



SCHOTT
glass made of ideas

Instructions

for transport, installation and
cleaning of safety glass from
SCHOTT Technical Glass
Solutions GmbH

SCHOTT is a leading international technology group in the areas of specialty glass and glass-ceramics. With more than 130 years of outstanding development, materials and technology expertise we offer abroad portfolio of high-quality products and intelligent solutions that contribute to our customers' success.

SCHOTT works closely with architects and designers to extend the boundaries of design and create new opportunities for building culture – in terms of design and space, indoors and outdoors, for fire protection, aesthetics and functionality – sustainable and custom-tailored. That's what makes SCHOTT a qualified partner for architecture and design.

Instructions for transport, installation and cleaning of safety glass from SCHOTT Technical Glass Solutions GmbH

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Introduction

These instructions contain general information related to the transport, storage, installation and cleaning of safety glass from SCHOTT Technical Glass Solutions GmbH. A summary of this information can also be found on the label of every packaging unit sent out by SCHOTT Technical Glass Solutions GmbH.

These instructions are meant for trained personnel only. The work steps described here can only be carried out by trained personnel with the necessary qualifications and specialist skills.

SCHOTT Technical Glass Solutions GmbH cannot be held liable for any damage incurred directly or indirectly through failure to comply with these instructions.

The buyer assumes sole responsibility for selecting the type of safety glass from SCHOTT Technical Glass Solutions GmbH that suits both the application as well as any combination with other products and systems. Please be sure to also follow the instructions for the other products and systems that will be used in combination with the safety glass.

In general, all applicable legal and regulatory requirements (including, but not limited to, regulations related to on-site conditions) and recognized standards of good practice must be observed.

The trained personnel are responsible for informing themselves about and following the applicable legal and regulatory requirements and the generally recognized standards of good practice.

Scope

These instructions apply to all safety glass from SCHOTT Technical Glass Solutions GmbH, in particular the standard glass types PYRAN® S, PYRAN® white and PYRANOVA®, as well as laminated composite glass made of the aforementioned types. Special glass types such as butt joint glazing and alarm glazing have their own instructions which must be observed separately.

Safety glass from SCHOTT Technical Glass Solutions GmbH can only be installed in approved and/or certified frame and door systems. SCHOTT Technical Glass Solutions GmbH cannot be held liable for any changes to their safety glass that they have not authorized or supervised (e.g. any further processing, manipulation of edge protection taping, etc.).

Transport and storage



Wooden crate closed

Safety glass is usually transported in wooden crates. The consignee is responsible for the correct unloading of the transport crates.



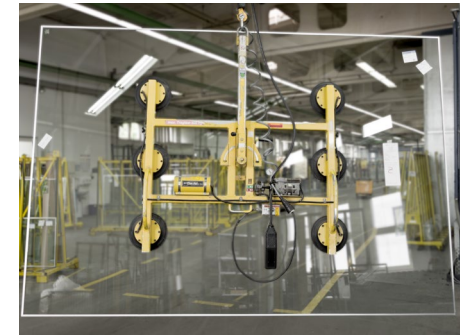
Wooden crate open

After unloading but before installation, all glass panes must be examined for any possible damage. Special attention must be given to ensure that the edge protection sealing tape is still intact and there is no damage at the edges, or chips and cracks. This inspection must take place immediately upon unloading. Obvious transport damage must immediately be documented on the delivery note (forwarder's order) and reported in writing to SCHOTT Technical Glass Solutions GmbH. Damaged glass panes must not be installed.

Use only suitable lifting and conveying equipment for the transport of safety glass in crates and as single panes. When moving the crates with cranes or fork lifts, always make sure that they remain in an upright position perpendicular to their base and there is never any twisting or distortion under load pressure. When using vacuum suction cups, make sure they are distributed evenly across the surface of the safety glass pane.

Store safety glass panes in dry, ventilated rooms protected against climatic influences (direct sunlight, UV sources, moisture) at temperatures between the extremes of -30° and $+50^{\circ}$. When stored at construction sites, appropriate measures must be taken to protect against climatic conditions (e.g. suitable covering of the glass panes).

Ensure that the safety glass panes are placed on suitable surfaces if they are unpacked and moved to a different storage area. Special attention is needed to ensure that the edge protection sealing tape is not damaged. The individual glass panes must be separated from each other by protective intermediate layers. The glass panes must never be placed on their corners.



Vacuum suction cups must be evenly distributed across the surface of the glass pane.



