



Pilkington **Mirropane™** Chrome  
Handling and Processing Guidelines

## Product description

Pilkington **Mirropane™** Chrome is a chromium-based mirror which can be toughened, bent and laminated. Due to its resistance against corrosion and humidity, it is possible to use Pilkington **Mirropane™** Chrome in shower cabins, baths and many different application areas.

We recommend you read and follow these handling and processing guidelines for Pilkington **Mirropane™** Chrome. These guidelines will provide an indication of typical procedures even if individual circumstances may vary during the manufacturing process.

## Delivery and storage

Pilkington **Mirropane™** Chrome is supplied either in wooden packaging or on metal stillages.

As for other well-established Pilkington products, all sheets of Pilkington **Mirropane™** Chrome are protected by an interleavant powder to resist moisture, staining and abrasion.

This mirror glass must be unloaded and stored in dry and well-ventilated conditions, stacked upright and fully supported in a safe manner.

To avoid damage to the coating while handling Pilkington **Mirropane™** Chrome internally, the use of suction cups is advised. Please make sure that these are clean, dry and do not slide on the surface.

## Handling

When manually handling the glass, contact with the coating should be avoided. If contact is needed ensure clean, dry glass handling gloves are used at all times. During cutting, washing and toughening, the glass should be handled with the uncoated surface facing the table.

It is the responsibility of the processor to carefully inspect Pilkington **Mirropane™** Chrome both before and after processing. Glass rejected by the processor during inspection and prior to processing will be deemed by the Pilkington Deutschland AG to have been acceptable.

## Cutting

To prevent coating damage from rollers, sheets of Pilkington **Mirropane™** Chrome must be loaded onto the cutting table with the coated surface facing up.

Automatic cutting is the preferred option.

The glass should either be cut dry or using a cutting lubricant with a fast evaporation rate. If cut automatically, the coated surface must not be contaminated or damaged by the cutting table.

If manual cutting is used, then great 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.

## Edge deletion

Pilkington **Mirropane™** Chrome does not require edge deletion.

## Edge processing

Edge working should be performed with the coated surface facing up. It is preferred that Pilkington **Mirropane™** Chrome is handled, transported and processed automatically. Horizontal diamond cutters or vertical cross belt grinding devices are especially recommended.

Contact between the coating and the driving belt should be avoided while transporting the glass during the operations. In the event that contact is necessary, it should be limited to a maximum distance of 10 mm to the glass edge. If glass cannot be processed by one of the fully automated systems mentioned above then it may be possible to cross belt the glass by hand. However, wet belts will have to be used in order to minimize both surface damage and contamination to the coating. The coated surface should be rinsed after grinding.

The coated glass must not be stopped under moving parts, such as drive belts or rolls, while processing, otherwise coating damage may occur.

Usual precautions for glass processing should be taken. This includes wearing suitable gloves during edge working to avoid contamination by fingerprints.

## Washing

As with any coated glass product, care should be taken while washing to prevent damage.

The following specific washing recommendations for reflective glass apply:

### Machine washing

For best washing results, the surface of Pilkington **Mirropane™** Chrome should be transported through the washer with the coating facing away from glass support rollers using a washing and drying machine for sheet glass equipped with rotating roller-brushes. Make sure to use deionised water for the rinsing process. We also recommend warm and clean water for cleansing.

As with every (domestic) washing machine, water should be consistently renewed or changed permanently with the help of an inlet and outlet. Dry air should be filtered and drained away from the glass so that no water drops remain on the surface.

Polypropylene washing brushes should be used in washing machines to clean glass. The brush height should be properly adjusted to ensure that only the bristles tips and not the bristles sides touch the surface of the glass consistently.

To prevent damage to the glass surface, glass should not be stopped underneath moving brushes.

We recommend that a test pane is run through the washing machine before starting production. Glass should then be inspected, in both transmission and in reflection and then with a bright spotlight close to the coated surface to determine if brush and/or air drying adjustments are required. Foreign substances in cleaning tools may bring damage to the glass surface and should be avoided.

