



CATALOGO TECNICO



ITALGRANITI





PORCELAIN STONWARE

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THINK EXTRA DESIGN

Mega is the Italgraniti Group programme of surfaces in the exceptionally large sizes of 160x320 cm, 120x260 cm and 120x120 cm. The revolutionary Mega slabs meet the growing need for **universal coverings which give unlimited scope for modern architectural design**. The immense modules of **porcelain stoneware, 6 mm thick**, act as a real skin, and their performances make them a **perfect solution for floors, indoors and outdoor walls and the surfaces of items of furniture**.

THICKNESS
6 MM



160x320x0,6

120x260x0,6





MEGA PORCELAIN STONEWARE

Mega porcelain stoneware slabs are produced using **state-of-the-art sintering technologies**. Mega is a **compact, safe material, immune to stresses, wear and foot traffic; it is also resistant to chemicals, moulds, frost and fire**. Since they are just **6 mm thick**, slabs are **flexible and easy to cut, drill and handle**. Mega porcelain is easily cleaned and sanitised and is totally unaffected by UV radiation, all qualities which will last over time.



WALL-HEIGHT COVERINGS



LIGHTWEIGHT, EASILY HANDLED SLABS

FEWER JOINTS,
GREATER LAYING
CONTINUITYEASY TO CUT
AND DRILLEXEMPLARY BEAUTY AND
TECHNOLOGYBENDING
STRENGTH

PERFECTLY FLAT

RESISTANCE TO
CHEMICALSRESISTANT TO TRAFFIC
AND WEAR

FROST-RESISTANT

RESISTANT TO UV
RADIATIONRESISTANT TO
THERMAL SHOCKS

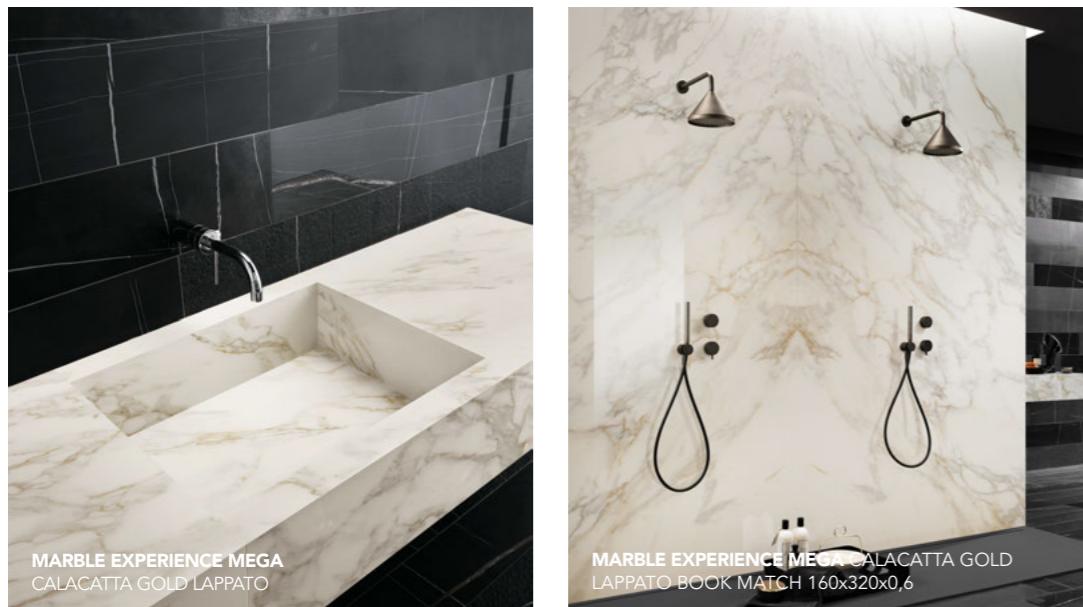
EASY TO INSTALL



STAIN RESISTANCE

EASY TO
CLEAN

HYGIENIC



LIMITLESS SURFACES

Mega slabs allow the creation of more beautiful interiors by creating surfaces without a visible installation grid. **Mega extends the expressive potential of contemporary architecture through the transfer of its revolutionary beauty, with no limitations on its use: from large external facades to indoor floors and walls, through to installation on top of existing materials. Its thickness of 6 mm makes the slab very easy to cut and shape, removing all creative constraints; this characteristic translates into an unlimited range of possibilities: worktops, bathroom and kitchen counters, shower trays, furniture and furnishing accessories, doors, tables, etc.** With Mega slabs there are no limits to freedom of expression, with the luxury of an impeccable, coordinated design scheme.



EXTERNAL FAÇADE

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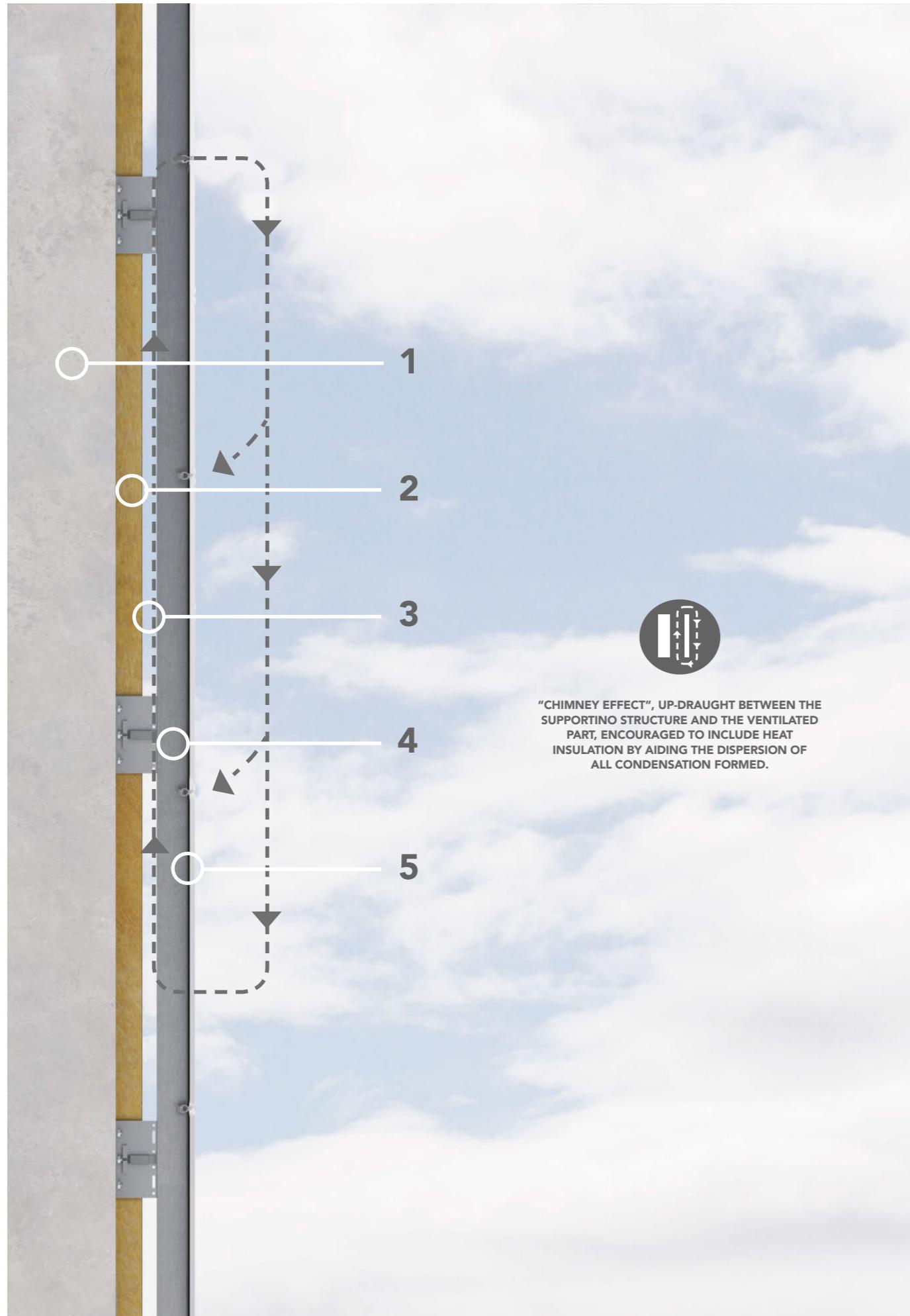
The Mega programme of surfaces meets all the essential requirements for the covering of external facades: **outstanding technical performances to combine the needs of thermal insulation with those of light weight for easier handling, cutting and installation.** Mega's refined, timeless look allows architects to **personalise the exteriors of buildings**, a feature increasingly in demand in the world of contemporary architecture, while also providing the **greatest freedom through a versatile product at the technological state of the art.**

All Italgraniti Group systems can be used on the whole range of common mounting systems: bricks, lightweight bricks, reinforced concrete, prefabricated reinforced concrete panels, or metal profile primary structures. They can also be applied on both new and existing buildings, the latter to improve the thermal/aesthetic characteristics of the building.

These are the main types of system:

- 1. Systems with visible anchoring.**
- 2. Systems with hidden anchoring.**
- 3. "Cappotto" thermal coating systems.**





VENTILATED FACADES, FUNCTIONS AND BENEFITS

The ventilated facade system consists of **five functional layers** that meet performance ensuring the necessary requirements:

1. WALL SUPPORT (brick, concrete, ecc.)
2. INSULATION
3. VENTILATION
4. SUPPORTING STRUCTURE
5. EXTERNAL COVERING

The weight of the system and the effects of wind are the main parameters to be considered when assessing the feasibility of a ventilated facade. These covering systems allow the creation of attractive works both on new buildings and during renovation projects, optimising heat and noise insulation.

The “ventilated facade” can quite rightly be considered as the state of the art in modern building construction.



ELIMINATION OF ALL COLD BRIDGES, CREATING A BARRIER TO PREVENT HEAT LOSS.



STRONG WEATHER-PROOF BARRIER.



RUGGED STRUCTURE, INEXPENSIVE TO CONSTRUCT AND MAINTAIN.



SOUNDPROOFING



LOWER ENERGY CONSUMPTION.



REDUCTION OF UNSIGHTLY SMOG, DIRT AND DAMAGE.



EFFECTIVE BARRIER AGAINST DIRECT SUNLIGHT.

1. SYSTEMS WITH VISIBLE ANCHORING

These systems use clips which, once tiles have been installed, leave them visible.

The system is usually constructed with **a subframe composed of vertical light metal profiles, attached to the wall with aluminium brackets of a suitable size, themselves mounted to the wall with expansion bolts** depending on whether the wall itself is solid, such as reinforced concrete or standard bricks, or honeycombed (small or large cavity) such as cavity bricks, expanded clay blocks or similar.

THE VERTICAL PROFILES (risers) have a length which normally runs from one floor to another; the structural expansion joints are aligned with them and supported by a number of brackets, depending on the stresses to which they are subjected, with special reference to the wind thrust.

