN 12667 | 0,016 | W/(m·K) |
| Flexural strength With 10% deformation | EN 826 | ≥ 40 | kPA |
| Point Load Resistance thicknesses 40 ÷ 60 | EN 12430 | ≥ 400 | N |
| Fire reaction class | EN 13501-1 | A2-S ₁ D ₀ | - |
| Water vapor diffusion Resistance μ | EN 12086 | 0,07 | m |
| Short term water Absorption | EN 1609 | $\leq 0,01$ | kg/m ² |
| Dimensional stability | EN 1604 | ≤ 1 | % |
| Dimensional Tolerance: Length | EN 822 | $\pm 2\%$ | % |
| Dimensional Tolerance: Width | EN 822 | $\pm 1,5\%$ | % |
| Dimensional Tolerance: Thickness | EN 823 | T2 | mm |
| Squaring | EN 824 | ≤ 5 | mm/n |
| Planarity | EN 825 | ≤ 6 | mm |
| Specific Heat | EN 10456:2008 | 1,000 | J/Kg·K |

ISOCLIP® WITH GLASS WOOL INSULATION

ISOCLIP® with glass wool insulation is a panel – 600x1200 mm – coupled with Porcelain Stoneware (6-10 mm), equipped with stainless steel safety hooks.

It is endowed with Euroclass A2-S1, d0 fire resistance according to the DIN 13501-1 regulation and thermal conductivity of 0.037 W/mK, according to the UNI EN 12667 standard. The glass wool panel is available in different thicknesses, from a minimum of 80 mm up to 160 mm.



GLASS WOOL PANEL SPECIFICITIES

| THICKNESS mm | DECLARED THERMAL RESISTANCE R_D (m ² K/W) | QUANTITY m ² /PALLET |
|--------------|--|---------------------------------|
| 80 | 2.15 | 19.44 |
| 100 | 2.70 | 17.28 |
| 120 | 3.24 | 15.12 |
| 140 | 3.78 | 10.80 |
| 160 | 4.32 | 10.80 |

TECHNICAL DATA

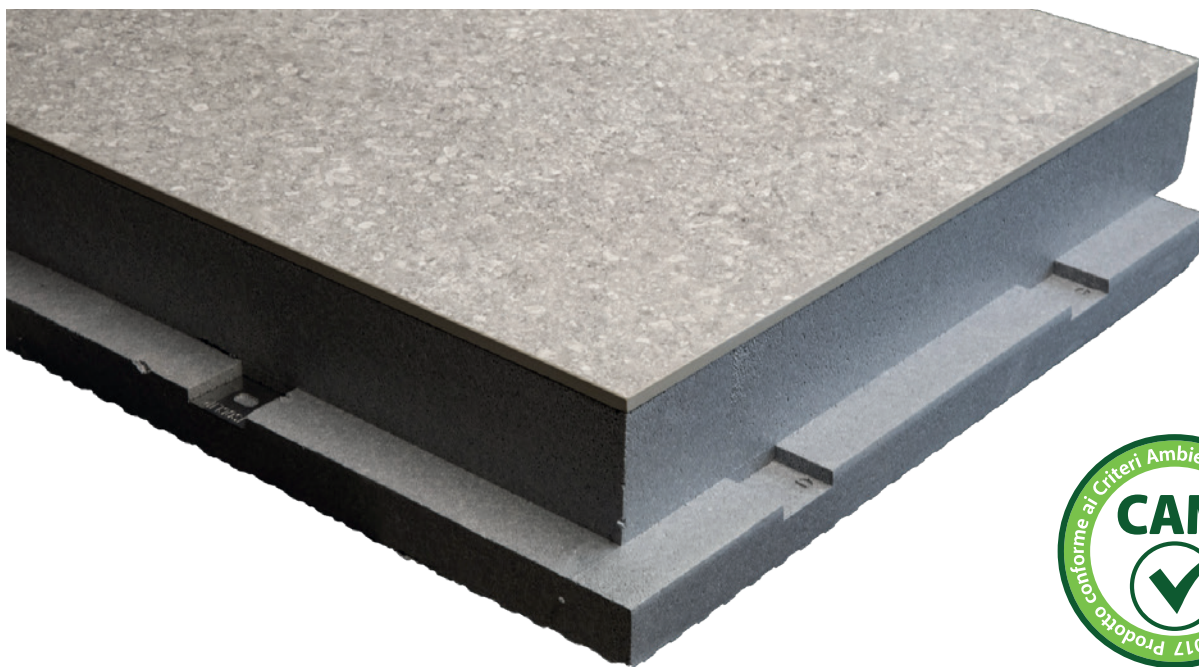
| PROPERTY | REGULATION | VALUE | U.M. |
|---|---------------|----------------------------------|-------------------|
| Declared Thermal Conductivity λ_D | EN 12667 | 0,037 | W/(m·K) |
| Flexural strength With 10% deformation | EN 826 | ≥ 40 | kPA |
| Point Load Resistance thicknesses 40 ÷ 60 | EN 12430 | ≥ 500 | N |
| Fire reaction class | EN 13501-1 | A2-S ₁ D ₀ | - |
| Water vapor diffusion Resistance μ | EN 12086 | 1 | - |
| Short term water Absorption | EN 1609 | ≤ 1 | kg/m ² |
| Dimensional stability | EN 1604 | ≤ 1 | % |
| Dimensional Tolerance: Length | EN 822 | $\pm 2\%$ | % |
| Dimensional Tolerance: Width | EN 822 | $\pm 1,5\%$ | % |
| Dimensional Tolerance: Thickness | EN 823 | T2 | mm |
| Squaring | EN 824 | ≤ 5 | mm/n |
| Planarity | EN 825 | ≤ 6 | mm |
| Specific Heat | EN 10456:2008 | 1,030 | J/Kg·K |

