

Decorative Back Lit Wall Panels (71GLS)



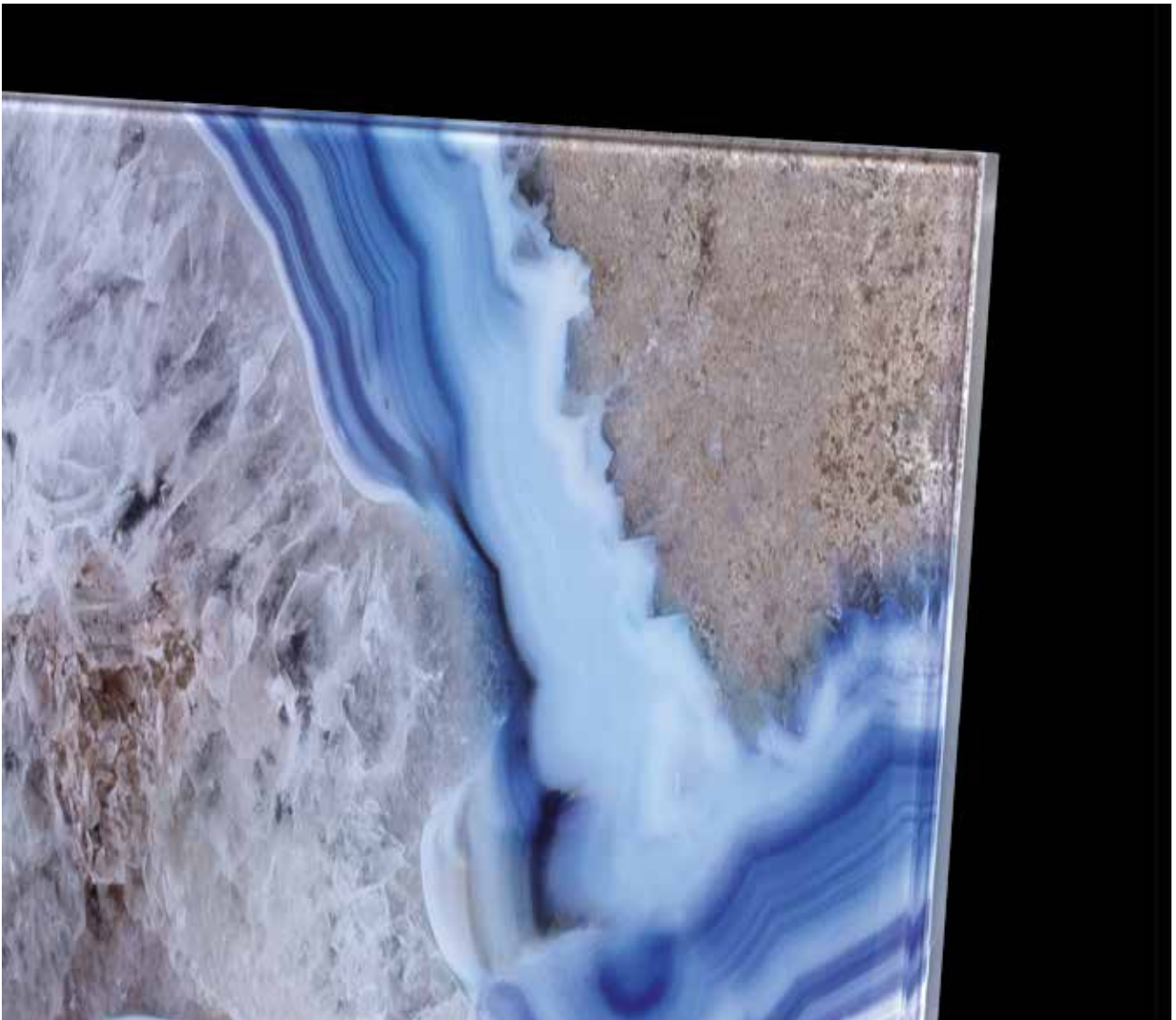
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**HIGH DEFINITION MEETS
THE ELEGANCE OF GLASS**

TECHNICAL MANUAL



TECHNICAL MANUAL DECORATIVE GLASS

Installation, transport, storing and handling

Decorative Glass Large Format Slabs

Decorative Glass slabs are an expression of Italian Design among luxury interior coverings. The result of research on composite materials that expresses the synthesis between art and technology, they offer the possibility of creating environments of great aesthetic impact with maximum design freedom.

1 – How are the Decorative Glass slabs made

The composite of special highly transparent laminated glass, worked with an ancient technique which allows, within the slab, the permanent application of special materials decorated with digital technologies and manual interventions. The thickness of the slab is 8.7mm, with the possibility of having greater thicknesses in the case of special applications. Tempered glass available on request

2 – How to project Decorative Glass

The ability to provide a simulation of the future installation and to respond to requests of the designer are just some of the strengths of the professional service that revolves around the Decorative Glass product; this is thanks to thirty years of experience in interior design, which has grown over time between creativity and innovation. Creativity and innovation have always been the two words that have accompanied our story, Decorative Glass best expresses this synthesis.