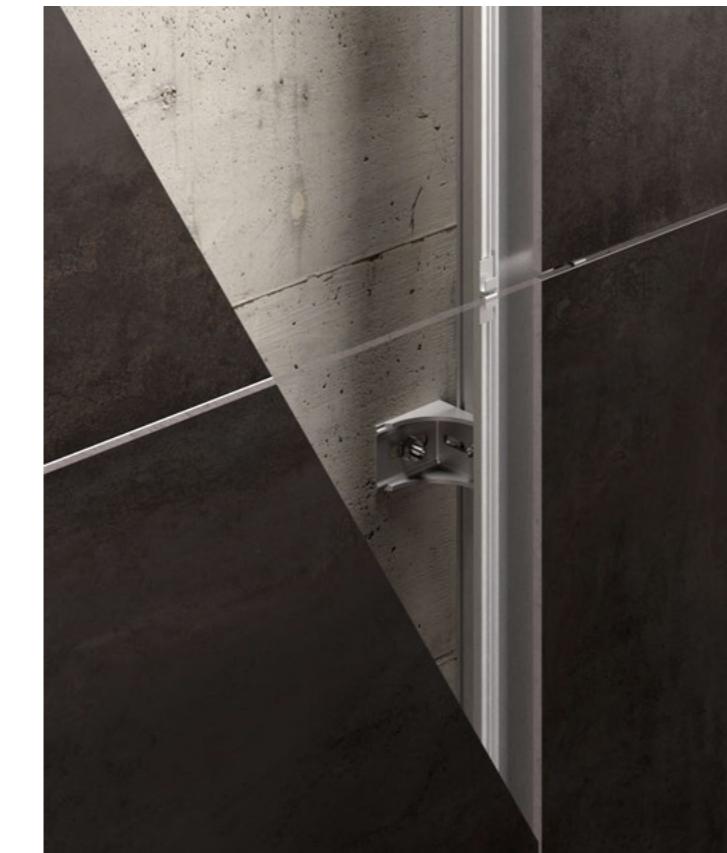
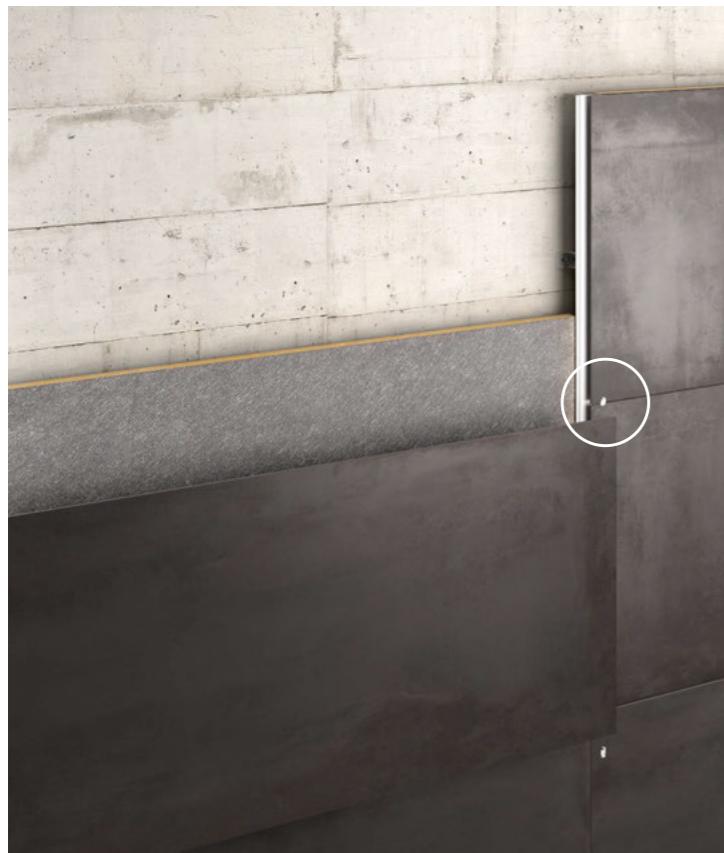
THE BRACKETS are sized differently depending on whether they are supporting (normally those at the floor level) or merely retainers: the latter are generally slotted to allow for thermal expansion of the aluminium profiles. The joint between the risers must be at least 1 cm and this gap must be present between the ceramic covering units themselves.

THE SLABS making up the external shielding, are hooked on with stainless steel clips, which vary according to whether they are starter clips (at the base of the facing and immediately above each joint) or intermediate clips used at the joint between four slabs.

The structure in case of systems with visible anchoring is extremely simple: it is composed of L brackets and T risers riveted to the brackets. To the risers are also riveted stainless steel plates, which may be of two types: **starter or intermediate.**

The slabs contain both the supporting clips, in AISI 316 stainless steel, and the EPDM vibration gaskets. Both the plates and the risers are electroplated black; the clips can also be coloured to match the slabs.

Visible anchoring



2. SYSTEMS WITH HIDDEN ANCHORING

The wall cladding with hidden anchors concept consists of an aluminium EN AW- 6060 substructure, formed by aluminium profiles that are processed and pre-assembled on the tile according to orthogonal lines of the project.

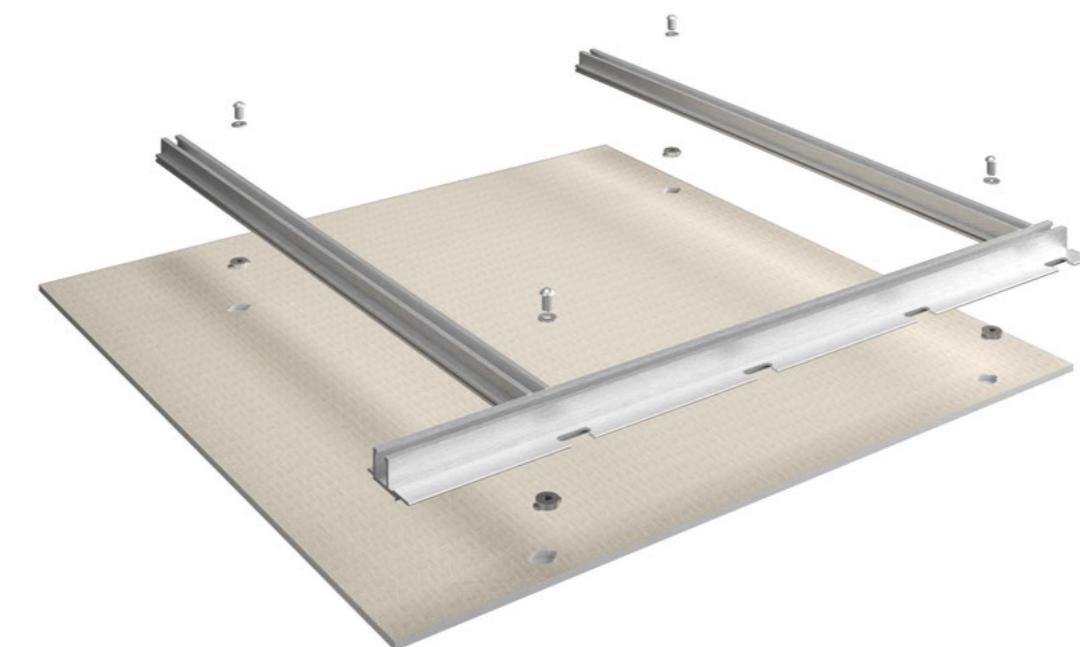
These elements greatly facilitate the installation of the tiles and allow for adjustments when the on-site dimensions are different from those on the architectural plan. The substructure profiles possess special guides that fit the anchoring system (bracket and hook) precisely onto the wall (brick, concrete or structural load bearing element). The bracket and hook allow each element to be precisely secured and fixed (230 kg normal traction resistance at the surface of the cladding. This resistance corresponds to the stress along the elements due to wind loads).

Perfect alignment and planarity between each tile can be obtained through micrometric adjustments on the four main axes, regardless of any unevenness of the support (whether wall or structure). The installation of the ventilated wall with hidden anchors does not require any preparation of the support on which it will be fixed. Since each pre-assembled substructure and tile overlaps and connects the element before it, this ventilated wall system is closed-jointed and can therefore be supported by a reduced air circulation chamber.



PLATE ANCHORING

The plates chosen by the supervisor are prepared and equipped with slotted and undercut ellipsoid-shaped holes to accommodate the bayonet insert. Rotating the insert 90° will lock the element into the plate. The trilobated self-tapping screw unites the aluminum substructure to the plate, without it being pressured by various kinds of expansions. The elastic structural glue reconstructs the hole and, during the tightening stage, slides in special predisposed channels on the profiles supportsurfaces. After polymerization, an elastic diaphragm is created that gives the finished piece high resistance and makes it compatible with the various assembled elements.



3. "CAPPOTTO" THERMAL COATING SYSTEMS

The energy performance of a building, which was not regarded as particularly significant in the past, is becoming more and more important due to environmental restraints and rising energy costs. This has led to the need to limit heat losses from homes which, in turn, has prompted the development of suitable solutions, and created a fast-growing sector in the modern building industry. The aim of an efficient insulating system for buildings is to guarantee that not only the air, but also walls, floors and ceilings all reach the correct temperature. A cold sensation derives from both a low environmental temperature and a low temperature of the walls, ceilings and floors.

Thermal insulation leads to a reduction in both heating costs and the emission of green house gasses - if buildings are correctly insulated, they use less energy and this again is positive for the environment. By insulating the external walls of a building (thermal insulation), all thermal bridges are eliminated and the thermal storage capacity of buildings is increased. The walls warm up, accumulate heat and then return it back into the rooms.

This means that the heating system needs to be switched on for less hours which means lower fuel consumption and a lower emission level of pollutants.

One main advantage of thermal insulation is that thermal bridges are completely eliminated, those critical points (such as around window and door fittings, edges, pillars in the masonry, etc.) where the formation of mould is more likely to occur. It is an ideal solution when renovation work is carried out on façades because creating thermal balance of a structure also avoids physical stresses and impedes the formation of new cracks.

Mega slabs can be applied as an external finishing, both for aesthetic reasons and to provide protection against the weather, to cover any type of jacket insulation system available on the market. Of these, "Mapetherm" is the jacket thermal insulation system that incorporates the experience Mapei has built up over the years in the sectors of porcelain stoneware slab installation, thermal insulation and structural reinforcement using composite materials.

- 1. Concrete**
- 2. Adhesive**
- 3. Insulating panel**
- 4. Levelling cement**
- 5. AR glass fibre mesh**
- 6. Adhesive**
- 7. Mega porcelain stoneware**
- 8. Anchor bolts**
- 9. Sealant**
- 10. Grout**

TYPES OF INSULATING PANELS



EPS

Sintered polystyrene insulating panel. This type of panel has a very competitive price, is easy to apply and has excellent insulating properties.

XPS

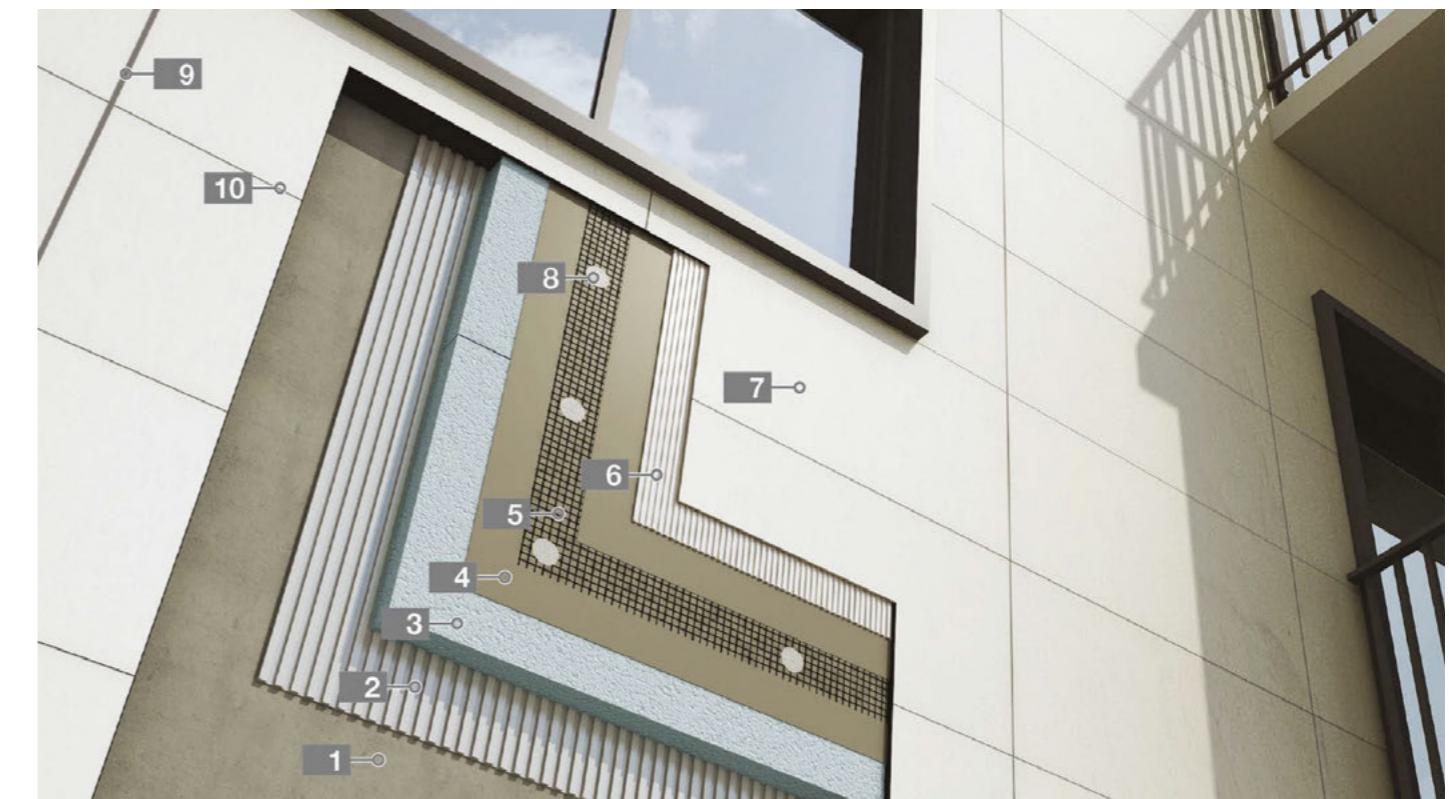
Extruded polystyrene insulating panel which has no outer skin. It has a rough surface to improve the bond of the adhesive and is characterized by its low water absorption, good compressive strength and excellent insulating properties.

