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SCHOTT AntiReflective®



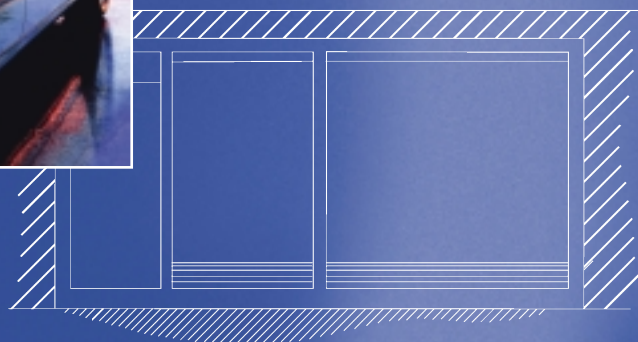
AMIRAN®

- anti-reflective glass

by SCHOTT

**Processing Instructions
No. 2003**

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SCHOTT AntiReflective®

AMIRAN® anti-reflective glass by SCHOTT

Processing instructions for the manufacture of insulating glass and laminated glass

1. Both sides anti-reflective AMIRAN®

AMIRAN® is an anti-reflective glass for glazing display windows and similar areas of application. In the normal version for single and insulating glazing both surfaces of the float glass/colorless glass are anti-reflective. In the case of insulating glass all surfaces in contact with the air, including those in the gap between the panes, must be anti-reflective.

2. One side anti-reflective AMIRAN®

For the manufacture of laminated glass (including anti-vandal glass and sound insulating glass) float glass/colorless glass with **one side** anti-reflective is required. The **uncoated** surface must be on the laminate side, i.e. in contact with the film or resin interlayer.

3. Transport/Packing

There must be an interlayer of acid-

free paper between all adjacent sheets of glass. Plastic powders and films can also be used. The glass can be handled with vacuum lifters (with cleaned rubber surfaces!).

Interlayers must always be used, even when moving the glass on trucks in the factory!

When placing sheets of glass together, do not allow the two surfaces in contact with each other to move, as this can cause scratching.

4. Cutting

As with all coated glasses, **evaporating** cutting oil should also be used when cutting AMIRAN®.

High lubrication cutting fluids leave residue on AMIRAN® which is difficult to remove.

The cutting table must always be kept free of splinters - scratches are particularly noticeable on anti-reflective glass!

Washing/Cleaning

Washing machines with roller brushes with soft bristles on the front and rear side are very suitable for cleaning AMIRAN® if the distance between the brushes is adjusted to match the respective glass thickness. The AMIRAN® sheet should not be left between the brushes when they are running. Hard or hardened brushes must not be used.

Caution is advised in the use of disk brushes. These are generally designed for thorough precleaning purposes and can leave marks on the glass. Do not, therefore, use disk brushes for cleaning AMIRAN®.

Basically the brushes should be cleaned thoroughly before the washing unit is used.

Note:

Some washing, cutting and conveyor units are equipped with sensors which measure the reflection or electrical conductivity of the glass and automatically set the rollers to suit the particular glass product.

These sensors do not react to AMIRAN® because of its low reflection. It is, therefore, necessary to adjust the pairs of rollers by hand to the right distance from the glass.

Suitable cleaners:

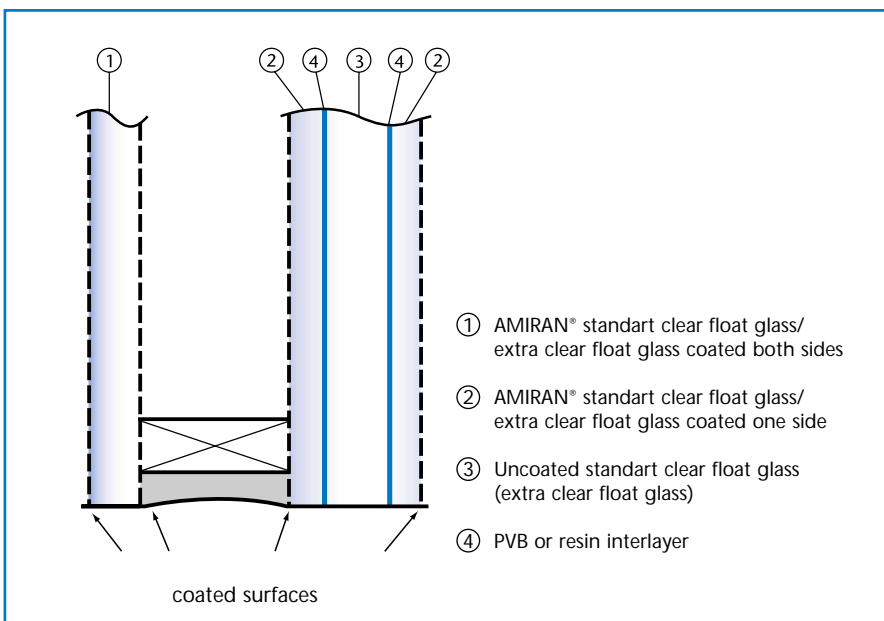
- Warm water
- Slightly alkaline detergents
- Acid detergents (e.g. boric acid) or without additives