3 – Maximum dimensions and special requests

The Decorative Glass slabs reach a maximum size of 1480 x 3000 mm. Within these measurements, it is possible to have custom modifications made upon request, such as special holes and shapes. Our technical office remains at disposal to respond to your needs.

4 – Technical Characteristics

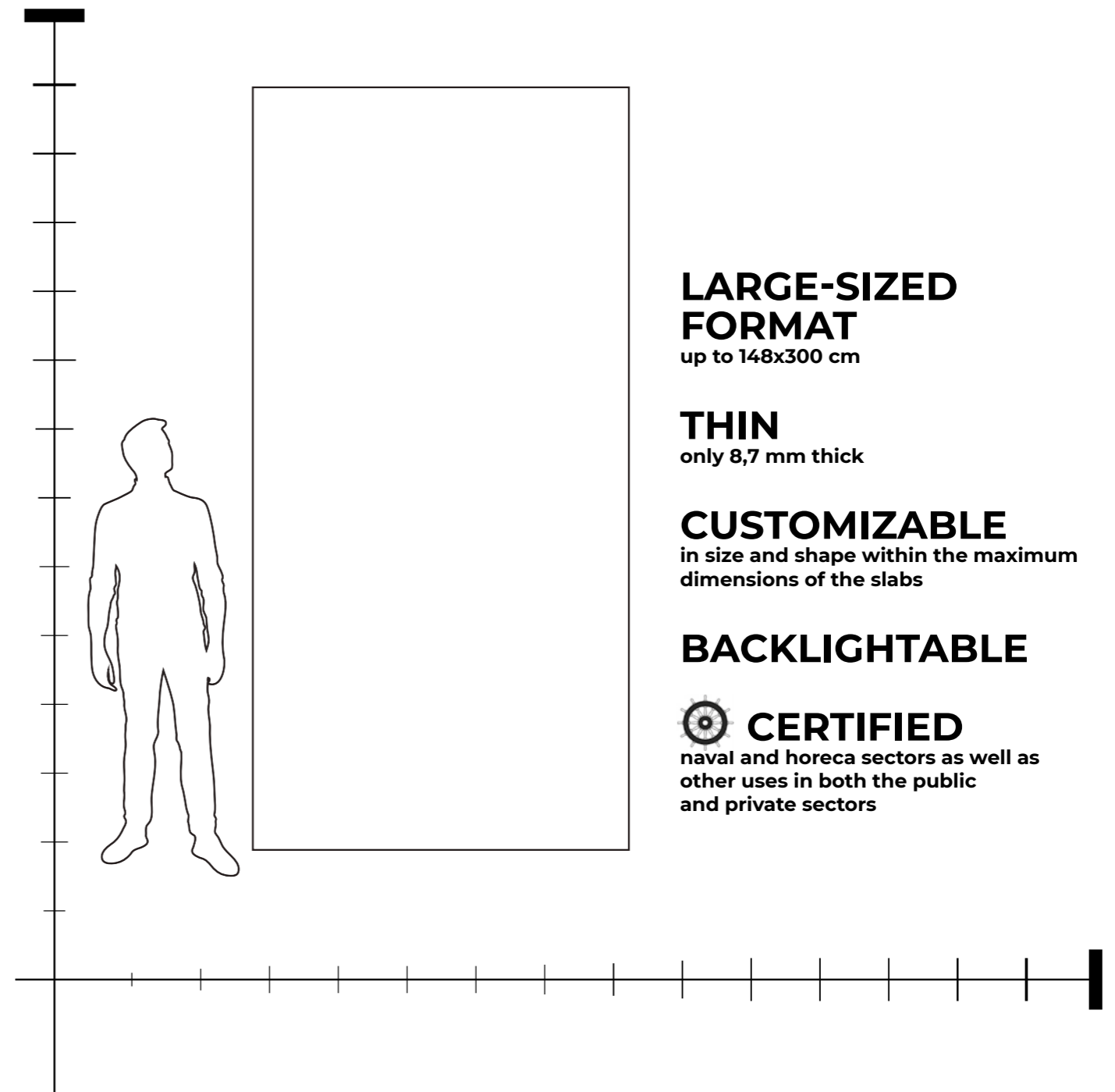
In the past years, the constant and increasing research of glass slabs producers has allowed us to reach very high performance standards.

Decorative Glass slabs are made out of laminated safety glass. The layering process gives the glass a high impact resistance, an improvement in acoustic performance and, in case of breakage, it does not release dangerous glass fragments.

The extremely hard and scratch-resistant nature of Decorative Glass allows it to be used as a slab for the decorative coating of any surface.

Decorative Glass sheets have all the latest innovations that are applied superficially to this material, such as antibacterial treatment, self-cleaning or other surface mechanical effects. This manual is intended to provide useful information for a correct installation.

These are decorative sheets in laminated glass suitable for covering walls and furnishing elements in an indoor environment. Decorative Glass is available in the maximum size of 1480x3000 mm and has a thick-ness of 8.7 mm.