OVERALL DIMENSIONS

The system is about 15 mm thick plus the thickness of any levelling plaster, the insulating panel and the Mega slab.

RESTRICTIONS

The use of slabs in light / medium light colours, with a reflection index over 20%, is recommended. At present, applications with maximum heights of 20 m are authorised.



- | | | | |
|---|---|------------------------------------|-------------------------------------|
| 1. Concrete | 4. Levelling cement
Planitop HDM Maxi | 6. Adhesive
Ultralite S2 | 9. Sealant
Mapesil LM |
| 2. Adhesive
Mapetherm AR1 | 5. AR glass fibre mesh
Mapegrid G 120 | 7. Mega porcelain stoneware | 10. Grout
Ultracolor Plus |
| 3. Insulating panel
Mapetherm XPS | 8. Anchor bolts
Mapetherm Tile Fix 15 | | |

HANDLING AND LOGISTICS

Packaging
Handling tools

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PACKAGING

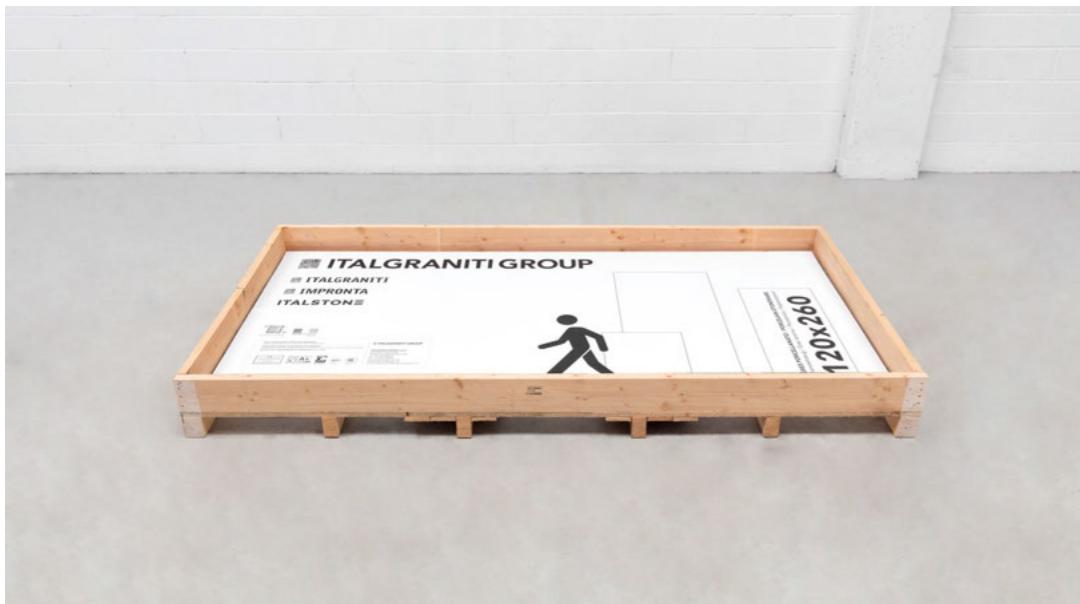
Mega products are packed in different ways depending on size.

- Sizes **160x320** and **120x260 cm**: packed in **wooden crates or on a-frames**.
- Size **120x120 cm**: packed on **pallets with sides**

PACKAGING IN A WOODEN CRATE 160x320 - 120x260 CM

Wooden crates are the preferred packaging. Up to 9/10 crates can be stacked.

SLAB SIZE	CRATE	SLAB		FULL CRATE			EMPTY CRATE WEIGHT
		MQ	KG	PZ	MQ	KG	
160x320x0,6 cm <i>62^{7/8}"x125^{3/4}"x1^{1/4}"</i>	L 344 x P 176 x H 36	MQ 5,12	KG 76,8	PZ 14	MQ 71,68	KG 1201,2	KG 126
120x260x0,6 cm <i>47^{1/4}"x102^{1/3}"x1^{1/4}"</i>	L 284 x P 136 x H 34	MQ 3,12	KG 46,8	PZ 20	MQ 62,4	KG 1010	KG 74



EDGE PROTECTION

Inside the crate, slabs are stacked on top of each other. Polished slab come with a layer of wax between them. The edges and corners are protected by polyurethane airbags which adapt to the space available: they contain liquid polyurethane, which expands and sets once in position to fill the empty spaces.

To keep crates in good condition, they should be stacked and protected in an indoor location; when they are stacked in the normal way for loading trucks and containers, the nylon in the corners is punctured, allowing rainwater to reach the wood of the crate.

PACKAGING ON AN A-FRAME

160x320 - 120x260 CM

The A-frame is an alternative used in some specific cases, at Italgraniti's discretion, to optimise loading. Each slab is separated from the others by a protective sheet the same size as the slab itself.

SLAB SIZE	CRATE	SLAB		FULL CRATE			EMPTY CRATE WEIGHT
160x320x0,6 cm 62 ^{7/8} "x125 ^{3/4} "x1/4"	L 75 x P 330 x H 193	MQ 5,12	KG 76,8	PZ 44	MQ 225,28	KG 3589,2	KG 210
120x260x0,6 cm 47 ^{1/4} "x102 ^{1/3} "x1/4"	L 75 x P 270 x H 153	MQ 3,12	KG 46,8	PZ 44	MQ 137,28	KG 2229,00	KG 170

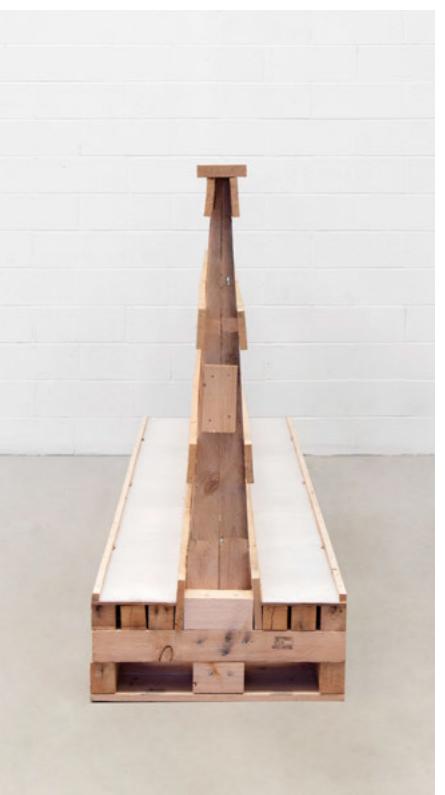
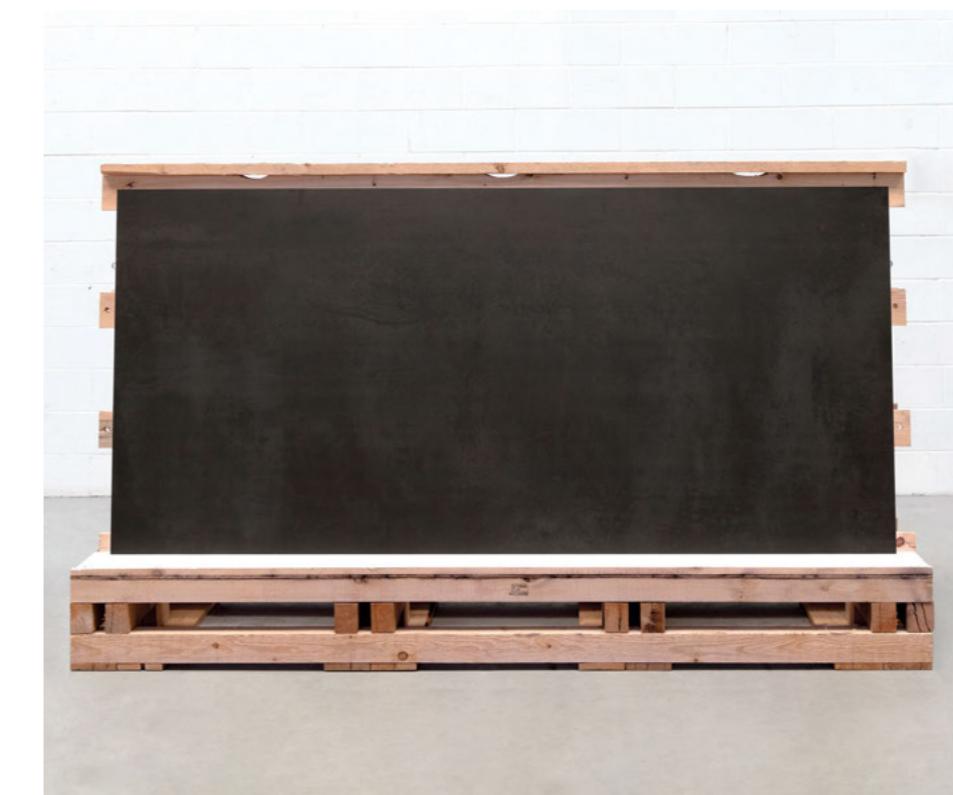


PACKED IN PALLETS WITH SIDES

120x120 CM

Up to 3/4 pallets can be stacked.

SLAB SIZE	PALLET WITH SIDES	BOX		CONTENTS OF PALLET			WEIGHT OF EMPTY PALLET	
120x120x0,6 cm 47 ^{1/4} "x47 ^{1/4} "x1/4"	 L 43 x P 123 x H 64,7	PZ 2	MQ 2,88	KG 43,2	BOX 24	MQ 69,12	KG 1081,8	KG 45



HANDLING TOOLS

The equipment to be used for lifting and handling slabs should be chosen on the basis of the slab's size and the intended activities in the construction site or storage warehouse, and may be:

- **Forklift truck with forks 2.5 Metres long (with the aid of extensions, If necessary).**
- **Suction cup handling bars / frame for handling slabs up to size 160x320 cm.**
- **Single or double pad vacuum lifters for handling slabs up to size 120x120 cm.**



A. For correct handling of the pallet on the long side, the forks must be widened to their maximum setting and placed in the centre of the pallet; ensure contact through the entire depth before lifting.



B. For correct handling of the pallet on the short side (e.g. when unloading containers), forks at least 2.5 metres long should be used to ensure that the material is held perfectly and safely.

HANDLING BY FORKLIFT TRUCK WITH LONG FORKS

For correct handling of crates and A-frames, a forklift truck with fork length at least 2.5 metres is required, with the use of the appropriate extensions if necessary. To ensure that the slabs are transported in complete safety, check that there is sufficient space around the pallet to allow the forklift truck to manoeuvre.



To prevent damage to slabs, do not stack items of different sizes on top of the crates.

HANDLING BY SUCTION CUP HANDLING BARS / FRAME

For manual handling and subsequent positioning of Mega slabs, the use of handling bars / frame with safety suction cups (ideal for slabs size 160x320), with transporter trolley, with crosspieces between the bars if necessary, is strongly recommended to ensure workers' safety and prevent damage to slabs.

Smaller Mega articles (e.g. 120x120 cm) can be handled simply with the aid of two double suction-cup lifters for handling smooth or polished materials, or two special single pad vacuum lifters for handling materials with structured surface.

Tools:



Suction cup handling bars / frame for sizes up to 160x320 cm.



Handling trolleys designed to allow application of adhesive to the back of the slab.