ISOCLIP® WITH EPS INSULATION

ISOCLIP® with high-density EPS insulation enhanced with graphite is a panel – 600x1200 mm – coupled with Porcelain Stoneware (6-10 mm), equipped with stainless steel safety hooks.

It is endowed with Euroclass E fire resistance according to the DIN 13501-1 regulation and thermal conductivity of 0.031 W/mK, according to the UNI EN 13163 standard.

The EPS insulation panel is available in different thicknesses, from a minimum of 80 mm up to 160 mm.



ISOCLIP® WITH EPS INSULATION

| THICKNESS mm | QUANTITY m ² /PALLET | FIRE REACTION CLASS |
|--------------|---------------------------------|---|
| 80 | 19.44 | Product Compliant with the UNI EN 13163 Regulation Class E DIN EN 13501-1 Auto-extinguishing |
| 100 | 17.28 | |
| 120 | 15.12 | |
| 140 | 10.80 | |
| 160 | 10.80 | |

TECHNICAL DATA

| PROPERTY | VALUE |
|---|--|
| EPS Density | 18.00 kg/m ³ |
| Fire reaction class | E |
| Fastening Brackets | Stainless Steel 1 mm |
| Heat Flow Density through the panel V.M. | q[W/m ²] 4.42 (EPS 120mm) |
| Equivalent Total Thermal Conductivity V.M. EPS | λeq [W/(m·K)] 0.031 |
| Equivalent Total Thermal Conductivity V.M. complete panel | λeq [W/(m·K)] 0.035 |
| Thermal Resistance EPS V.M. | R10 [(m ² ·K)/W] 1.6382 |
| Complete panel Thermal Resistance V.M. | R10 [(m ² ·K)/W] 3.39 |
| Adhesion to the support, breaking load | Fu [N] 590 |
| Adhesion to the support, adhesion strength | Fu [N/mm ²] 0.10 |
| Average panel weight | KG 11.00 (Stoneware 6 mm) - KG 16.00 (Stoneware 10 mm) |