PRELIMINARY CHECK OF SUPPORTS AND MATERIALS

Before proceeding with installation, it is essential to check that the materials involved in the installation are suitable for use and that the substrates meet the requirements of flatness, seasoning, humidity, cleaning and mechanical resistance described below.

Materials

Make sure to use materials compatible with Decorative Glass. The use of materials containing substances such as sulfur, tin, hydrofluoric acid and iron can interfere with the product, generating aesthetic defects.

Planarity

A fundamental requirement of the support is flatness. When Decorative Glass slabs are installed, the tolerance measured with a straight edge of length 2 meters is ± 3 mm. Any irregularities must be restored through the use of a suitable cement-based smoothing compound.

Seasoning and maximum humidity

Whatever the nature of the support is, it must have completed its maturation cycle, so that it is dimensionally stable and not subject to shrinkage after laying the slabs.

Plaster-based substrates, such as gypsum plasters, must reach a maximum residual humidity of 0.5%. For premixed cement-based plasters, it is advised to follow the supplier's instructions regarding curing / drying times and mechanical strengths.

Cleaning

The supports must be clean, free of detaching parts, paints, waxes, greases, oils, or anything else may affect good adhesion of the adhesive. Concrete substrates must be free of release agent residues. A preventive cleaning with hot water hydro-cleaner or by sandblasting is always recommended. Existing ceramic coatings must be thoroughly degreased with alkaline detergents or with an aqueous solution of caustic soda. Alternatively, you can sand the surface with 60-80 grit sandpaper and vacuum the dust.

Mechanical resistance

In order to ensure a good degree of adhesion, the substrates must not be dusted on the surface. To improve this characteristic, suitable consolidating primers can be used.

BONDING

For the installation of the Decorative Glass slabs, we recommend the use of the two-component reactive adhesive Ultra bond Eco PU 2k, by Mapei S.p.A., or similar. For the application of Decorative Glass on cementitious substrates, it is possible to use high-performance cementitious adhesives belonging to the C2TES2 category according to UNI EN 12004.

The laying of the slabs must always be carried out with the "Double Spreading" technique: the double coating, to be effective, must be done in the correct way. The adhesive must be applied parallel to the short side of the slab and, in the same direction, both on the support and on the back of the slabs (intersections between the adhesive spreading directions that would lead to trapping air bubbles in the

intersections between spatulas are to be avoided). The parallel application to the short side is motivated by the aim of facilitating the expulsion of air thanks to the beating operation, offering the shortest path to the air itself. The adhesive must therefore be spread on the back of the slab using a 3.5x3.5 mm square toothed trowel (consumption approx. 1.8 kg / m²) and on the substrate with a 6x6 mm square toothed trowel (consumption approx. 2.8 kg / m²). In the case of plasterboard surfaces, whose flatness is typically better, it is allowed to spread the coating on the wall with a 3.5x3.5mm square tooth trowel (consumption 1.8 kg / m²)

GROUTING THE JOINTS

The slabs CANNOT be laid with a unified joint, the joints must be provided with spacers not less than 2 mm wide.

Before starting the grouting of the joints, it is necessary to check that the adhesive used for bonding is completely dry and hardened and that the joints are perfectly dry.

Once these checks have been carried out, mechanically remove any excess adhesive from the joints.

For grouting, we recommend using the Kerapoxy design epoxy grout by Mapei S.p.A. or similar. Strictly follow the directions for use shown in the package and on the product data sheet. Make sure that the site conditions are suitable for the application of the product.

Consumption of Sealant for Decorative Glass sheets with standard dimensions (planning to use a 2 mm spacer): 0.04 kg / m².

Attention: in the case of grouting Decorative Glass slabs, before grouting with the sealant it is necessary to protect the sides of the joint with adhesive paper tape, in order not to scratch the surface of the slabs and facilitate the subsequent cleaning phases. It is therefore advisable NOT to dirty the surface of the slabs with the sealant being grouted.

Alternatively, for grouting the joints, it is possible to use neutral polymerization silicones and refer to the product data sheet for application.

EXPANSION JOINTS

We advise to arrange elastic joints with the function of absorbing any movements originating from thermo-hygrometric alterations of the supports or from oscillations of the walls. The same if the plates Decorative Glass are combined with materials with a higher thermal expansion coefficient.

In general, the minimum width of the joint between the side of the slab and the internal vertical edge of the walls must be at least 6 mm.

For sealing the joint it is recommended to use neutral polymerization silicones and refer to the product data sheet for application.