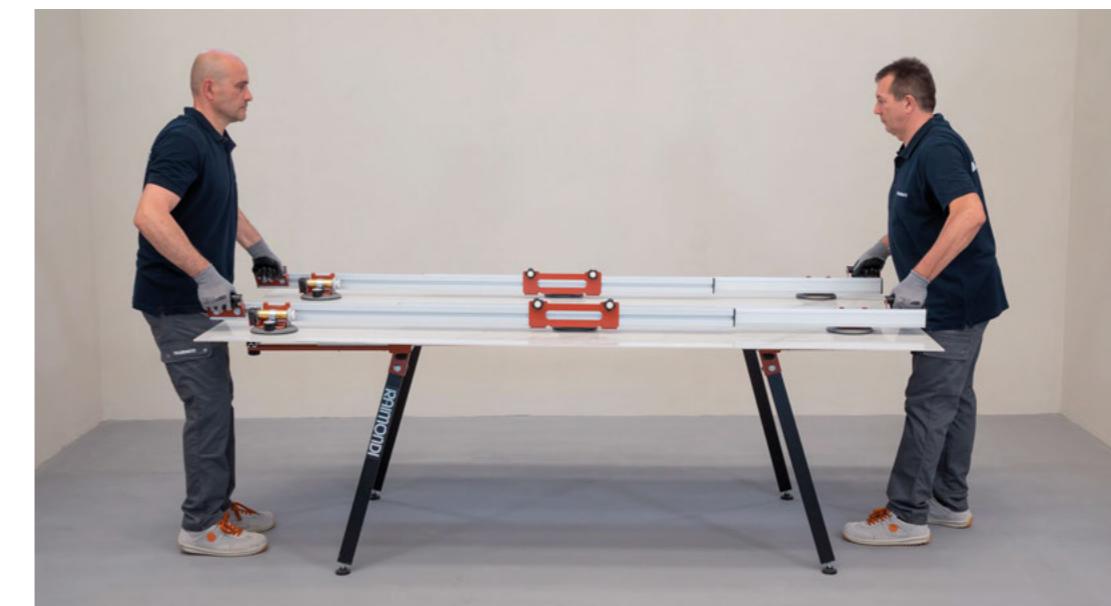
1. Slabs in sizes 160x320/120x260 cm must be handled by two people with the aid of suction cup handling bars / frame.



3. Lift the slab gently and place it on the workbench, or turn it to the vertical position and place it on the handling trolley for adhesive application.



2. Before handling, ensure that the suction cups are adhering firmly to the slab.



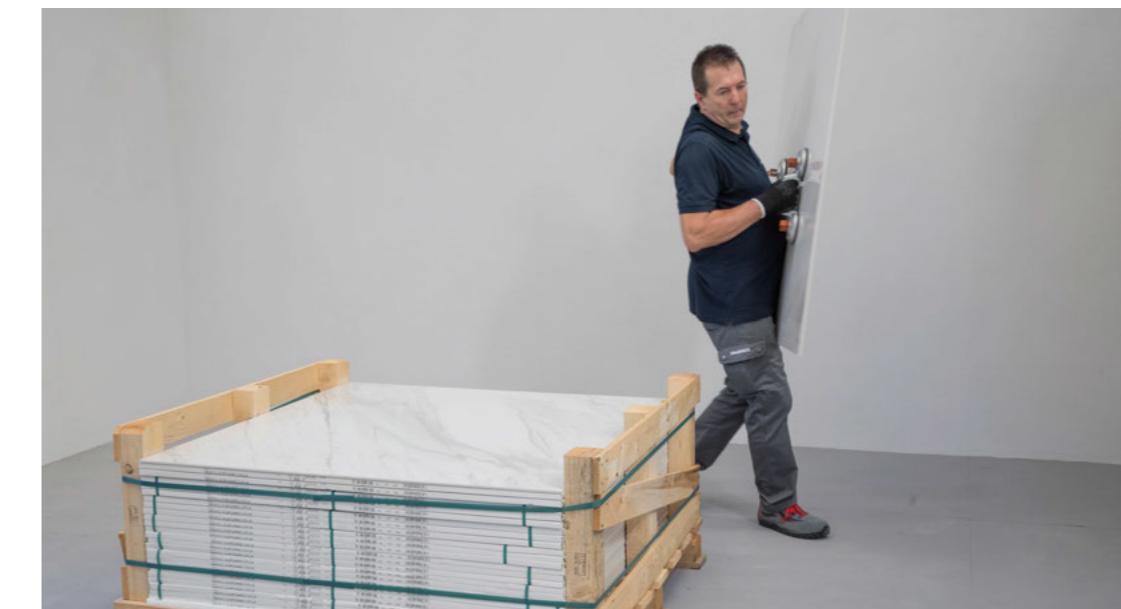
HANDLING BY SINGLE OR DOUBLE PAD VACUUM LIFTERS

Slabs size 120x120 cm can be handled with the aid of single or double pad vacuum lifters.

Tools:



Single or double pad vacuum lifters for sizes up to 120x120 cm.



INSTALLATION

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LAYING TOOLS AND CONDITIONS

The conditions required for the installation of "MEGA" slabs are similar to those necessary for slabs of traditional size and thickness. Mega slabs must be laid using the double spreading method, with the adhesive applied both to the laying substrate and to the back of the slab.

Before laying mega slabs it is important to check that the screed is suitable. It must be:



PERFECTLY DRY.



FREE FROM DUST,
CEMENT RESIDUES AND
ANY MATERIAL ON THE
SURFACE WHICH MAY
PREVENT BONDING.



IT MUST NOT CRUMBLE
AND MUST BE FREE
FROM CRACKS OR
CRAZING.



CURED, IT MUST
HAVE COMPLETED ITS
SHRINKAGE.



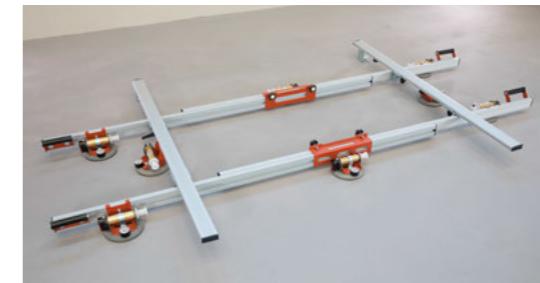
FIRM AND
PERFECTLY FLAT.



INSTALLATION EQUIPMENT



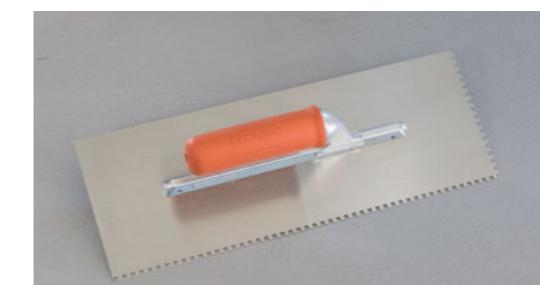
Suction cup handling bars / frame for sizes up to 160x320 cm.



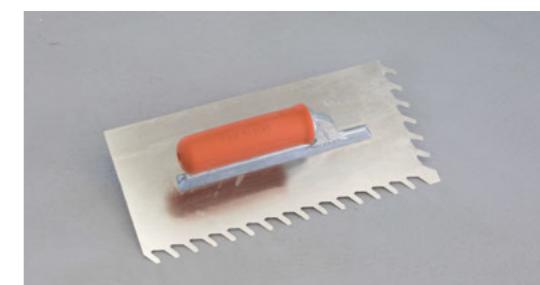
Handling trolleys designed to allow application of adhesive to the back of the slab.



Single or double pad vacuum lifters for sizes up to 120x120 cm.



3X3 mm square notch trowel for back of slab.



10X10 mm slant notch trowel for installation substrate.



Solid bed cement powder adhesive.



Tile vibrator or rubber anti-bounce beater.

INSTALLATION ON FLOOR ON TRADITIONAL SCREED

The following are the main guidelines to be followed during installation.

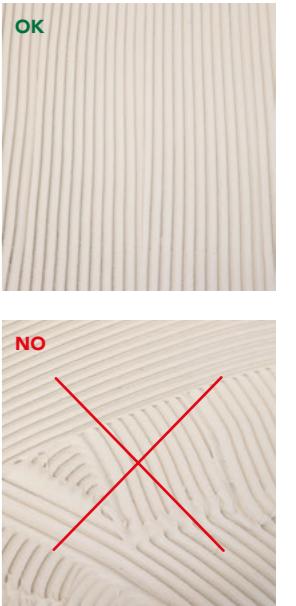
The floor substrate must be cured, flat, thoroughly cleaned, not frozen and not too hot. However, it is also essential to follow the instructions of the producers of the substrate materials and adhesives. The surface must be perfectly flat to allow correct laying of large-sized rectified products.



1. Before proceeding with final installation, check that the substrate is perfectly flat, dry and clean. Use the adhesives described, mixed in accordance with the instructions provided in the relevant technical information. High performance cement adhesives in class C2 or above should be used.



3. After applying the adhesive, make sure that all the lines created by the last pass of the trowel run in the same direction (theoretically, the lines should be parallel to the short side of the slab), taking care to avoid criss-cross lines, which tend to trap air in the centre of the slab.



2. Apply the glue to the floor using a serrated trowel with slanted teeth (10x10 mm), spreading the adhesive 5/10 cm beyond the edges of the slab.



4. Apply the adhesive to the back of the slab using the serrated trowel with square teeth (3x3 mm) and make sure that the adhesive lines in the slab run in the same direction as those created by the last pass of the trowel in the adhesive on the floor. During application, the slab should be vertical, secured to the handling bars / frame with safety suction cups placed on the wheeled transporter trolley.



5. Use the handling bars / frame with safety suction cups to move the slab into position and lay it in place.



7. As with all large-sized tiles, levellers should be used to ensure the very best result in terms of appearance.



6. Use a vibrator for tiles (or alternatively a cushioned plastic hammer) to make sure that the slab is glued evenly to the substrate. Tap from the centre to the edges to assist the venting of any air pockets between the slab, the adhesive and the substrate. Do not use hammers or unsuitable tools.



8. Alternate and lay out the pieces to create a natural distribution of the pattern and grains. We suggest to match grout colour with slab, using a minimum space of 2 mm when laying a single size (as foreseen by European regulation).

INSTALLATION ON FLOOR ON TOP OF EXISTING MATERIALS



INSTALLATION ON TOP OF CERAMIC OR PORCELAIN STONEWARE TILES, MARBLE OR NATURAL STONES.

Check that the existing material is firm, solid and securely fixed in place. The substrate must be free from dust, cement residues, greases, waxes and any material on the surface which may prevent bonding. The material can be cleaned with a solution of caustic soda and water, rinsing thoroughly when done. Otherwise, the surface can be mechanically sanded. Remove all residues and proceed with installation.

LAYING ON TOP OF WOOD AND PARQUET.

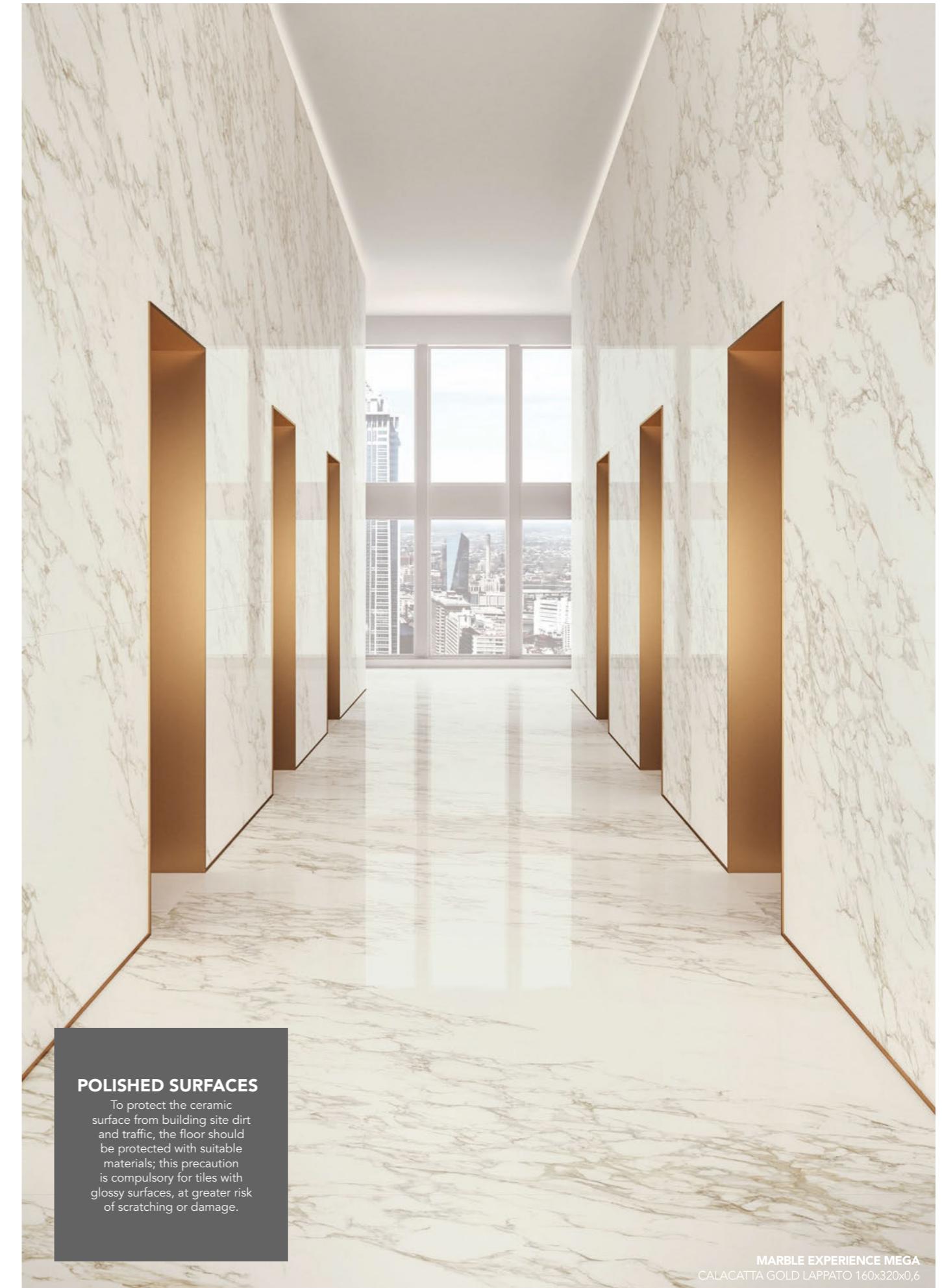
Check that the existing material is firm, solid and securely fixed in place. The substrate must be free from dust, cement residues, greases, waxes and any material on the surface which may prevent bonding. Before installation, the surface must be mechanically sanded down to the raw wood. Remove all residues and proceed with installation.