The following must not be used:

- Abrasives
- Detergents that contain hydrofluoric acid

Marking, remains of labels and dirt can be removed before and after the washing process by spraying with a product such as Ajax-Glasrein and then drying with a fine cotton cloth.

Beispiel: AMIRAN® in Isolierglas mit frontseitigem Verbundglas



6. Sizes available

See Technical Specification TE-EVA AMIRAN® Anti-Reflective Glass for stock and cut sizes.

7. Processing to insulating glass

Basically Cleaning Instructions No. 2001 and Handling Instructions No. 2002 should be complied with when processing AMIRAN®.

The following should also be noted:

There is no need to remove the coating from the edge of the glass because two-component polysulfide and silicone sealants bond well with AMIRAN®. Please ask your sealant manufacturer if the adhesion of its product with AMIRAN® has been tested.

In the case of sealants, whose suitability for use with AMIRAN® is not known, it is strongly recommended that they are tested in cooperation with the sealant manufacturer for adhesion, and resistance to water and the effects of climatic changes.

It is almost impossible to avoid getting sealants on the glass, but any such material must be removed from the surface of the AMIRAN® immediately after the sealing work has been completed and before any excess sealant cures:
e.g. Spray on Ajax-Glasrein and remove with a clean rubber scraper.

When curing and packing it is essential to use acid-free cardboard, paper or film interlayers between the pieces of glass.

If cork pads are used as spacers between sheets of AMIRAN®, it is essential to ensure that they do not stick to the glass.

8. Processing to laminated glass (with film or resin)

Basically AMIRAN® anti-reflective on **one side** should be used, as described under 2. Otherwise the anti-reflective effect is cancelled out in the laminate. The glass should be cleaned beforehand.

8.1 Identification of the anti-reflective side

One-sided AMIRAN® is marked with labels on the **anti-reflective** side. As it is difficult to identify the anti-reflective side, the labels should be left in place on the anti-reflective surface at least until prelamination has been completed.

The **uncoated** side of **one-sided** AMIRAN® can be identified by its higher reflection, e.g. by holding a piece of white paper against it or examining it through the edge. The best way, though, is to use a special inspection lamp.

8.2 Producing the laminate

It is recommended that the labels be left on the anti-reflective side up to the prelamination process to avoid any confusion.

Then, however, the labels should be removed since these usually come off during the prelamination process because of the fairly high temperature involved (~140°C), then stick on the rollers and mark the glass.

8.3 Prelaminate pressing

As the coated (anti-reflective) surfaces of the glass are located on the outside during this process and are subjected to high pressure from the rollers, the cylinders and rollers must be kept scrupulously clean. Hard rubber and wrapped rollers and cylinders must be inspected and cleaned at frequent intervals.

Quick running rollers (transfer from slow pressing to rapid onward transportation) can damage the coating as a result of the glass slipping or rubbing.

8.4 Laminating in the autoclave

The glass assemblies prepared in the prelamination stage should not be placed in the racks for the autoclave glass to glass but separated by suitable spacers. Do not use adhesive spacers to separate them, as these will leave dirty marks which are virtually impossible to remove. In all other respects AMIRAN® laminates should be handled in the autoclave like any other laminated glass.

9. Permissible characteristics

AMIRAN® is a technical product for architectural glazing. It may show permissible characteristics that do not adversely affect the functionality of the product.

Under certain lighting conditions and from certain viewing angles, slight variations in the residual reflection and possibly also some slight light scatter may be observed. This is caused by the manufacturing process and does not constitute grounds for complaint.

10. Visual quality

The visual quality of AMIRAN® can be assessed with the assistance of the TE-EVA Stock Sizes and TE-EVA Cut Sizes Technical Specification.

AMIRAN® is a registered trademark of SCHOTT DESAG.

SCHOTT North America, Inc

555 Taxter Road
Elmsford, NY 10523
phone +1 (914)831-2200
fax +1 (914)831-2201
e-mail info@us.schott.com
www.us.schott.com/architecture

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