PYRANOVA® with intact edge protection sealing tape (silver)



PYRAN® with intact edge protection sealing tape (white)

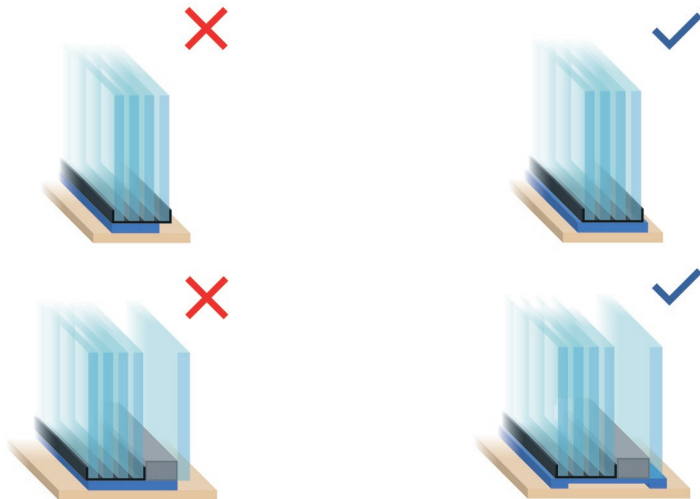
Installation and glazing

In general, installation of safety glass from SCHOTT Technical Glass Solutions GmbH must always follow the standard code EN 12488 "Glass in building - Glazing recommendations - Assembly principles for vertical and sloping glazing" unless otherwise stipulated. The installation must always be carried out by trained professionals.

The glass panes must be placed into the frames using suitable lifting equipment and supported in accordance with generally accepted standards of best practice.

Supporting material must be chosen in accordance with applicable documentation (certificates, test reports, etc.). The material must be compatible with any other materials or substances that the blocks come in contact with. The glazing blocks must be wide enough so that the pane may rest on it across its entire thickness. Preferably the blocks should be 2.0 mm wider than the glazing unit.

During glazing only use levers made of wood or plastic.



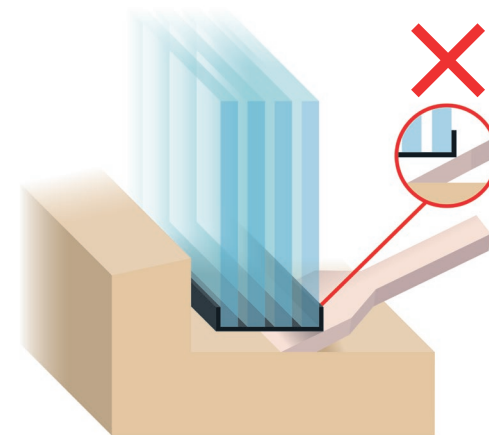
Blocks must be wide enough so that the pane may rest on it across its entire thickness.

Installation and glazing with PYRANOVA® safety glass – Special instructions

PYRANOVA® safety glass must be installed pressure-free. When installing PYRANOVA® safety glass, ensure that there is no point or line pressure at the edge area of the panes.

So-called pressure glazing is not permissible.

This applies to glazing with dry gaskets whereby the gasket is pressed into place after the outer caps have been fitted. Avoid one-sided pressure on PYRANOVA® safety glass panes during glazing.



One-sided pressure, as shown here in the picture, must be avoided!

Cleaning

Safety glass from SCHOTT Technical Glass Solutions GmbH can be cleaned in the same manner as customary glazing, with the exception of glass panes with the last layer made of polycarbonate.

The glass should only be cleaned once the sealing has been completed to avoid risk of moisture in the glazing cavity.

Normal dirt and impurities should be cleaned using clear water without the addition of any aggressive cleaning agents or abrasives. Use suitable sponges, cloths, chamois leather and/or squeegees.

Do not use abrasive cleaning tools such as scrapers, steel wool, razor blades etc. Glass scrapers with razor blades will inevitably damage the glass surface and are not permitted. Scratch damage to the surface of toughened glass, either through poor cleaning or bad handling, may weaken its structure and should therefore be avoided. Do not use any strong alkaline or acid solutions, in particular hydrofluoric

acids or solutions containing fluorides. These are not suitable and will result in irreparable damage to the glass surface.

To remove tough stains or dirt such as glue residue, paint spots, etc. use appropriate solvents e.g. ethyl alcohol or isopropyl alcohol and rinse with large amounts of water when finished. In doing so, make sure that sealing substances, sealing profiles and all other sealing materials are not damaged.

Cleaning safety glass with polycarbonate

Polycarbonate surfaces can be cleaned regularly without the use of special cleaning agents. It is recommended to use a solution of warm water with mild soap or an alternative appropriate household cleaning agent (such as Brial maxx). When cleaning, use a soft cloth or non-abrasive sponge that doesn't scratch. After cleaning, rinse the surface with cold water and dry with a soft sponge to avoid water spots.

To remove tough stains, the following products can be used at room temperature:

- Methyl alcohol
- Ethyl alcohol
- Butyl alcohol
- Isopropyl alcohol
- White spirit

Subsequent to cleaning, rinse the entire surface with cold clear water and wipe dry with a soft cloth.

Do not use any type of abrasive cleaning agents for any cleaning jobs. These will scratch the surface. Never use corrosive, solvent based or strongly alkaline cleaning agents as these may dull or cloud the surface. The use of unsuitable cleaning agents can result in stress cracking of the material which may ultimately cause breakage.

In general, the compatibility of the cleaning agent with polycarbonate should be tested on a small less visible spot before use. The use of scouring

wool, razor blades or other sharp instruments is prohibited.

Cleaning should take place at room temperature. Cleaning in direct sunlight or at high temperatures, may result in water spots.

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