INSTALLATION ON TOP OF RESIN.

Check that the existing material is firm, solid and securely fixed in place. The substrate must be free from dust, cement residues, greases, waxes and any material on the surface which may prevent bonding. Sand mechanically to roughen the entire surfaces and fill any cracks with suitable materials. Remove all residues and proceed with installation.

INSTALLING ON TOP OF METAL.

Check that the existing material is firm, solid and securely fixed in place. The substrate must be free from dust, cement residues, greases, waxes and any material on the surface which may prevent bonding. Remove all residues and proceed with installation.



INSTALLATION ON WALLS

The following are the main guidelines to be followed during installation.

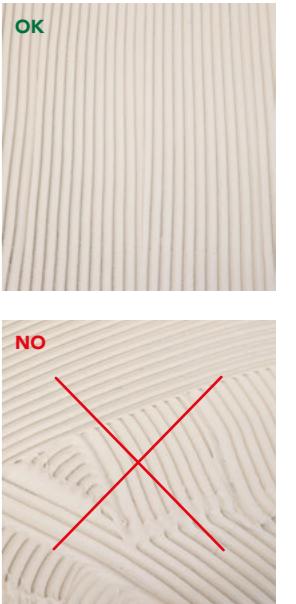
The wall for covering must first be plastered with sand and cement or specific ready-mixed products. However, it is also essential to follow the instructions of the producers of the substrate materials and adhesives. The surface must be perfectly flat to allow correct laying of large-sized rectified products.



1. Before proceeding with final installation, check that the substrate is perfectly flat, dry and clean. Use the adhesives described, mixed in accordance with the instructions provided in the relevant technical information. High performance cement adhesives in class C2 or above should be used. An adhesive with no vertical slip (this characteristic is identified by the letter T) should be used.



3. After applying the adhesive, make sure that all the lines created by the last pass of the trowel run in the same direction (theoretically, the lines should be parallel to the short side of the slab), taking care to avoid criss-cross lines, which tend to trap air in the centre of the slab.



2. Apply the glue to the wall using a serrated trowel with slanted teeth (10x10 mm), spreading the adhesive 5/10 cm beyond the edges of the slab.



4. Apply the adhesive to the back of the slab using the serrated trowel with square teeth (3x3 mm) and make sure that the adhesive lines in the slab run in the same direction as those created by the last pass of the trowel in the adhesive on the wall. During application, the slab should be vertical, secured to the handling bars / frame with safety suction cups placed on the wheeled transporter trolley.



5. Use the handling bars / frame with safety suction cups to move the slab into position and lay it in place.



6. Use a vibrator for tiles (or alternatively a cushioned plastic hammer) to make sure that the slab is glued evenly to the substrate. Tap from the centre to the edges to assist the venting of any air pockets between the slab, the adhesive and the substrate. Do not use hammers or unsuitable tools.



7. As with all large-sized tiles, levellers should be used to ensure the very best result in terms of appearance.



8. Alternate and lay out the pieces to create a natural distribution of the pattern and grains. We suggest to match grout colour with slab, using a minimum space of 2 mm when laying a single size (as foreseen by European regulation).



WALL SUBSTRATE CHARACTERISTICS

Mega slabs can be installed on indoor or outdoor walls, after inspection of the existing substrate to check its suitability. Gypsum plasters and foamed concrete are generally only used for indoor installations; concrete plasters and concrete walls are used for the application of slim thickness porcelain stoneware slabs both indoors and outdoors.

In the case of plasters applied over the insulating panels used in thermal insulation jackets, the insulating panels must be reinforced with a galvanised mesh secured with mechanical anchor bolts. For the specifications of the mesh and anchor bolts, refer to the installation instructions of the insulation system supplier. In the case of mixed substrates consisting of a reinforced concrete framework and masonry filling, the wall must be plastered before installation, reinforcing the plaster with a supporting mesh over the joints between the two materials.

As for laying on floors, it is important to check that the substrate is perfectly flat and free from cracks (if cracks are found, remove dust and seal with suitable materials) and firm, and is cured with completion of its natural shrinkage.

GYPSUM PLASTER (INDOOR).

Only suitable for the indoor installation of porcelain stoneware, gypsum plaster must be dry (residual humidity 0.5% or less), sound and dust-free. The gypsum substrate must be treated with suitable primers, which must have dried completely.

CEMENT PLASTER (INDOOR/OUTDOOR).

The cement plaster layer must have cured sufficiently. Comply with the producer's instructions when using premixed products. The suitability of a cement plaster for the installation of porcelain stoneware slabs depends on its tensile adhesive strength.

Outdoors, the tensile adhesive strength test must show a bond to the substrate able to withstand at least 1 N/mm² (10 Kg/cm²).

CONCRETE WALLS (INDOOR/OUTDOOR).

Concrete must have cured sufficiently, generally after at least three months at suitable temperatures. The concrete wall must be free from laitance or surface treatment, such as paints or anti-evaporating agents, which may interfere with the adhesion of the Mega slab.

FOAMED CONCRETE BLOCK WALLS (INDOOR).

Mega slabs may only be installed on this substrate indoors, further to application and drying of a suitable primer. If outdoor installations are necessary, the wall must be supported with plaster reinforced with galvanised metal mesh. Always consult the producers of the foamed concrete bricks used before installing the porcelain stoneware, for confirmation of the suitability of the specific products and information about the recommended adhesive.



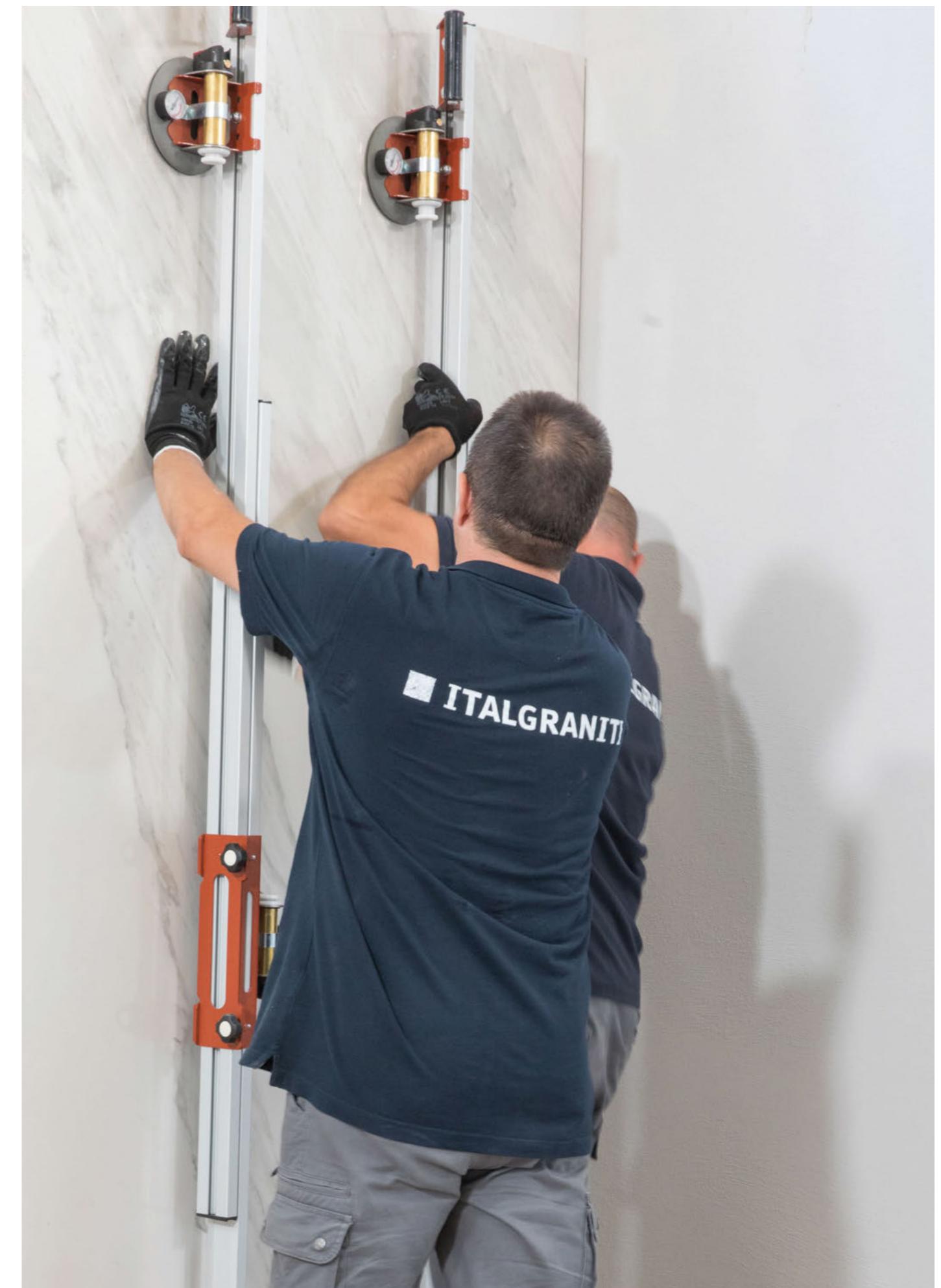
JOINTS AND
EXPANSION JOINTS

CHOOSING SIZES, COLOURS, JOINTS AND EXPANSION JOINTS

The size chosen for installation on walls must allow the installer to perform all the procedures required for correct installation: appropriate handling, application of adhesive to both surfaces, gluing in place and tapping to drive out the air. Therefore, make a thorough check on the installation conditions, paying attention to the height of the wall, the work-site equipment and the spaces available.

Indoor walls: minimum joint 2 mm, as required by European regulations. Expansion joints recommended every 20-25 m², with longest side not exceeding 6 linear metres. Check the regulations in force in the country where the work-site is located.

Outdoor walls: joints of at least 5 mm. Expansion joints recommended every 9-12 m², with longest side not exceeding 4 linear metres. Check the regulations in force in the country where the work-site is located. The thermal expansion of the substrates of outdoor walls is greater than that of indoor walls, and it is therefore preferable to install Mega slabs in pale colours in geographical areas where temperatures may be high.



PRACTICAL GUIDELINES FOR CORRECT INSTALLATION

1. Before installation it is important always to check the shade, working size and grade of the material. No claims are accepted with regard to material already laid with defects visible before installation (see general conditions of sale).
2. It is important to alternate and place the pieces to create a natural distribution of the patterns and veins.
3. If material has to be cut, suitable tools should be used. Materials should be handled with care during these processes to prevent breakages or damage to the edges.
4. Do not mark the surface of the material with pencils or felt-tip pens, especially on polished products.
5. Adhesives that meet the requirements of the UNI EN 12004 European standards (Adhesives for tiles - Definitions and specifications) should be used. Use the adhesives described, mixed in accordance with the instructions provided in the relevant technical information.
6. Use the double coating method: the adhesive must be applied both to the back of the tile and to the wall/floor, to ensure that there are no cavities left between the ceramic covering and the substrate.
7. In large rooms expansion joints should be left at regular intervals. In smaller rooms, it is enough to leave a slight gap between the material and the walls around the edges.
8. When laying polished products, the surface's bright finish should be protected by covering the floor with cloths and cardboard even during installation, to prevent any residues from scratching the surface of the tiles. When using epoxy grouts, remove residues quickly to prevent deterioration of the slabs' shine and beauty.
9. Joints of 2 mm (as required by the European standard) should be left for indoor installations, and of 5 mm for outdoor use.
10. Grouts that meet the requirements of the UNI EN 13888 European standards (Grouts for tiles - Definitions and specifications) should be used.
11. After installation: to protect the ceramic surfaces from building site dirt and traffic, the surface should be protected with suitable materials; this precaution is compulsory for tiles with polished surfaces, at greater risk of scratching or damage.

