Important Preliminary Instructions

LACOBEL and MATELAC are back-painted glass products for use in interior applications ONLY. They cannot be laminated or used in insulated glass units (IGU), even on the inner side of the insulated unit.

Most LACOBEL and MATELAC colors can be used in damp environments (kitchens, bathrooms, etc.) but should never be immersed in water. Metallic colors should NOT be used in damp environments.

Metallic Colors

<table>
<thead>
<tr>
<th>Color</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Rich</td>
<td>9007</td>
</tr>
<tr>
<td>Grey Metal</td>
<td>9006</td>
</tr>
<tr>
<td>Copper Metal</td>
<td>9115</td>
</tr>
<tr>
<td>Brown Starlight</td>
<td>9015</td>
</tr>
<tr>
<td>Black Starlight</td>
<td>0337</td>
</tr>
<tr>
<td>Taupe Metal</td>
<td>0627</td>
</tr>
</tbody>
</table>

Product – The use of LACOBEL or MATELAC with backlighting is not recommended, as the product is not designed for this kind of application. Please contact your local AGC representative for an alternative product for such applications.

Enamel Quality – Ensure that the paint on the rear of the glass has not been scratched during the cutting and assembly process.

Dimensioning – The thickness of the LACOBEL or MATELAC product must be defined on the basis of the size and shape of each panel. AGC recommends 1/4” (6 mm) thickness for wall cladding (panels > 11 ft²). For very large panels, thicker glass may be required.

Substrate Preparation – Do not install glass onto walls that are not entirely clean, dry and pre-treated with a primer in case of porous surfaces. The glass has to be clean and dry and should not be immersed in water during handling or installation.

Substrate Preparation – For “light” colors, AGC strictly recommends using transparent silicone and painting the complete wall/substrate in a uniform white color.

Light Colors

<table>
<thead>
<tr>
<th>Color</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Pure</td>
<td>9003</td>
</tr>
<tr>
<td>White Soft</td>
<td>9010</td>
</tr>
<tr>
<td>White Pearl</td>
<td>1013</td>
</tr>
<tr>
<td>Red Luminous</td>
<td>1586</td>
</tr>
<tr>
<td>Brown Starlight</td>
<td>1015</td>
</tr>
<tr>
<td>Black Starlight</td>
<td>0337</td>
</tr>
<tr>
<td>Taupe Metal</td>
<td>0627</td>
</tr>
</tbody>
</table>

Substrate Preparation – Before installation, paint the wall in the same color of the glass on the glass junctions to avoid color differences that might be seen through the transparent joints.

Installation – Always use glue/silicone/tape brands recommended by AGC and follow exactly the instructions supplied by the adhesive manufacturer (particularly regarding the quantities of adhesive to be used per ft²). The use of any other adhesive not validated by AGC is the sole responsibility of the user/customer.

Installation – Care should be taken with the usage of adhesives on MATELAC glass as stains made on the satin (matte-finish) surface cannot be properly removed afterwards.

Safety – The use of safety gloves and appropriate personal protective equipment is strongly recommended during all operations, handling and installation of the glass.
I. INTRODUCTION

The purpose of this guide is to ensure that users of LACOBEL or MATELAC glass are able to fabricate the product correctly – cutting, edge shaping, etc. – so that it meets the end user’s requirements in full.

LACOBEL or MATELAC is a decorative glass that needs careful handling. If fabricating LACOBEL or MATELAC for the first time, please contact the AGC Technical Services team to obtain full guidance on technical concerns.

LACOBEL or MATELAC are two opaque float glass ranges intended exclusively for interior use. The opaque quality is obtained by applying high-quality paint to the reverse side of the glass. The difference between the two lies in their appearance: LACOBEL is reflective (paint + float) while MATELAC has a satin matte finish (paint/silvering + acid-etched float). Care should be taken when handling and fabricating the glass in order to avoid damaging the paint coating. Therefore we strongly recommend that anything coming into contact with the paint coating during the fabricating stage be pre-approved.

For information on installation, please read the “LACOBEL & MATELAC Installation Guide” for Interior Applications (available on www.agcglass.com).

The content of this guide reflects our knowledge and experience at the time of publication. Customers and glass installers can always contact AGC’s Technical Services for further assistance if required. The glass installer is entirely responsible for the final application, including the installation of the glass and the compatibility between the different materials used.

II. PACKAGING

After production, special attention is paid to the packaging in order to preserve product quality.

LACOBEL or MATELAC is available in standard sizes (for more details, contact your AGC representative).

The following systems ensure that the glass is correctly packaged:

- The sheets of glass are separated by paper spacers.
- The exact contents are indicated on the label affixed to the edge of the pack or packaging.

III. UNLOADING

Upon delivery, LACOBEL or MATELAC glass is provided in these stock sizes:

- 88-37/64” x 126-3/8”
- 100-25/64” x 126-3/8”
- Other sizes upon request

Paper or powder interlayer can be used to separate the glass.