INSTALLATION

1. Check the flatness of the wall and, if necessary, smooth it to make it so. The wall must be dry, flat and free of dust before installation.
2. Open the case and perform a visual inspection of the plate. Any aesthetic and dimensional discrepancies must be reported before handling and processing operations.
3. Using suitable equipment, remove the Decorative Glass slabs with full awareness of handling glass panes. In order not to damage the edges, remove the protective corners only after completing the handling procedures.
4. Check the panel measurements using the installation diagram and mark on the wall to verify correspondence.
5. Mark "the lead" where the first panel will be installed.
6. Mix the adhesive and following the double spreading technique, apply it with a notched trowel 3.5 mm evenly on the substrate and behind the slab, as indicated in the "GLUING" section.
7. Install the first slab according to the laying pattern (numbering and back) and precisely following the previously marked "lead". Install the sheets taking care to place the upper part of Decorative Glass on the wall and then let the remaining part fall on the 3 mm plastic spacers placed on the floor.
8. Gently tap the slab with a smooth board and rubber mallet to ensure flatness e adhesion.
9. Repeat the procedure for each subsequent slab adding 2mm crosses that allow the spacing between the slabs, carefully following the numbering and the direction for correct graphic continuity.
10. Mechanically remove all excess glue and spreaders from the joints after positioning the panels.
11. Fill the joints with a soft rubber trowel). Do not leave excess grout and perform the last step with a slightly damp sponge.
12. Remove the protective adhesive tape from the plate.

PROCESSING

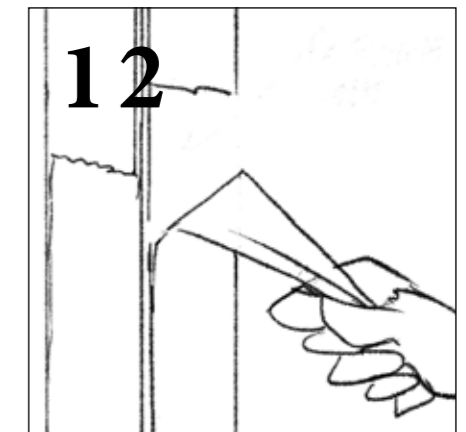
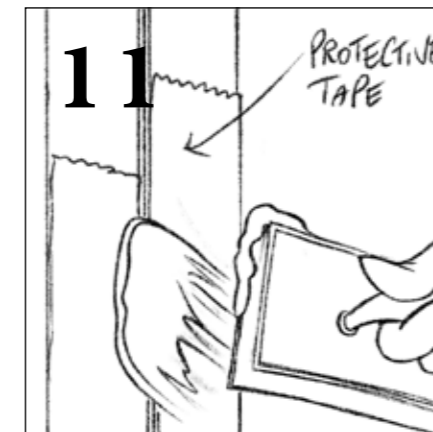
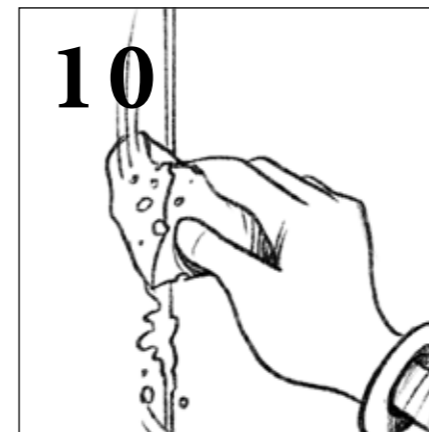
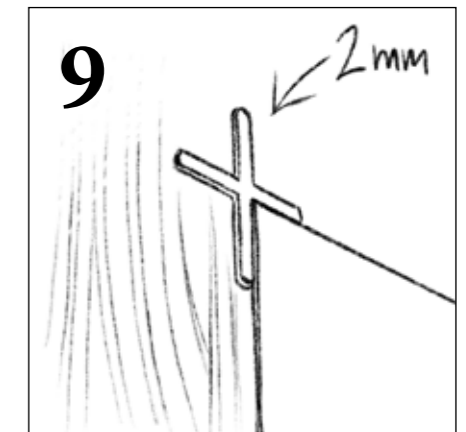
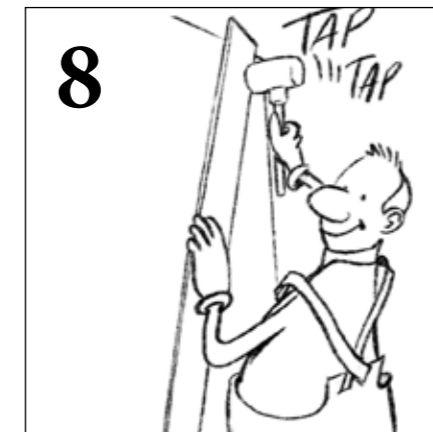
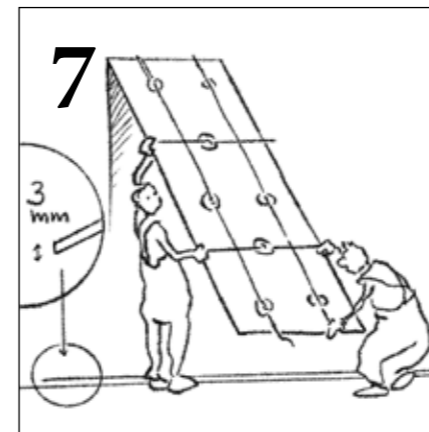
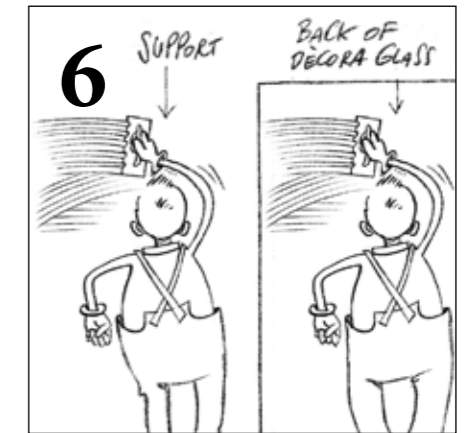
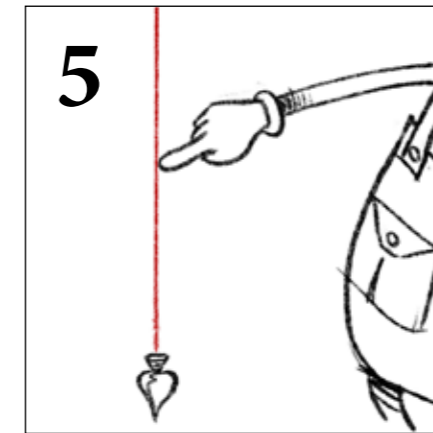
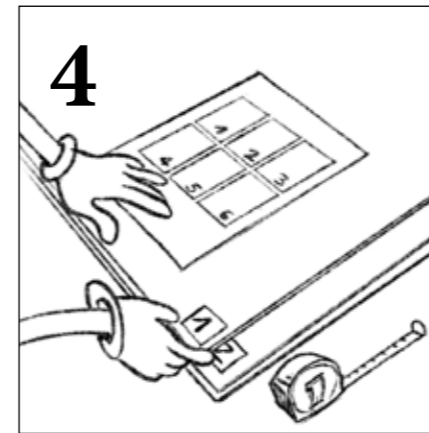
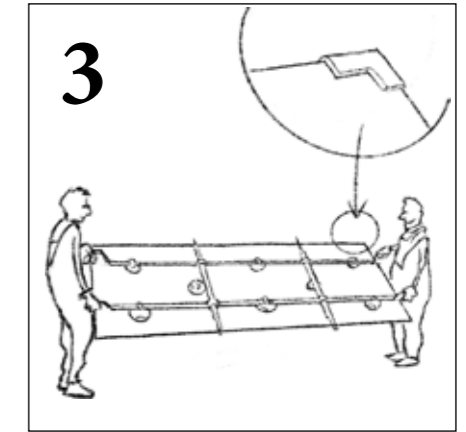
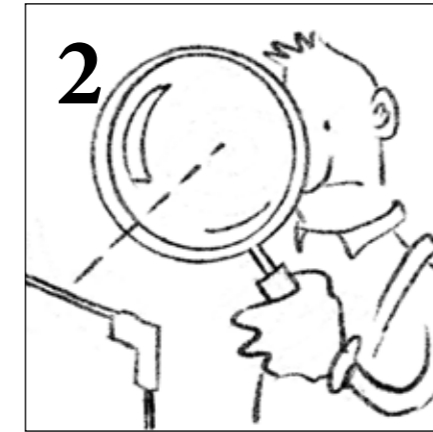
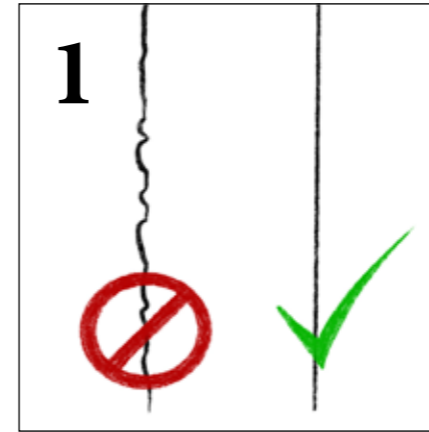
The Decorative Glass sheet can in all respects be considered a laminated glass sheet and therefore can be worked on site. It is possible to carry out cutting and drilling operations on it, which must necessarily be carried out by personnel who have adequate experience in the processing of glass sheets, in compliance with the legislation on safety in the workplace of the country where Decorative Glass is located, adopting the individual protection devices provided.

