TIMELESS®
SHOWER GLASS

PROCESSING GUIDELINES 03 - 2018

BUILDING GLASS EUROPE

SAINT-GOBAIN

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Description

1- Description

Timeless is an anti-corrosion coated glass for shower enclosures. Timeless coating is almost invisible. Timeless is available on a large range of thicknesses. Timeless is produced on Planiclear (other glass substrates are possible on demand).

Timeless properties are achieved thanks to the deposition of a coating applied by magnetron sputtering technology (patent pending). This coating has been designed in such a way that Timeless aesthetics is very similar to normal bare glass. Timeless is a temperable product, meaning it can be tempered, but it can also be used without any thermal treatment.

Quality and Tolerances

2- Quality and tolerances

Timeless coating passes the EN 14428 European standard for shower enclosures. It also meets the class A durability criteria of the EN 1096 European standard (coated glass in building).

Its optical properties are measured and certified according to the EN 1096 European standard. Reflectance and transmittance have neutral colors, similar to glass. The Timeless coating also meets the quality requirements of standard EN 1096-1: acceptable criteria for defects in coated glass (spots, pinholes, punctual defects scratches).

General Instructions

3- General Instructions

3.1. Coating Detection

- It is not easy to detect Timeless coating as it is very transparent. A tin counter or a UV lamp can be used to identify the tin side: Timeless is on the opposite side (coating is always deposited on the atmospheric side of float glass).

- Alternatively, to avoid confusion during installation, processors of Timeless are invited to apply a semi adhesive sticker on the tin side of the glass (= on the opposite side of the coating) Stickers or labels are to be removed once their purpose has been served. It is recommended that remaining residues be cleaning gently without damaging the coating.

- A dedicated coating detector is available on EDTM website (www.edtm.com) reference n°RD1680.

  NB: Using dual-coating can avoid the risk of instaling the wrong side. Please contact your sales representative for more information.

3.2. Handling

- Always avoid fingerprints and dirt traces which would require additional cleaning of the glass.
- The glass must always be handled with clean gloves. Wearing gloves is mandatory when handling the glass throughout the processing.

One should take care not to scratch the glass or the coating.

3.3. Processing

- Timeless can be processed on standard equipment, if they are well maintained (no rubbing on the coating layer).

- Checks must be regularly performed to ensure that everything which comes into contact with the coating (table, air vents, conveying rollers, protection paper etc.) is clean and without particles (of glass) which may scratch and destroy the coating.

- **Do not let water dry on the coated side (this applies to all process stages).** The glass should therefore be rinsed with clean water and dried with air or a soft clean cloth.

3.4. Transporting finished sheets

- Care must be taken to ensure that the coating is not damaged during transport:
- Stacks of cut sizes must be transported in boxes (recommended) or on carrying frames, and the glass must be protected:

- At the top and bottom of the stack: Protection using "CELL-AIR" type foam packing sheet

- Between each sheet of glass: Protection using neutral inleaving powder; or soft, neutral (non-acid), grease-free interlaying paper; or small non-adhesive cork separating pads (recommended).

- The stacks of standard cut sizes should be wrapped and protected; desiccant is only used for long journeys when there is a risk of condensation forming between the sheets of glass.

Unpacking and Handling

4- Unpacking and Handling

- Timeless must be stored in a dry and properly ventilated place. Traces of moisture which have dried on the surface of the glass should be avoided for un-processed glass.

- For loading and unloading, suction cups may be used on the coating side as long as the suction cups are well maintained and clean.

- When handling the glass, the sheets must be prevented from sliding against one another; the sheet must be separated from the sheet next to it, before it is lifted up.

- If tongs are used, they must be checked to ensure that they will not damage the coating; clean undamaged rubber.

Quality Control

5- Quality Control upon Reception and after Transformation

- The glass must be controlled upon reception. Defects should be signaled to Building Glass Europe.
- Once it has been processed, the glass must undergo a rigorous quality control inspection.
- The control is made in reflectance and in transmittance. Some flaws are better seen in transmittance, other in reflectance. The standard observation conditions are described in EN 1096 standard. Please refer to it for details.
- In transmittance, the glass is placed in front of a black opaque background, to which light tubes (neons) are fixed. The distance between the glass and the observer must be at least 300 cm.
- In the case of reflectance, a light source placed behind a diffusing screen transmitting a uniform, homogeneous and strong light is to be used. The angle between the observer's gaze and the normal to the glass surface must be less than 30°.

Processing

6- Processing

- In principle, Timeless can be processed with the same equipment as for float glass, as long as the precautions given in this document are observed. Tempering of Timeless is possible but not mandatory.

6.1. Cutting on a table

- The cutting table must be meticulously cleaned to eliminate any particles of glass or other materials. It must be kept clean throughout the cutting process. The coating should not come into contact with the table but should be placed with the coating facing upwards.
- For cutting, products containing too much oil may leave a film of oil which will require considerable meticulous cleaning before processing operations can be continued. It is therefore recommended that evaporating cutting oil is used, such as ACECUT 5250 or ACECUT 5503 oil from Aachener Chemische Werke GmbH (aliphatic hydrocarbon based oil). After cutting, it is advisable to remove any excess oil to prevent any traces of runs which leave marks that are often difficult to remove. Once the sheets have been cut, there must be no friction between the glass sheets (cork or plastic or soft paper or foam must be placed between the glass).
- Do not let water dry on the glass, immediately after cutting wash with clean water and then dry.