### Hand washing

Pilkington **Mirropane™** Chrome can also be cleaned and maintained by hand. For this, a mild, non-abrasive detergent and water solution is recommended. To wash the coating, apply the solution to the glass with a clean, soft cloth, sponge or pad and rinse thoroughly with clean water. Dry the glass by wiping with a soft, lint-free cloth immediately. Furthermore take care to ensure no abrasive particles are trapped between the glass and the drying device otherwise coating damage may occur. Steel wool, razorblades, abrasive cleaners, hydrofluoric acid, fluorine compounds or strong alkalis must not be used on the Pilkington **Mirropane™** Chrome surface.

## Toughening

Prior to the toughening process the glass must be edge-worked.

## Heat treatment

Pilkington **Mirropane™** Chrome can be heat-strengthened, toughened or bent after it is cut to size. The usage of convection ovens is recommended but not necessarily essential. Prior to the toughening the coated surface should be visibly clean before entering the heat treatment furnace to prevent hand or other prints, which could be burned into the surface during heat treating. Prior to heat treatment, the surface can be cleaned with alcohol (Isopropanol) if required, following the health and safety guidelines of the supplier. During the toughening stage in a horizontal toughening furnace the reflective coating should normally be facing up, which results from the heat reflected from every coated pane. This effect may lead to a longer retention time in the oven, if using the same furnace settings as for uncoated glass of the same thickness. As the underside may reach a higher temperature due to this orientation, special attention should be paid to roller-imprints or concentric irregularities which may occur due to temporarily warping or overheating.

As different toughening furnaces have differing operating conditions, it is recommended that processors establish those conditions most suited to their own equipment as with any new product.

## Cooling process

The coating has no influence on the accelerated heat convection, although the airstream may need to be regulated to avoid rejections and to achieve a reasonable break pattern. Also the necessary tests according to DIN EN 12150-1 (for toughened glass) and DIN EN 1863-1 (for heat strengthened glass) must be performed.

Visual disturbances such as distortion or waviness are typical characteristics of heat treated glass products which may be further increased by reflective glass.

Pilkington **Mirropane™** Chrome must not be overheated, as this can lead to visible disturbances and damage to the reflective coating.

Sample tests need to be taken regularly to ensure that Pilkington **Mirropane™** Chrome corresponds to the DIN EN 12150-1 (for toughened glass) and DIN EN 1863-1 (for heat strengthened glass) standards. Before starting the manufacturing process, the sheets need to be inspected for optical disturbances. The processor is responsible for ensuring that Pilkington **Mirropane™** Chrome meets all relevant glass standards.

## Laminating

Pilkington **Mirropane™** Chrome is suitable for lamination. To ensure a reasonable adhesion, internal tests should be undertaken prior to the laminating process.

## Structural glazing

Despite its corrosion resistance, exposure to excessive amounts of water or high humidity should be avoided on the coated side. Hence potential bonding spaces that can trap moisture should be prevented or back ventilation installed instead.

## Deliberations for glazing (verification)

Compared with conventional framing systems, structural glazing allows a clear, unobstructed view onto the Pilkington **Mirropane™** Chrome. Please note that bright and highly reflective materials, such as brackets or mounting elements, may become visually disturbing due to the residual light transmission. To alleviate this effect, these materials should be darkened. Alternatively, a two-component paint can be applied on the coated side to eliminate light transmission completely.

## Pilkington **Mirropane™** Chrome - visual quality

Please refer to the 'Guidelines for assessing the visual quality of architectural glazing' by Bundesverband Flachglas, Trosidorf (Germany).

These processing guidelines refer to the use of our coated glass products in a standard insulating glass process.

In the case of any other treatment of coated glass products, e.g. lamination, heat strengthening, toughening, processing of toughened or heat strengthened glass to insulating glass units, or where surface modifications are made to coated glass, it may be necessary to perform further processing steps.

Any such further processing that is used is solely the responsibility of the respective processors. We are unable to specify standard parameters for the systems of any third-party processors. We therefore strongly recommend that you carry out production tests in order to determine suitable settings for the respective production facilities for processing the coated glass products.

Should it be necessary to transport processed coated glass plates for insulating glass units production (e.g. to another manufacturing facility), we recommend using suitable packaging materials and glass spacers such as "Fleece".

If required, we will gladly assist you.

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 and "Mirropane" are trademarks owned by Nippon Sheet Glass Co. Ltd, or a subsidiary thereof.



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