Glass cutting can be carried out with common electric tools or bench saws for construction sites using specific discs for glass and blade speeds not exceeding 2200 rpm, or with waterjet technology.

The cutting and drilling operations must be followed by edge finishing operations, so as to eliminate sharp edges, splinters or micro cracks that can be dangerous in handling of the slabs and create chips that can occur even after some time from installation.

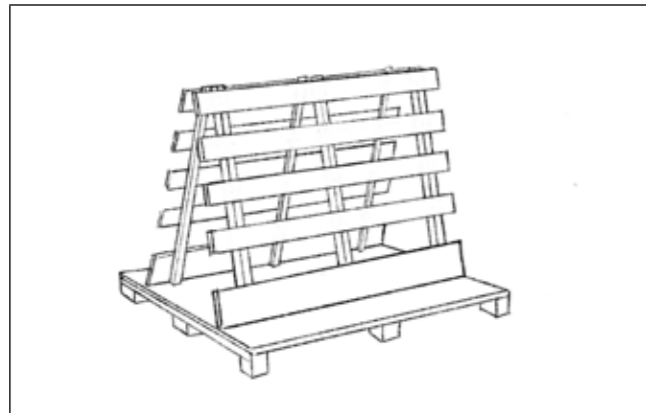
To this end, it is recommended not to use excessive force when assembling taps or other accessories to be installed in the holes made on site in the slab, preferring controlled tightening tools.