6.2. Edgework

- Edge-working machines must be thoroughly cleaned before working with Timeless, especially the parts coming into contact with the glass. The conveyor rollers must not slide over the glass.
- The water in the self-contained circuit of the edging machines must be regularly changed and at frequent intervals, in order to avoid having too much residue from the edgework.
- Immediately after the edgework cycle, the glass must be rinsed with clean water so that the residue from the edgework may be removed. The glass can then be introduced in the washing machine. **Water from the edgework must not be left to dry on the glass.** Check that there are no traces of fat or oil from the machine. If additives are used in water (soluble oil, coolant) a test must be performed beforehand to check their compatibility with the coating.

The following precautions must be applied depending on the type of edgeworking machine:
- Bilateral: check that the glass is correctly positioned before it is clamped in the holding system of the machine;
- Straight line: the rollers of the conveyor must not slide over the glass;
- Arrised edges and digital edgework: no need for any particular protection.

6.3. Notches and holes

- Notches and holes are possible on Timeless glass as long as precautions are taken not to damage the coating.

The glass must be immediately cleaned, as described in paragraphs 6.4. Water must not be left to dry on the coating.

6.4. Washing

- The optimum temperature of the washing water is between 35° and 40°C. The quality of the water must be checked (recommendations: neutral pH between 6 and 8, conductivity < 20 µS/cm).

- The machine must be absolutely clean (brushes, etc.). The transportation roller systems must be clean and turn freely and correctly.

- Washing:
- a prewashing ramp is recommended;
- cleaning with cerium oxide is prohibited;
- no additives in the water;
- ensure the water quality has been checked (see above);
- standard brushes can be used;
- the distance between the brushes and the glass must be adjusted for the thickness of the glass;
- the glass must not be stationary under the rotating brushes during the washing process. Washing should be a continuous smooth process.

- Rinsing:
- it is essential to rinse the glass with clean water (preferably demineralized, with conductivity < 20µs/cm). Otherwise, there is a risk of obtaining white stains, due to limestone.

- Drying:
- the drying operation is extremely important for the coating. If the water is not completely dried, it will leave marks that will become permanent after tempering, which are very visible to the naked eye. The air must be correctly filtered and a check must be made to ensure that no dust adheres to the glass during this stage;
- check the condition of the grease nipples of the drive (leaks, etc.);
- if there are marks on the glass when it leaves the washing machine, they may be cleaned using a soft cloth and Isopropanol (preferably) or ethanol.

6.5. Tempering

- Tempering is possible but not mandatory.

- The use of SO2 is not recommended.

- If possible, the glass should be introduced into the tempering furnace with the coating facing upwards. When this is not possible, for example for enameled glass, screen-printed glass or for Timeless dual, the rollers of the tempering furnace should be sufficiently clean to prevent coating damage.

- Tempering conditions (temperature and heating time) for Timeless are the same as those of regular glass without coating. The glass has to be dry when entering the tempering furnace.

- Timeless may be laminated after tempering, respecting the demands from 6.6.

- Avoid making prints, marks or other defects on the coating before tempering as they may become impossible to remove after tempering.

6.6. Assembly in laminated glass

Timeless can be laminated with the coating on the outside face of the glass. However, the glass may be tempered before lamination.

- The handling and washing instructions given above must be followed, but the conductivity of the rinsing water must be reduced to 5 µS/cm. Before lamination, the glass must be meticulously washed.

- The conveyor and laminator rollers of the production line must be regularly inspected: they must be kept clean, free from any particles of glass, and should rotate correctly so that the glass and coating are not damaged by friction.

- The PVB sheet must be applied under the highest conditions of cleanliness. The surface of the glass and the PVB film must be thoroughly examined and all particles must be removed before assembly.

- For autoclaving, the calendered glass must be placed on frames and separated using a product such as polymeric interleaving powder, specifically designed for autoclaving. If the glass is autoclaved in batches, dry, wooden spacers must be used. The autoclave must be cleaned regularly (at least one cleaning cycle a week) to prevent any contamination of the coating.

6.7. Curving

- Timeless glass may be curved in electrically heated furnaces. It is recommended that clients validate that their equipment as well as the curving radius are compatible with Timeless before sending an order. In such cases, please contact Building Glass Europe.

- A Radius of around 1 meter is the typical bending radius for Timeless glass. For stronger curvatures (lower radii) extra-care should be taken.

6.8. Screen printing

- Screen printing is allowed on either side of the glass.

6.9. Assembling in shower enclosures

- The glass has to be mounted or

installed with the coating inside the shower enclosures.

Generally speaking glues adapted to shower glass can be used. In case of doubt, compatibility of the glue with the coating should be tested. If need be, please contact Building Glass Europe for the list of glues tested.

- Glue should be used only where necessary. Unnecessary traces should be removed immediately before they harden. They can be cleaned off using a neutral product for windows and soft paper or a soft cloth, or with a clean rubber scraper. Seal joints can be used.
- Care must be taken to avoid scratches with metallic parts and other accessories mounted onto the shower cabin.

Usage instructions

7- Usage instructions

- Please refer to the specific documents which relate to usage instructions and maintenance of Timeless in shower enclosures.

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Building Glass Europe 03/2018