During the operations of unloading and internal transport, everything coming in contact with the paint side has to be clean. If necessary, a protective material has to be used between the paint and the handling equipment. For MATELAC, special attention should also be given to the acid-etched face of the product as it is stain sensitive.
The packs of glass must be inspected upon arrival. AGC shall accept no liability for faults arising after delivery or during handling, fabricating or installation of the finished product in the building if this procedure is not followed:

- The case must be positioned on a perfectly level ground.
- Use the appropriate handling equipment.
- The handling equipment must be perfectly centered.
- Avoid damaging the paint and the protective packaging while handling.
- The glass must be stored on appropriate racks.
- All recommendations given in this Fabrication Guide shall be strictly followed.

General comments:

- Clamps, slings, lifting beams, and other handling equipment must comply with prevailing regulations and be approved by the relevant authorities.
- Ensure the safety of personnel at all times. Keep all unnecessary personnel out of the handling area. Wear appropriate personal protective equipment.
- Personnel must have received the necessary training.

IV. STORAGE PRIOR TO HANDLING

Storing packs correctly reduces the risk of chemical or mechanical damage to the glass.

The glass should be stored in a dry, well-ventilated place to avoid major fluctuations in temperature and humidity that may cause condensation to form on the glass. Such variations generally occur near loading and unloading areas. No water must be allowed to come into contact with the sheets of glass and they should never be stored outdoors. No direct UV radiation is allowed to protect the coating against fading.

The glass should always be stored away from sources of heat and other corrosive materials, or agents such as organic solvent vapors, chemicals, acids, or fuel oil, etc.

Separate the packs with spacers ensuring that all packs of the same size are stored together.

V. STORAGE AFTER OPENING/ HANDLING THE PACKS

The same conditions for storing the packs prior to opening should also be applied once the packs have been opened:

- Care should be taken to ensure that the ambient air is not polluted by any corrosive elements such as chlorine or sulfur. Sources of such elements include machinery fitted with thermal engines, battery-charging points, road salt on the ground and so forth.
- The sheets must be moved using a suction-pad lifting beam or an automatic unstacking machine.
- If the glass is handled by placing suction pads on the paint, the suction pads must be kept clean.

1. Removing wooden packaging (endcap)

- Set the endcap on a support inclined at a slight angle (5°).
- Cut the vertical strapping.
- Remove the upper cover and then the two side covers.
- Remove the plastic protecting the glass.
2. Handling stock sizes
Upon delivery, LACOBEL or MATELAC glass is provided in these stock sizes:

- 88-37/64” x 126-3/8”
- 100-25/64” x 126-3/8”
- Other sizes upon request

Stock sizes must be lifted with a suction pad lifting beam or with an automatic unstacking machine.

- Labels and/or tape on the edge of the pack must be removed before handling stock sizes.
- The lifting beam must be properly centered.
- The stock sizes must first be lifted slightly, and then moved away from the others.
- Care must be taken to prevent scratches, especially when handling coated glass, by ensuring that the edge of one stock size does not rub against the surface of another.

General comments

- Any direct contact with hard materials must be avoided.
- Suction pad lifting beams and other hoisting equipment must comply with prevailing regulations and be approved by the relevant authorities.
- Personnel must check that the suction pads are adhering correctly before any further manipulation.
- Ensure the safety of personnel at all times. Keep all unnecessary personnel out of the handling area. Wear appropriate personal protective equipment.
- Personnel must have received the required training.

VI. QUALITY CONTROL
LACOBEL or MATELAC are manufactured in factories that are ISO 9001 certified (certificate available upon request). There is not yet a published ASTM standard for painted glass.

LACOBEL or MATELAC packs must be inspected immediately upon arrival.

VII. CUTTING
The following specific precautions must be taken when cutting:

- The cutting and transfer tables must be covered with felt and cleaned frequently to avoid scratches caused by small glass splinters that could damage protective paints and varnishes.
- The glass should be cut with the painted side face down on the cutting table.
- Reduce the pressure of the cutting tool to avoid splinters.
- Use minimal quantities of neutral cutting oils. AGC recommends Acecut 5503 or equivalent.
- Sheets of glass cut to size must be stored on racks.
- Care must be taken to insert paper or cardboard spacers in order to avoid scratches.
- Correct cutting settings can differ from one cutting installation to another and can be tested by cutting test strips 4” wide and at least 40” long. It should be possible to break the cut strips by hand.

See AGC’s TSD 109 Cutting Recommendations for Float Glass (including Coated Glass) AGC provides this information for advisory purposes. The user/customer is solely responsible for using this advice.
VIII. PROCESSING – EDGES & DRILLING

LACOBEL or MATELAC can be shaped in any way. There are multiple fabrication options including edge treatment, drilling, and serrations.