However, given the nature and value of the slab, it is recommended that the manufacturers carry out the necessary machining and drilling directly, sharing the design needs with our technical office.

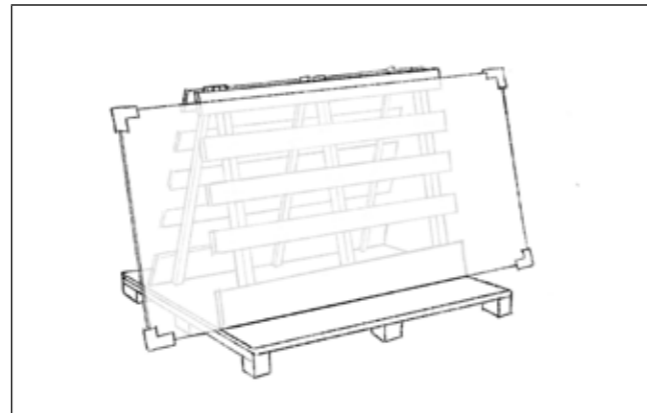


TRANSPORT, STORAGE AND HANDLING ON SITE

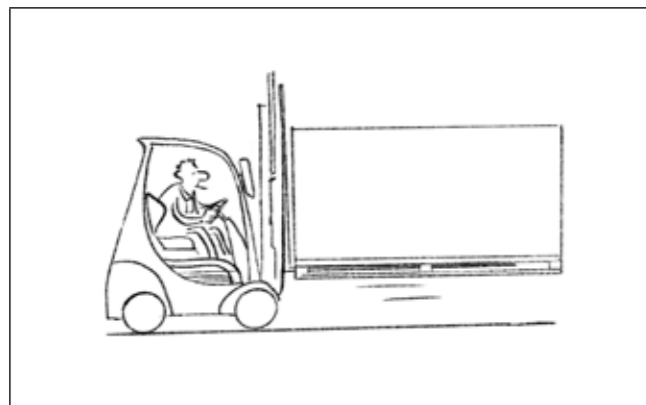
For the transport, storage and handling of Decorative Glass sheets, reference is made to the standard indications for handling glass sheets:



For safe transport and storage, use glass racks compliant with EC directives, taking care to fix them in order to avoid pressure on the windows. Follow the maximum load instructions on the labels of each truck.



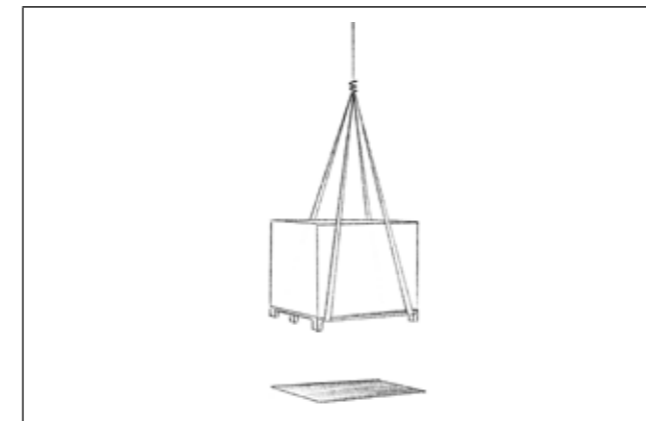
The sheets must be stored and transported resting on the side greater in length to prevent them from overturning.



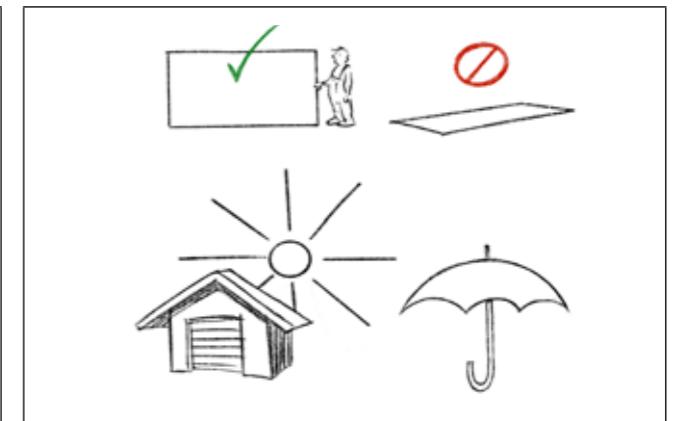
It is possible to handle the packaging with a forklift, as long as it is equipped with forks with an adequate extension, in order to avoid instability phenomena and transport the packaging in safe conditions.