WORKING SIZES

All Mega sizes are rectified.

Working sizes of the individual commercial sizes:

160x320x0,6 cm 62 ^{7/8} "x125 ^{3/4} "x1/4"	120x260x0,6 cm 47 ^{1/4} "x102 ^{1/3} "x1/4"	120x120x0,6 cm 47 ^{1/4} "x47 ^{1/4} "x1/4"	THICKNESS 6 MM
1597x3197 mm	1197x2597 mm	1197x1197 mm	

RECOMMENDED ADHESIVES

ADHESIVES

Adhesives that meet the requirements of the UNI EN 12004 European Standards (Adhesives for tiles - Definitions and specifications) should be used.

UNI EN 12004 establishes the performance characteristics of a ceramic tile adhesive at the European level, dividing products into three main categories:

- C: cementitious adhesives, subdivided in turn into two subcategories – normal setting and fast setting.
- R: Reaction resin adhesives.
- D: dispersion adhesives.

NB: laying by the traditional method on a liquid cement mortar is not recommended. The choice of the wrong adhesive might cause damage to the material such as cracking and the craquelé effect.

GROUTS

Grouts that meet the requirements of the UNI EN 13888 European Standards (Grouts for tiles - Definitions and specifications) should be used.

UNI EN 13888 establishes the performance characteristics of a grout at the European level, dividing products into two main categories:

- CG cementitious.
- RG reaction resin.

NB: When using epoxy grouts, remove residues quickly to prevent deterioration of the slabs' shine and beauty.

ADHESIVES FOR INSTALLATION ON FLOORS

STANDARD FLOORS	CLASS
HIGH PERFORMANCE CEMENT ADHESIVES	C2E S2 (NORMAL SETTING)
HIGH PERFORMANCE CEMENT ADHESIVES	C2FE S2 (FAST SETTING)

FLOOR ON RADIANT CEMENTITIOUS SCREED	CLASS
HIGH PERFORMANCE CEMENT ADHESIVES	C2E S2 (NORMAL SETTING)
HIGH PERFORMANCE CEMENT ADHESIVES	C2FE S2 (FAST SETTING)

ADHESIVES FOR INSTALLATION ON WALLS

INDOOR WALL	CLASS
HIGH PERFORMANCE CEMENT ADHESIVES	C2E S2 (NORMAL SETTING)
HIGH PERFORMANCE CEMENT ADHESIVES	C2FTE S2 (FAST SETTING SLIP-RESISTANT)

OUTDOOR WALL WITH GLASS FIBRE REINFORCING MESH - GLASS FIBRE BACKING	CLASSE
HIGH PERFORMANCE CEMENT ADHESIVES	C2E S2 (NORMAL SETTING)
HIGH PERFORMANCE CEMENT ADHESIVES	C2FE S2 (FAST SETTING)
Wide joint, calculated on the basis of weather conditions, local regulations and the possible deformation of the supporting surface.	

OUTDOOR WALL WITH GLASS FIBRE REINFORCING MESH - GLASS FIBRE BACKING	CLASS
HIGH-PERFORMANCE DUAL COMPONENT POLYURETHANE ADHESIVE	R2T (NORMAL SETTING)
HIGH PERFORMANCE DUAL COMPONENT CEMENT ADHESIVE	C2FE S2 (FAST SETTING)
Wide joint, calculated on the basis of weather conditions, local regulations and the possible deformation of the supporting surface.	



ADHESIVES



GROUTS

GROUTING AND CLEANING AFTER INSTALLATION

With normal-setting adhesives, grout the floor after 24/48 hours; with fast-setting adhesives, grout after 4 hours.

For polished materials, use cementitious grouts in matching colours; do not use flexible synthetic mortars on these surfaces, especially in contrasting colours. Do not add additives/latex to the grout, as these products make it extremely difficult to remove residues with ordinary cleaning products. If you decide to use a grout which is not recommended, always test it on the material first to check the result.



- Apply grout over the surface for grouting with a rubber trowel, taking care not to leave any gaps.
- Grout a small area at a time, removing excess with wet sponges or rags (use clean water only), or use the special machines, removing excess while the film of grout is still wet.

CLEANING AFTER INSTALLATION

Italgraniti products have a stain-resistant, hygienic, easy-care surface. To ensure these characteristics, it is essential to clean the material thoroughly immediately after installation, removing the cementitious residues that create a film on the product's surface that may tend to trap dirt. Poor or late removal of mortar, adhesive and grout residues may leave streaks and smears which are difficult to remove. Initial cleaning must therefore be carried out immediately after installation, using acidic products, rubbing briskly and then rinsing with plenty of water. This will remove grout, adhesive, cement etc. residues. All commercial cleaners may be used, except for products which contain hydrofluoric acid (compounds and derivates), as specified by the EN 14411 standard.

PROTECTION AFTER INSTALLATION

To protect the ceramic surface from building site dirt and traffic, **the floor should be protected with suitable materials; this precaution is compulsory for tiles with polished surfaces, at greater risk of scratching or damage.**

ROUTINE CLEANING

For routine cleaning, it is enough to follow a few simple precautions which are mainly common sense once the material's characteristics are borne in mind.



USE NEUTRAL, WAX-FREE DETERGENTS DILUTED IN WATER, ALWAYS FOLLOWING THE INSTRUCTIONS ON THE PACKS.



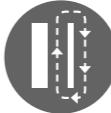
CLEAN WATER MAY BE SUFFICIENT FOR FREQUENT WASHES.



ALL POSSIBLE CARE SHOULD BE TAKEN TO PREVENT THE PRESENCE OF MATERIAL FROM OUTDOORS WHICH MAY CAUSE SCRATCHES, QUARTZ SAND AND OTHER MATERIALS, SINCE THEY MAY CAUSE ABRASION OF THE SURFACE AND REDUCE ITS SHINE.



DO NOT USE ACID PRODUCTS OR HARD OR SHARP TOOLS WHICH MAY DULL THE SURFACES OF POLISHED MATERIALS AND ATTACK CEMENTITIOUS GROUTS.



VENTILATED FACADES
THE INSULATION INSTALLED BEHIND THE SLAB COVERING IS MOST EFFECTIVE WHEN PERFECTLY DRY; DO NOT USE VIOLENT WATER JETS.

NB: Waxes, oily soaps and impregnating materials (water and oil-repellents) should not be used on porcelain stoneware.

The insulation installed behind the slab covering is most effective when perfectly dry; do not use violent water jets.

EXTRAORDINARY CLEANING

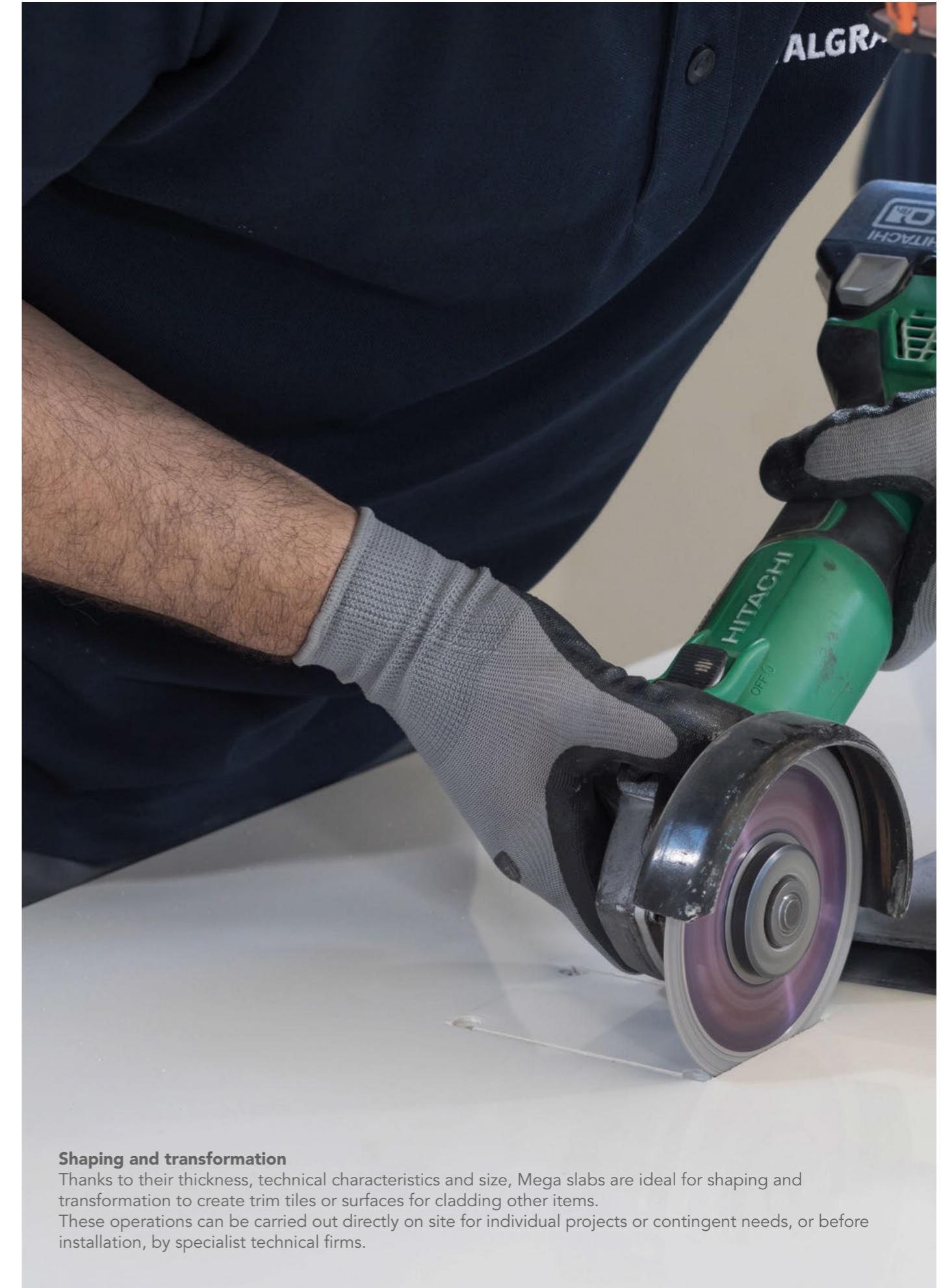
If the product requires extraordinary cleaning due to particularly stubborn stains, action should be taken as soon as possible, using the specific detergents recommended in the table below:

STAINS FOR REMOVAL	TYPE OF DETERGENT	RECOMMENDED CLEANERS
OIL AND GREASE		
BEER	ALKALINE CLEANERS	FILAPS87
CHEWING GUM		
VINYL GLUE		
TYRE MARKS		
SILICONE		
POLYURETHANE FOAM	ALKALINE STAIN-REMOVERS OR SOLVENTS	FILAZERO SIL
ADHESIVE TAPE RESIDUES		
WAX PASTEL MARKS		
INK		
NICOTINE		
URINE AND VOMIT	ALKALINE STAIN-REMOVERS OR CLEANERS	FILAPS87 - FILASR95
MARKER PEN STAINS		
HAIR DYE		
COFFEE		
WINE		
BLOOD		
COCA COLA		
SUCTION-CUP MARKS	ALKALINE CLEANERS	FILAPS87 - FILACR10
RUST	ACID CLEANERS OR RUST CONVERTERS	DETERDEK - FILANO RUST
CEMENT-SALT-PETRE		
LIMESCALE		
ALUMINIUM / METAL MARKS	ACID CLEANERS OR ACID DESCALER	DETERDEK - FILAPH ZERO
PENCIL		
EPOXY FILLER	ALKALINE CLEANERS	FILACR10
VARNISH / PAINT	ALKALINE PAINT STRIPPERS OR SOLVENTS	FILANO PAINT STAR
GRAFFITI		
DIRTY GROUT LINES	ALKALINE CLEANERS	FUGANET
BITUMEN	SOLVENTS	FILASOLV
CANDLE WAX		
ROUTINE MAINTENANCE	NEUTRAL CLEANERS	FILACLEANER
SCRATCH REMOVER WAX	ALKALINE STAIN-REMOVERS OR SOLVENTS	FILASOLV - FILAZERO SIL

NB: On polished products, do not use FILA DETERDEK acid cleaners at high concentrations. They should be diluted in water to 10-15%. Before any use of cleaners, it is important always to test them on part of the surface, especially on polished products. All cleaning products should be diluted with water.

