



## Product description

The new Pilkington **OptiShower™** product provides a long lasting, pristine glass surface due to the properties of its innovative coating. The anti-corrosion coating permanently seals the glass surface and protects against weathering and chemical attack. This makes Pilkington **OptiShower™** ideally suited to high humidity environments, with the product remaining clear and resistant over its lifetime, meaning the glass can be cleaned as easily as on the first day.

Pilkington **OptiShower™** is available on either a clear substrate or as Pilkington **OptiShower™** OW on the extra clear, low-iron Pilkington **Optiwhite™**.

## Detection of coated side

The coating is color neutral and practically invisible and therefore Pilkington **OptiShower™** appears similar to a clear Pilkington **Optifloat™** glass. To identify the coated side of the glass, we recommend the detection with help from tin detectors or a UV-lamp (stray light test on the glass edge). The coating from Pilkington **OptiShower™** is always on the airside, means the tin bath side is the side facing out. To allow additional identification of the different sides of Pilkington **OptiShower™**, a weak adhesive sticker can be attached to the glass, preferably on the uncoated side (tin bath side).

## Delivery and storage

Pilkington **OptiShower™** products are supplied on stillages in jumbo size, as well as split sizes, both loose and endcapped.

All sheets are protected with an interleaving powder to resist staining and abrasion.

Since the surfaces, both coated and uncoated, can be damaged if not handled correctly, precautions are necessary when unloading glass packs to ensure no movement of the sheets in the pack.

Although Pilkington **OptiShower™** is resistant against glass corrosion, humidity between single sheets in one pack might cause glass plates in a pack to stick together and therefore Pilkington **OptiShower™** products must be unloaded and stored in dry, well ventilated conditions, stacked upright and fully supported in a safe manner. The glass should be stood on edge strips of wood, felt or other relatively soft material. When internally transporting individual cut size sheets or off-cuts, a wide range of separating pads, clean, non-alkaline paper or cardboard strips should be used to prevent transit damage to the coating. Separating pads should only be applied around the very edges of the glass. Harp racks may also be used provided that they are clean, in good condition and do not allow any metallic contact.

## Handling

For handling, inspection and processing, Pilkington **OptiShower™** requires no different treatment to standard float.

Nevertheless, we recommend that every operation is carried out in accordance with good practice, as described throughout these guidelines.

Although Pilkington **OptiShower™** products have a pyrolytic coating that is not easy to damage, care should be taken when handling the glass. It is recommended to identify the coated side before handling the glass.

For safety reasons, when manually handling the glass, clean, dry glass handling gloves should be worn at all times. Contact with metal on the coated surface should be avoided as it could cause damage to the coating.

Pilkington **OptiShower™** coating can be handled with suction cups. The cups can be applied indifferently to either coated or tin side of the pane.

The cups must be clean and dry to prevent marking of the coating and they should not be slid across the coated surface.

Systems should be checked to ensure they are oil free.

## Cutting

The cutting of Pilkington **OptiShower™** in principle can be done as the cutting of Pilkington **Optifloat™**. It is recommended that Pilkington **OptiShower™** must be loaded onto the cutting table with the coated surface uppermost. In order to reduce risk of damage to the coating the cutting table should be thoroughly cleaned and free from any substance that may damage the surface prior to cutting.

Automatic cutting is the preferred option, using a quick evaporating cutting oil lubricant. Cutting wheel pressures and break-out settings on automatic cutting machines will be the same as for uncoated glass.

If manual cutting is used then care must be taken with straight edges, metal tape measures, cutting bars or cutting sticks when placing on to the coated surface, to avoid marking.

A cutting lubricant with a fast evaporation rate should be used for scoring the glass prior to break out. Care should be taken when breaking out glass sheets to ensure the coating is not damaged.

## Washing

The following recommendations are given for machine, hand washing, spot and specialised cleaning of Pilkington **OptiShower™**.

### Machine Washing

Pilkington **OptiShower™** products may be washed in a vertical or horizontal multi-stage automatic washer according to the manufacturers recommended set up instructions, using hot, clean water. The final rinse stage should be done with clean de-ionized water heated to at least 43°C.

As for all washers, water shall be purified either by periodical replacement or by continuous filtration during the cleaning process.

We recommend a test pane to be run through the washer before starting production. The glass should then be inspected to determine if brush and/or air drying adjustments are required.