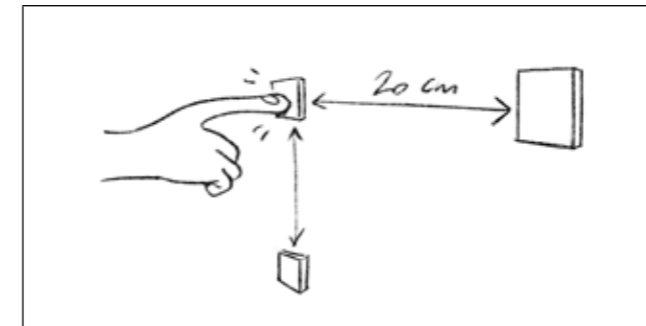
It is absolutely forbidden to push or drag the crate.



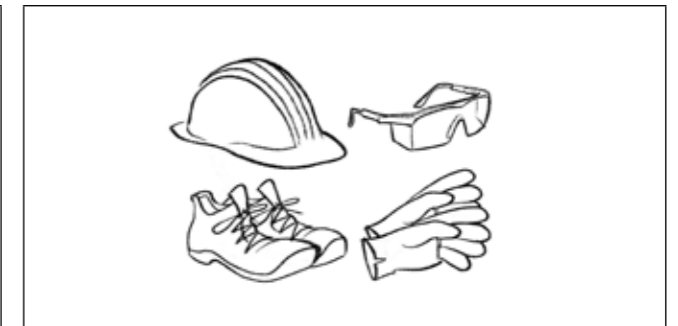
It is possible to lift and handle the packages with a crane if properly harnessed. The harness must be made in a balanced way, so as to distribute the weight of the case evenly.



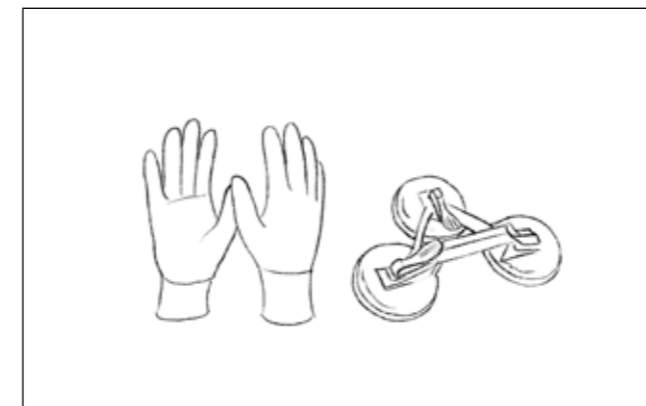
The sheets must be stored in areas sheltered from the sun and bad weather, away from heat sources, at a temperature between + 5 ° C and 35 ° C, with a relative humidity of less than 70%. Prolonged contact between Decorative Glass sheets and vulcanized black rubber is not recommended.



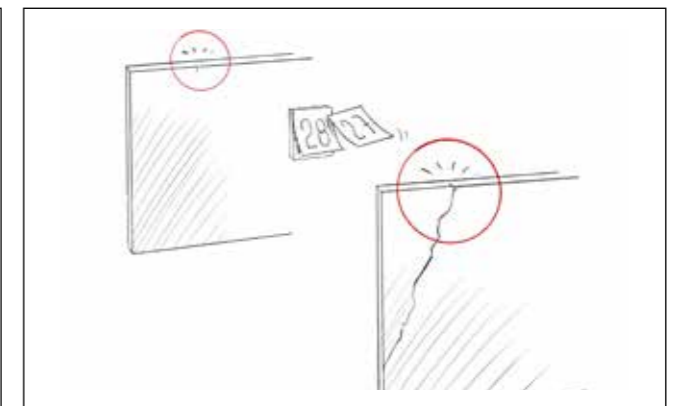
For the correct storage of the sheets, insert special spacers between them, in order not to create micro-cracks from contact or rubbing.



To move the Decorative Glass on site, it is necessary to equip yourself with the correct safety devices such as gloves, protective helmet, protective goggles, safety shoes and protective clothing.



Handle the sheets with the utmost care and wearing clean gloves. Larger and heavier slabs must be handled with suitable equipment (suction cups).



! Attention! to the edges of the glass. Edges showing injuries, such as chips caused by incorrect handling of the sheets, can over time trigger the breaking of the glass

ORDINARY AND EXTRA-ORDINARY MAINTENANCE

Glass is a fascinating material, surprisingly resistant and at the same time delicate. By taking care of it with the right products, the glass and its shine will last longer.