ISOCLIP® SPECIAL PIECES

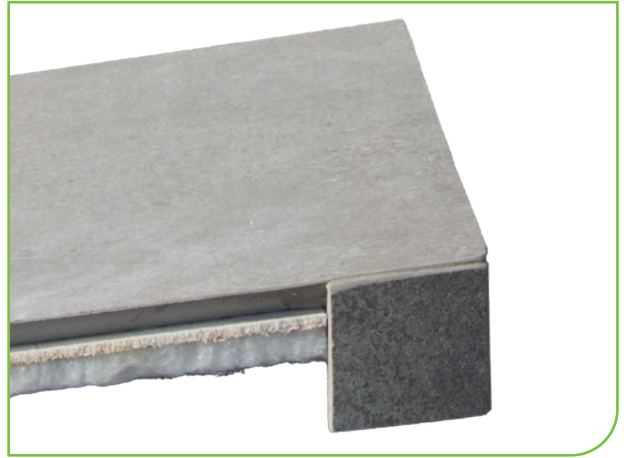
UPPER / RIGHT SEALING CAP

EPS and Porcelain Stoneware insulation panel
width 120 cm



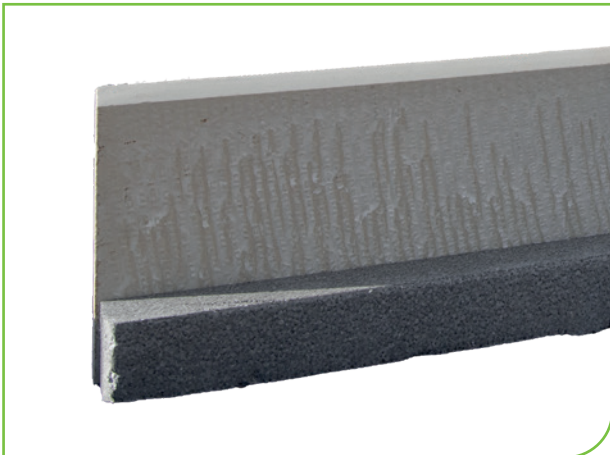
LOWER / LEFT SEALING CAP

EPS and Porcelain Stoneware insulation panel
width 120 cm



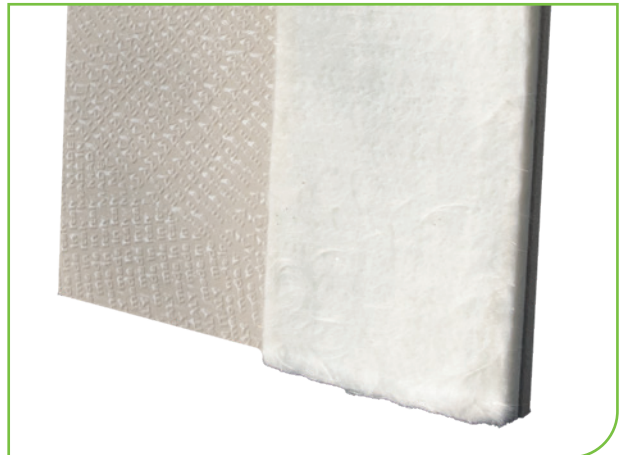
MOLDED WINDOWSILL COVER

Silicious Aerogel and Porcelain Stoneware panel
width 30 cm running bond



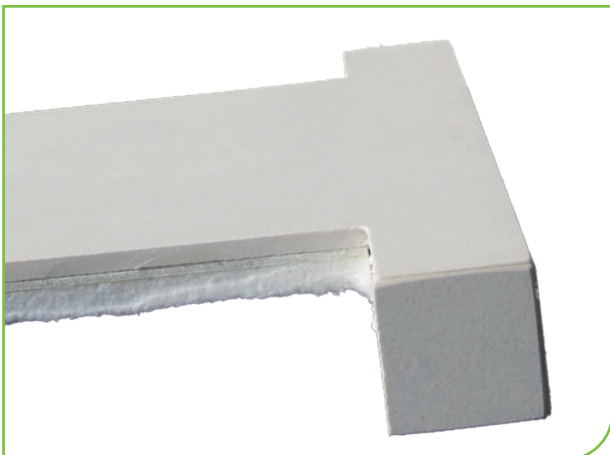
STRAIGHT WINDOWSILL COVER

Silicious Aerogel and Porcelain Stoneware panel
width 30 cm running bond

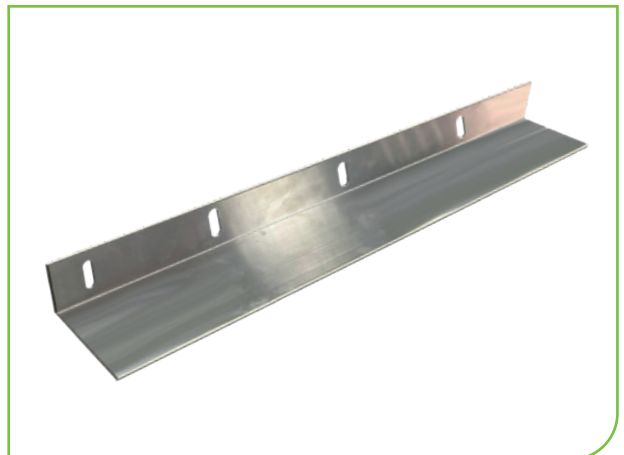


INTRADOS

Silicious Aerogel and Porcelain Stoneware panel
width 30 cm running bond



ANODIZED ALUMINUM STARTER PROFILE 4X8X320 CM





| | ISOCLIP® | INSULATION COAT | VENTILATED WALL |
|---|----------|-----------------|-----------------|
| Ease of Installation | ●●●●● | ●●●● | ●● |
| Quickness of Installation | ●●●●● | ●●● | ●●● |
| Ease of Installation (in severe weather conditions) | ●●● | ● | ●●●● |
| Impact Resistance | ●●●●● | ●● | ●●●● |
| Ease of Ordinary Maintenance | ●●●●● | ●● | ●●●●● |
| Ease of Extraordinary Maintenance | ●●● | ● | ●●●●● |
| Insects "Aggression" Resistance | ●●●●● | ●●●●● | ●●● |
| Animals "Aggression" Resistance | ●●●●● | ●●● | ●●●●● |
| Installation | ●●●●● | ●●●● | ●●● |
| Executive Design | ●●●● | ●●●●● | ●● |
| Construction Saving | ●●●● | ●●●●● | ●●● |

●●●●● Very high, ●●●● High, ●●● Moderate, ●● Mild, ● Insignificant



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

Tel. +39 - 0522 - 636304

Fax +39 - 059 - 5221161

www.isoclip.it

info@isoclip.it