### Hand washing/spot cleaning

Pilkington **OptiShower™** products may be cleaned and maintained by hand washing using a non-abrasive, glass cleaning solution. For hand washing, a mild detergent and water solution is recommended to the final consumer. Dirt should be wiped from the surface with a suitable cleaner to ensure there is no scratching to the coated surface. The detergent solution should be uniformly applied to the glass and washed with a clean, soft cloth, or sponge, than the surface should be thoroughly rinsed with clean water and wiped dry immediately.

Occasionally spot cleaning may be required to remove stubborn dirt or foreign materials that can adhere to the anti-corrosion coated surface.

Some spot defects and handling marks such as excess sealants or label adhesive residue can be removed from the coated Pilkington **OptiShower™** surface using a mild, non-abrasive detergent.

Steel wool, razor blades, abrasive cleaners, should never be used on the coated surface of Pilkington **OptiShower™** glass, and neither on the uncoated side.

Further information about hand washing related to water hardness can be found in the "Pilkington **OptiShower™** – Cleaning Guidelines" provided to the final consumer.

## Heat treatment: heat strengthening, toughening, bending

Pilkington **OptiShower™** can be heat strengthened, fully toughened or bent, after it is cut to size. The feasibility of the bending radius has to be checked before production.

### Heating:

We recommend that Pilkington **OptiShower™** is thoroughly cleaned and dried prior to heat treatment to avoid any hard water stains, which could leave permanent marks on the surface after the tempering process.

Clean cotton or cloth gloves should be used at this stage and the coated surface should be visibly clean before entering the heat treatment furnace.

When heat-treating in a horizontal furnace, if possible the anti-corrosion coating should be positioned facing upwards in order to minimise coating damage.

If frit is being applied to the glass surface (uncoated side) it is feasible to process the pane with the coating side down, provided that the furnace rollers are clean and there is no risk of the glass skidding or sliding, especially when the rollers reverse direction.

Due to the hard and durable coating, the same furnace settings used when heat treating Pilkington **Optifloat™** may be used as a starting point when processing Pilkington **OptiShower™**. The anticorrosion properties of Pilkington **OptiShower™** are existing as well if the product is not heat treated.

All heat treated (toughened or heat strengthened) glasses, coated or not, may show a soft dappled shadow pattern from the furnace quench air, especially when viewed in polarised light, therefore sample plates of heat treated Pilkington **OptiShower™** should be re-inspected for distortion and tested to ensure compliance to applicable safety glazing standards.

### Cooling:

The forced convection heat loss during the cooling process will not be influenced by the coated plate. However, modifications of the air flow can be required to prevent distortions or to achieve an acceptable fracture pattern. In accordance to EN 12150-1, dedicated tests have to be conducted to check the fracture pattern. Optical disturbance, such as distortion or waviness are typical physical properties of tempered glass.

Random samples should be analyzed to verify if Pilkington **OptiShower™** fulfills the safety standards of EN 12150-1.

In addition to the above, the optical quality of the plates should be checked prior to processing. The processor is responsible that Pilkington **OptiShower™** corresponds to the applicable safety standards for glazing.

## Lamination

Pilkington **OptiShower™** can be used as a laminated safety glass. Attention need to be paid to the fact that the coating is positioned on the external side of the laminated safety glass.

## Design possibilities

Pilkington **OptiShower™** can be modified by surface treatment such as screen printing, etching etc.

## Standards

Pilkington **OptiShower™** corresponds to EN 1096 class A and EN 14428 (Shower enclosures)

## Appearance

A customer inspection should be performed on receipt of a delivery and any defects must be reported immediately. Claims for defects identified after processing cannot be accepted since it is the responsibility of the customer to carefully inspect Pilkington **OptiShower™** products during each processing stage. In the case of any claims, both samples and the batch number of the affected glass will be required.

All the above information is also valid for the Pilkington **OptiShower™** coating on low-iron, extra clear Pilkington **Optiwhite™** for enhanced aesthetics, Pilkington **OptiShower™** OW.

This publication provides only a general description of the products. Further, more detailed, information may be obtained from your local supplier of Pilkington products. It is the responsibility of the user to ensure that the use of these products is appropriate for any particular application and that such use complies with all relevant legislation, standards, codes of practice and other requirements. To the fullest extent permitted by applicable laws, Nippon Sheet Glass Co. Ltd. and its subsidiary companies disclaim all liability for any error in or omission from this publication and for all consequences of relying on it. Pilkington, "OptiShower", "Optiwhite" and "Optifloat" are trademarks owned by Nippon Sheet Glass Co. Ltd, or a subsidiary thereof.



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The CE marking label for each product, including declared values, can be found at [www.pilkington.com/CE](http://www.pilkington.com/CE)



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