GENERAL GUIDELINES FOR THE MAINTENANCE OF Decorative GLASS

For best cleaning results, follow these instructions:

- Use specific products for glass.
- Spray the product on a clean microfibre cloth and wipe the surfaces.
- Do not deposit detergents directly on the glass or let them drip.
- Rinse immediately after cleaning with clean water.
- Avoid cleaning with alcohol and newsprint or abrasive sponges.
- Do not use abrasive or alkaline cleaners.
- Do not use detergents that contain acid components, alcohol, ammonia, or other aggressive chemical agents.
- Do not use detergents or descaling liquids.
- Do not use petroleum based products, such as gasoline, diesel, or light fluids.
- Avoid using excessively hot (or excessively cold in summer) water for a while
- extended over a limited area of the plate.
- Avoid using high pressure steam for a prolonged time on a confined area of the
- slab.
- Avoid cleaning windows exposed to direct sunlight or hot windows.
- Never use sharp objects for cleaning, such as scrapers, razor blades or cutters.
- Always test detergents and cleaning dexterity in a small inconspicuous area before cleaning
- the entire panel.
- If you are using a pressure washer, avoid the spray nozzle getting too close to the panel.
- Avoid dry cleaning, as particles of sand and dust that adhere to the outside of the panels can scratch the surface.
- Any impurities on the glass surface can be carefully removed with a soft sponge or plastic spatula and water.
- Alkaline building materials such as concrete and limestone mortars need to be rinsed off very carefully
- water before the hardening phase begins.
- The washing operations must be carried out in such a way as to reduce thermal stresses to a minimum.

PRODUCTS FOR CLEANING OR RESTORING TO BE ABSOLUTELY AVOIDED

- Organic solvents (trichlorethylene, acetone, benzene, denatured ethyl alcohol, etc.).
- Aggressive cleaning products (degreasers, sodium hydroxide, sodium hypochlorite, ammonia, acids, potassium silicates, fluorine salts).
- Contact with abrasives, such as sand, ash, and any type of rough or dusty dry cloth.

INSTRUCTIONS FOR EXTRAORDINARY CLEANING AND RESTORING THE SURFACE FROM SMALL SCRATCHES

In case of small superficial scratches, the surface of Decorative Glass can be renewed using products professional such as diamond paste or glass polishing polish. It is important to use these substances gently, following the instructions for use to the letter.

If with these remedies the glass has not been restored, it is necessary to contact a professional glassmaker, who will check the recovery possibilities.

QUALITY ASSESSMENT

The Decorative Glass slab, due to the process by which it is produced and its appearance, can at all effects be considered a laminated glass and therefore, for the analysis of the quality and any defects, yes follows the UNI EN ISO 12546.

- For inspection, the Decorative Glass sheet must be placed resting on the long edge and be observed by eye
- naked in diffuse daylight conditions or equivalent, at a distance of 1m.
- All defects that cause disturbance during observation must be marked. Any defects must be reported before processing.

Due to its production process it is not possible to guarantee perfect alignment between the edges.

Deviations in the order of ± 1.5 mm must be accepted.

TECHNICAL FEATURES

Large format, laminated glass decorative panel, which can be backlit.



Lastra decorativa in vetro stratificato a grande formato, retro-illuminabile.

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| <i>Product features / Descrizione prodotto</i> | <i>Large format, laminated glass decorative panel, which can be backlit. / Lastra decorativa in vetro stratificato a grande formato, retro-illuminabile.</i> |
| <i>Maximum Size / Dimensioni massime</i> | 148x300 cm |
| <i>Dimensional tolerance / Tolleranza dimensionale</i> | ± 1,5 mm |
| <i>Tolerance of orthogonality / Tolleranza di ortogonalità</i> | <4 mm |
| <i>Thickness / Spessore</i> | 8,7 mm |
| <i>Weight / Peso</i> | 20 kg/m ² |
| <i>Materials / Materiali</i> | <i>Laminated glass / Vetro stratificato</i> |
| <i>Temperature range / Temperature di esercizio</i> | 0°C +40°C |
| <i>Thermal expansion / Dilatazione Termica</i> | $8 \cdot 10^{-6} \text{ } ^\circ\text{C}^{-1}$ |
| <i>Thermal conductivity / Conducibilità termica</i> | 5,5 W/m ² K |
| <i>Surface hardness (Mohs scale) / Durezza superficiale (scala Mohs)</i> | 5,5 |
| <i>Impact resistance UNI EN 12600 / Resistenza agli urti UNI EN 12600</i> | 1(B)1 |
| <i>Burning behavior / Reazione al fuoco</i> | B, s1, d0 |

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| <i>Applications / Applicazioni</i> | <i>Walls, wet environments, furniture, interior doors, kitchens, sinks, tubs. / Pareti, ambienti umidi, arredi, porte interne, cucine, lavabi, vasche.</i> |
| <i>Product's Main Characteristics / Principali caratteristiche del prodotto</i> | <ul style="list-style-type: none"> • <i>Highly aesthetic image effect and depth, thanks to images being scanned with the Superscan HD system.</i> • <i>Possibility of customizing the design and measurements</i> • <i>Safety glass</i> • <i>High impact resistance</i> • <i>Large-format ceramic slabs installation method</i> • <i>Workable on site.</i> • <i>Altissima resa estetica e profondità, grazie ad immagini rilevate con sistema Superscan HD.</i> • <i>Possibilità di personalizzazione del design e delle misure.</i> • <i>Vetro di sicurezza.</i> • <i>Elevata resistenza agli urti.</i> • <i>Modalità di posa delle lastre ceramiche a grande formato.</i> • <i>Lavorabile in cantiere.</i> |