CUTTING TO SIZE ON SITE

Cut to size on site and tools	56
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Rectangular holes and L-shaped cut	64



Shaping and transformation

Thanks to their thickness, technical characteristics and size, Mega slabs are ideal for shaping and transformation to create trim tiles or surfaces for cladding other items. These operations can be carried out directly on site for individual projects or contingent needs, or before installation, by specialist technical firms.

CUT TO SIZE ON SITE AND TOOLS

Mega slabs can be cut to size very easily with the aid of few simple tools.
 Slabs should be cut on a flat work surface.
 Cutting should be performed by at least two workers.
 Just one worker is sufficient for drilling holes.
 Preset procedures must be followed for each operation.

TOOLS REQUIRED



Suction cup handling bars / frame for sizes up to 160x320 cm



Handling trolleys designed to allow application of adhesive to the back of the slab.

Workbench.



Single or double pad vacuum lifters for linear and diagonal cuts up to 320 cm.

TOOLS REQUIRED



Cutting guide with scorer
for linear and diagonal cuts up to 320 cm.



Cutter pliers.



Diamond pads for finishing edges
After cutting.



Diamond core drilling bits for wet drilling.



Resinous diamond discs.



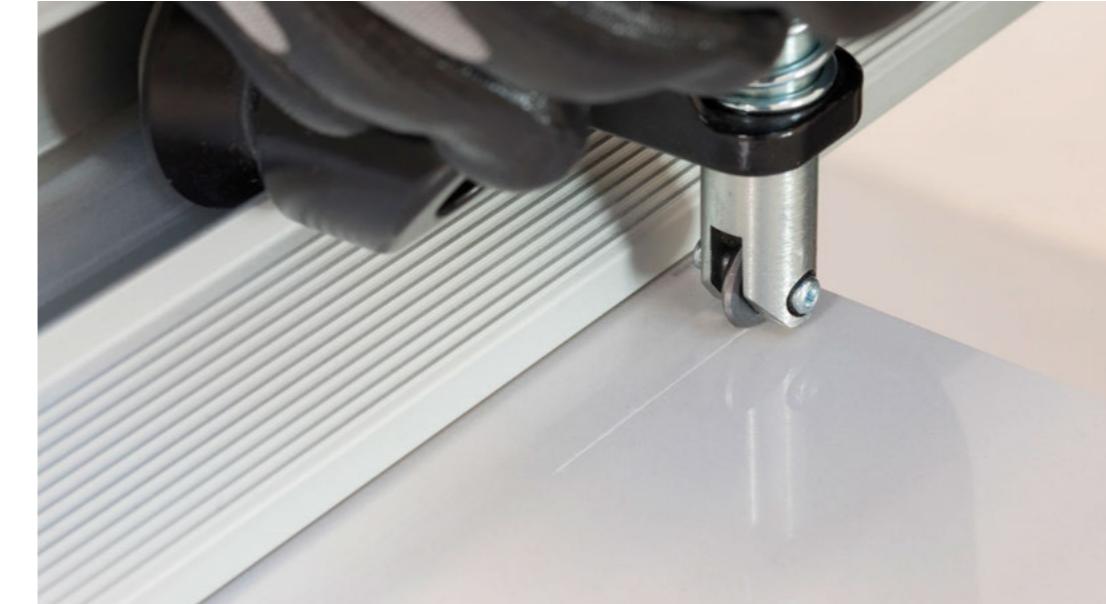
Drill / Power screwdriver.

STRAIGHT CUTTING



1. MARKING

- Mark the part to be cut off at the ends of the slab.



2. SCORING

- Score a length of 5 cm at one end of the slab, pushing the scoring carriage towards the edge of the slab, and repeat at the other end.
- Complete scoring along the distance between the two opposite edges.



- Position the cutting guide and make sure that the wheel in the scoring carriage is on the cutting mark, then fix the cutting guide in place using the suction cups.



NB: Move the scoring carriage forward, applying constant pressure throughout the length of the cut.

**3. BREAKING OFF**

- Use the cutting guide to move the slab so that the scored part projects 5/10 cm off the work surface.
- Release the suction cups to move the cutting guide towards the middle of the slab and start to snap off the slab, positioning the cutting pliers on the line scored in it.
- Apply gentle pressure with the pliers and gradually increase until the slab breaks.



- Move to the opposite side, place the pliers on the line scored in the slab and apply gentle pressure, gradually increasing until the slab breaks.
- To complete the cut, apply a slight downward pressure along the entire length of the slab with the pliers.

**4. FINISHING THE EDGES**

- Sharp edges must be rounded with a diamond polishing pad or diamond resin bond discs.



DRILLING HOLES:

ROUND HOLES



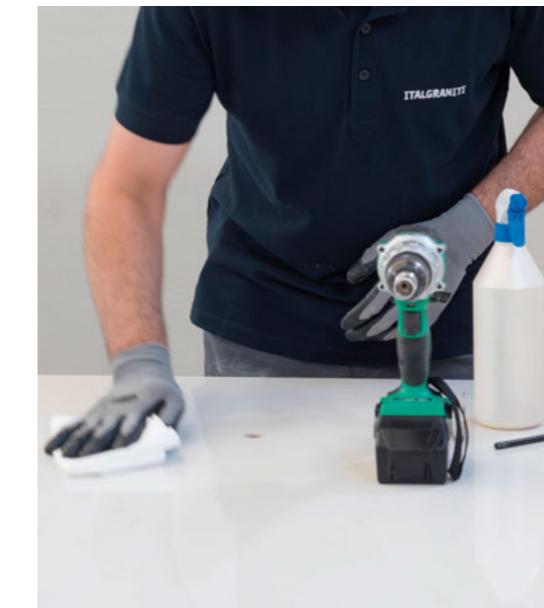
1. Place the Mega slab on a hard, firm, non-slippery surface such as wood or concrete. Wet the area where the hole is to be drilled with water.



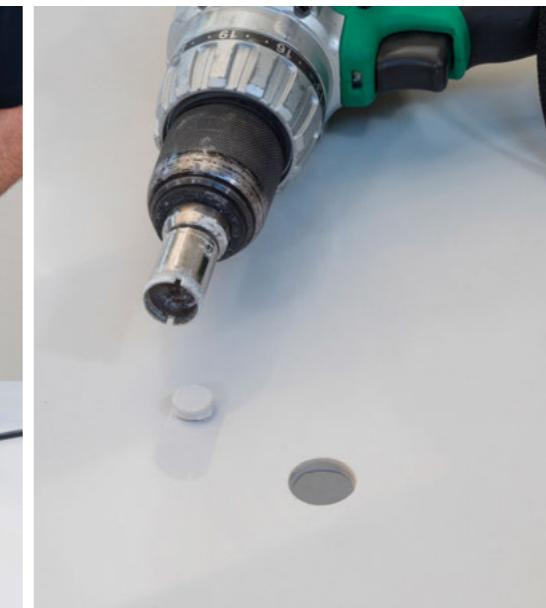
3. Keep the drill/screwdriver at an angle of 90° and, applying gentle, constant pressure, make circular movements at an angle of about 5°-10°.
Do not push the drill/screwdriver straight downwards and make sure that there is sufficient water to keep the tool wet throughout the procedure.



2. Drill the hole at an angle of 75°-85° to a depth of 1-2 mm into the slab.



4. Clean to remove dirt and residues when done.



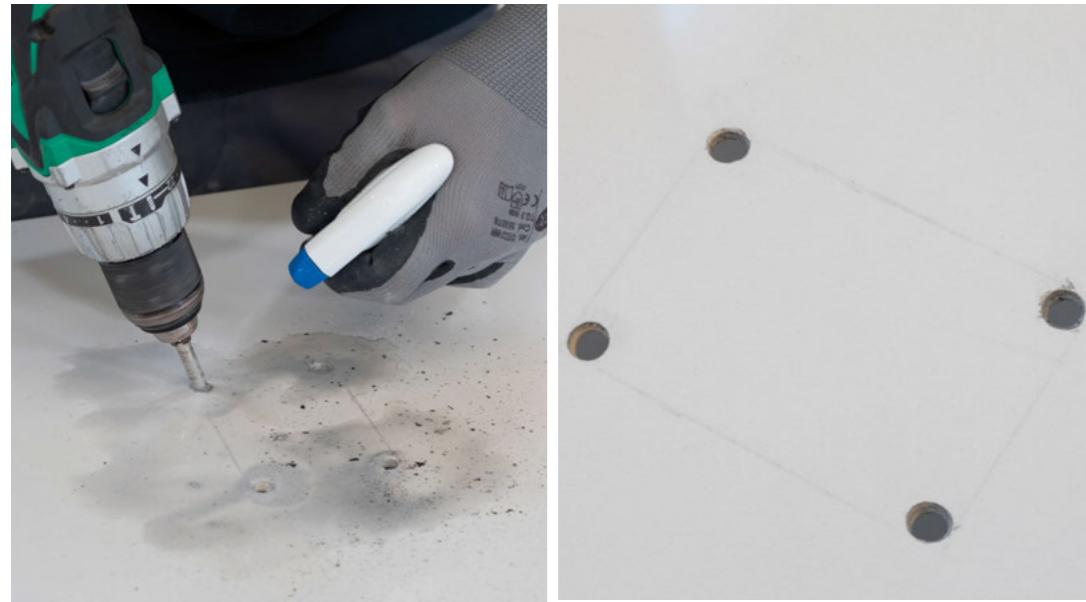
RECTANGULAR HOLES AND L-SHAPED CUT



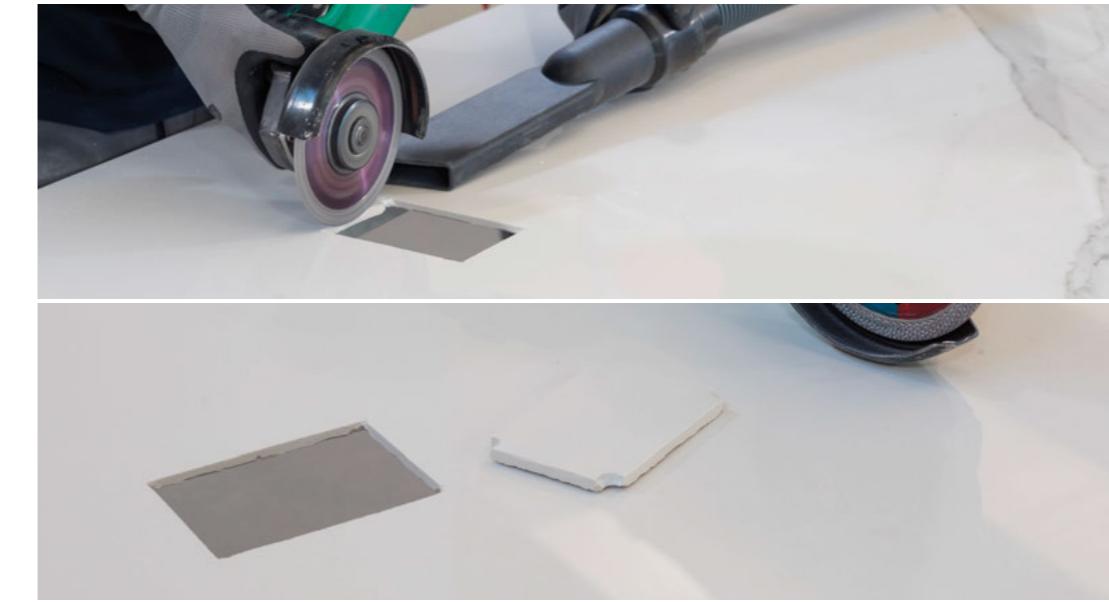
1. Marking: mark the part to be cut off on the slab.