- Processing quality depends on clean cutting.
- Adjust the speed of the edge processing machine according to the number of grinding wheels fitted to it and the thickness of the glass.
- If using spherical grinding wheels, avoid overly angular shapes. It is advisable to use one type of grinding wheel per thickness of glass.
- If grinding a flat joint with edges, avoid edges with an angle greater than 145°.
- The quality of grinding on the painted side of LACOBEL or MATELAC must be smooth and free of glass shards.
- Use a non-abrasive coolant liquid (neutral pH) to prevent damage being caused to the protective coatings.
- The glass must be kept moist for the entire process to prevent it from drying naturally.
- The glass sheets shall never be stacked wet on a stillage between edge-processing and washing.
- Clean the cooling water circuit regularly to remove glass particles.
- Wash processed products immediately, preferably with deionized water, and dry carefully (within 30 minutes after edge processing) especially around the edges.
- Use spacers when stacking processed products.

IX. WASHING

Washing, rinsing, and drying the glass is critical.

The glass must be washed in clean, deionized water with a pH of 7 (± 1), water temperature should not exceed 104°F.

No hard particles (such as calcium or others) or acidic/detergent agents should be present in the water used for washing and rinsing as they may damage the paint.

The glass should be completely dry when it leaves the machine. Water droplets must be wiped off with a piece of tissue. ACG recommends inspecting the glass after washing.

After washing and for intermediate storage, cork or foam static cling or non-residue adhesive tabs can be placed on the glass side around the edges of each glazing to prevent contact between the glass and the paint.

X. LAMINATING

LACOBEL or MATELAC are back-painted decorative glass products for use in interiors ONLY.

They cannot be laminated or used in insulated glass units, even on the inner side of the glazing unit. The plastifiers in the PVB would have a negative influence on the adherence on the paint coating.

XI. SAFETY-BACK FILM

LACOBEL or MATELAC can be safety film backed. The fabricator is responsible for compatibility between safety film and paint and is responsible for compliance with ANSI Z97.1.
XII. HEAT TREATMENT
LACOBEL or MATELAC are annealed decorative glass products covered with an organic paint. Therefore they cannot be heat strengthened nor thermally tempered.

XIII. SANDBLASTING
LACOBEL may be partially sandblasted on the non-painted (glass) side. MATELAC should not be sandblasted.

XIV. ACID-ETCHING
LACOBEL may be (partially) acid-etched on the non-painted (glass) side. MATELAC should not be acid-etched.

XV. BENDING
LACOBEL or MATELAC cannot be bent.

XVI. SCREEN PRINTING
LACOBEL or MATELAC cannot be screen printed or enamelled, with the exception of so-called “cold” screen printing. LACOBEL or MATELAC can resist to an absolute temperature of 176°F (80°C) and can resist a relative temperature difference of 86°F (30°C) within one sheet.

XVII. INSULATED GLASS UNITS
LACOBEL or MATELAC are back-painted decorative glass products for use in interior applications only. They cannot be used in insulated glass units, even on the inner side of the unit.

XVIII. SUMMARY OF FABRICATION OPTIONS

<table>
<thead>
<tr>
<th></th>
<th>Laminating</th>
<th>Safety-Backing</th>
<th>Heat Treatment</th>
<th>Sandblasting</th>
<th>Acid-Etching</th>
<th>Bending</th>
<th>Screen Printing</th>
<th>IGU</th>
</tr>
</thead>
<tbody>
<tr>
<td>LACOBEL</td>
<td>NO</td>
<td>–</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Paint Side</td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATELAC</td>
<td>NO</td>
<td>–</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Acid-Etched Side</td>
<td>NO</td>
<td>–</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Paint Side</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

XIX. PACKING THE PROCESSED PRODUCT
Place the sheets vertically on or in the packing material, taking care to avoid scratches caused by stacking (see storage instructions).

- Separate the sheets with
  - Paper or cardboard spacers
  - Cork or foam static cling or non-residue adhesive, placed on the glass side, around the edges of each glazing to prevent contact between the glass and the paint, or
  - Soft spacers, e.g. medium particle size polyolefin based interleavant powder, but avoid organic products such as Lucite beads, as these can scratch paintwork.
- When shrink-wrapping, perforated plastic may be used if the glass is to be stored in a dry area for a normal length of time.

AGC Glass North America - LACOBEL & MATELAC Fabrication Guide - Version 1.1 - July 2019 Ref 5-11-07292019
XX. CLEANING


XXI. DISCLAIMER

This document gives recommendations on how to maximize a qualitative fabricating of AGC LACOBEL and MATELAC products. AGC provides this information for advisory purposes only. The user/customer is solely responsible for using this guide.

The content of this document reflects our knowledge and experience at the time of publication. Every version of the Fabricating Guide bears a reference to its publication date. The newest version of the Fabricating Guide replaces all previous versions. Customers should be aware that the newest version may contain technical changes that must be taken into account when using AGC glass products. The latest version of the Fabricating Guide and AGC’s Limited Warranty terms and conditions can be located at www.agc.com or obtained from your local AGC sales representative. Customers should always check whether an updated version of the Fabricating Guide is available before using AGC glass products.

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