3. Cut the section between the hole and the end of the slab using an angle-grinder fitted with a diamond blade.

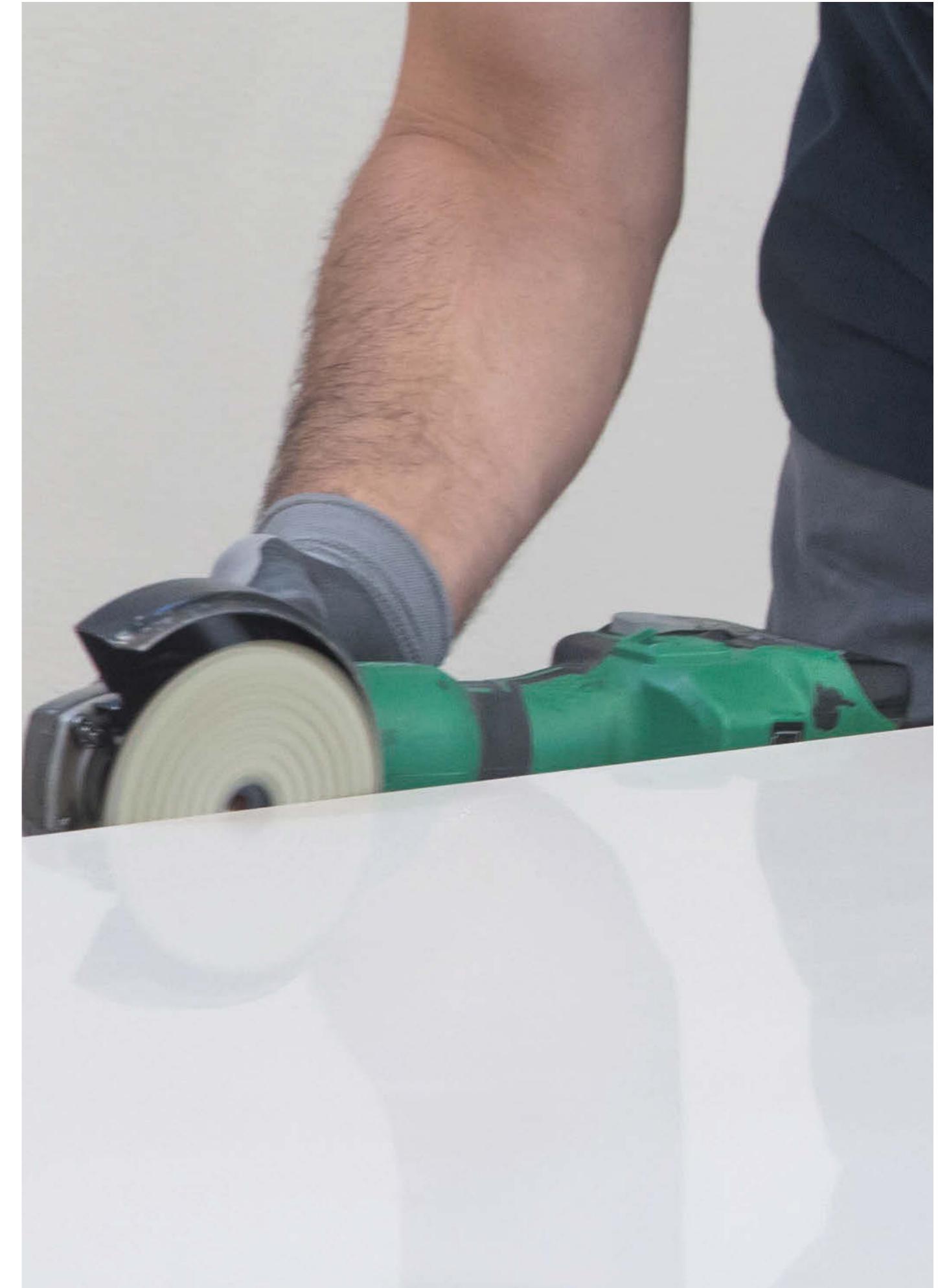


2. Hole: use a diamond core drilling bit to drill a hole at the point where the lines marked on the slab meet (round holes 7/8 mm in circumference).



SPECIAL PROCESSES

In-line processes for trim tiles	68
Application of glass fibre backing	70
Application on furnishing materials and furniture	71
Lamination of glass and Mega slabs	72



IN-LINE PROCESSES FOR TRIM TILES

CUTTING

In-line cutting produces precise submodules of Mega slabs on the basis of regular or rounded geometric designs. The pieces produced can then be installed or their edges can be finished. Depending on requirements, in-line cuts can be performed using different machines, and subdivide into:



CUTTING WITH DIAMOND DISC
DISCS MUST BE SUITABLE FOR CUTTING PORCELAIN STONEWARE AND IN GOOD CONDITION.



SCORING CUTS
THE FRONT OF THE SLAB IS SCORED ON A CUTTING BENCH.



CUTTING WITH NUMERICAL CONTROL MACHINE



CUTTING WITH WATER-JET MACHINE



45° CUTTING
USE OF DIAMOND DISCS AT A 45° ANGLE FOR THE CREATION OF EDGES SUITABLE FOR APPLICATION ON SUBSTRATES TO BE CLAD ON MORE THAN ONE SIDE: STEPS, BATHROOM AND KITCHEN COUNTERS, ETC. THE NEW EDGE THEN HAS TO BE ROUNDED.



POLISHING
USE OF DIAMOND AND ABRASIVE WHEELS FOR FINISHING AND POLISHING THE ENTIRE THICKNESS OF THE EDGE. THE RESULT IS PLEASANT TO THE TOUCH AND VISUALLY ATTRACTIVE. TOGETHER WITH EDGE-ROUNDING, IT PREPARES THE MEGA SLAB FOR APPLICATIONS WITH VISIBLE EDGES SUCH AS TABLES, DOORS, FURNITURE FRONTS, ETC.



ROUNDING
USE OF DIAMOND AND ABRASIVE WHEELS FOR ROUNDING SHARP EDGES. THE DEGREE OF ROUNDING CAN BE VARIED, AND STRAIGHT BEVELLING IS ALSO POSSIBLE, DEPENDING ON THE VISUAL AND TACTILE EFFECT REQUIRED.

HOLES

Holes drilled on the production line are generally created to allow Mega slab portions to be mounted on substrates to produce furnishings. Examples include holes for mixer taps and for the built-in installation of sinks and hobs. Depending on requirements, in-line holes can be produced using different machines, and subdivide into:



DRILLING WITH NUMERICAL CONTROL MACHINE
PRELIMINARY HOLE MADE WITH DIAMOND BIT, WIDENED WITH CORE BIT IF NECESSARY.



DRILLING WITH WATER-JET MACHINE
THIS PROCEDURE IS ABLE TO PRODUCE SMALL-DIAMETER HOLES..

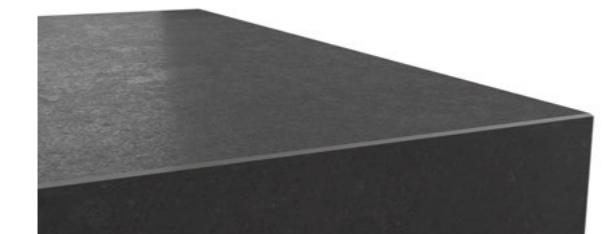
EDGE FINISHING EXAMPLES:



STRAIGHT SQUARED EDGE



DOUBLE STRAIGHT SQUARED EDGE



L-SHAPED SQUARED EDGE



FULL BULLNOSE EDGE

APPLICATION OF GLASS FIBRE BACKING

A glass fibre mesh backing can be applied to the entire underside of the slab, using an epoxy adhesive. This process increases the slab's flexibility, reduces the stresses applied to it, renders it more ductile and increases its modulus of rupture in the event of extraordinary stresses. It is an optional process, since the technical characteristics of Mega slabs themselves comply with the normal standards.

It is recommended for installation on ventilated curtain walls, to prevent material from falling in the event of accidental breakages.

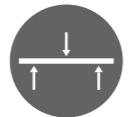
Mega slabs are manufactured without mesh backing; in the event of special requirements, speak to your sales contact to arrange the right application for you.



INCREASES FLEXIBILITY



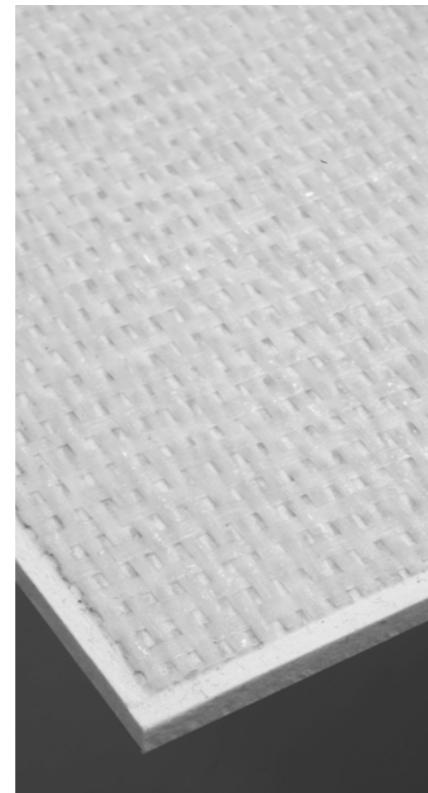
REDUCES STRESSES



INCREASES BREAKING STRAIN VALUE



RECOMMENDED FOR INSTALLATION ON VENTILATED CURTAIN WALLS



APPLICATION ON FURNISHING MATERIALS AND FURNITURE

In view of its technical characteristics and its thickness of just 6 mm, the innovative Mega material is suitable for application on other materials used for the construction of indoor and outdoor furniture, as a surface finish. Depending on the way in which the slab edges are finished, Mega can be applied to surfaces only, leaving the edges of the original material, or can cover every side of the substrate, sealing the joints on the edges with professional coloured grouts of the type used in marble-working.

As for applications on floors and walls, it is fundamental for the surface of the substrate used to be flat, stable over time, clean and free from cracks. The main types of substrate used are:

- Woods
- Metals
- Glass and plate glass
- Marble resin composites
- High-density polystyrene
- Extruded polystyrene
- Marine plywood panels
- Various composites
- Alluminium honeycomb sandwich panels
- Recovered stone and marble

There is no standard for the selection of the adhesives or sealants of use when bonding Mega material to other substrates; however, it is fundamental for the product selected to withstand small movements or expansion of the substrate, so that the bonds do not fail over time.

The categories of products most widely used by Italgraniti's transformer partners can be summarised as:

- Fast-curing dual component adhesives
- Epoxy adhesives
- Dual component polyurethane adhesives (such as Mapei Ultrabond I 730)
- Thixotropic mounting adhesives (such as Mapei Ultrabond MS Rapid)
- Putties

It is always important to comply with the application instructions of the producer of the chosen adhesive.

THE CORRECT APPLICATION OF MEGA TO OTHER MATERIALS MUST ENSURE:

1. PERFECT BONDING BETWEEN THE STONEWARE LAYER AND THE SUBSTRATE
2. SPREADING OF THE ADHESIVE AND COMPLETE WETTING OF THE ZONE BETWEEN THE SUBSTRATE AND THE SLAB, TO PREVENT ANY RESIDUAL AIR BUBBLES.
3. THIN LAYER OF ADHESIVE, TO PREVENT UNSIGHTLY LEAKS AROUND ANY VISIBLE EDGES.



BEFORE



AFTER



BEFORE

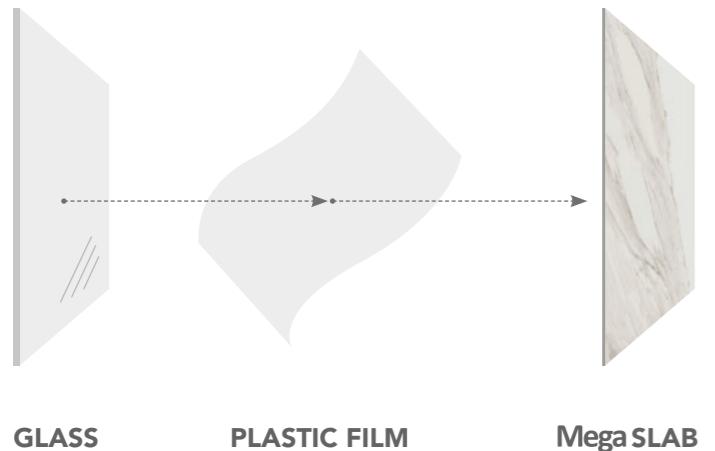


AFTER

LAMINATION OF GLASS AND MEGA SLABS

When using a glass substrate, a lamination process can be used instead of bonding using adhesives or sealants. Lamination, often used to combine sheets of glass, is carried out by placing a plastic film (PVB – polyvinyl butyral, or EVA - ethylene vinyl acetate) between the sheet of glass and the Mega slab: under the combined action of heat and pressure, the plastic sheet melts and acts as a transparent adhesive between the glass and the ceramic material.

The technical and appearance characteristics of the lamination process are unrivalled: the plastic sheet is invisible, and in the event of accidental breakage it prevents glass or ceramic fragments from escaping into the surrounding environment.



WHITE EXPERIENCE MEGA
APUANO LAPPATO 120x240x0,6
METALINE
CORTEN 80x160 - THORN 29x34



FOR MORE DETAILS,
CHECK OUR TUTORIAL VIDEOS
ON THE WEBSITE AND ON THE YOUTUBE CHANNEL
italgranitigroup.com



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