



Pilkington **Mirropane™** Chrome

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 cubicles, baths and many different application areas.

We recommend you read and follow these handling and processing guidelines for Pilkington **Mirropane™** Chrome. They are equally applicable to Pilkington **Mirropane™** Chrome Plus, a more opaque version of the product. 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 in LES pack format with individual sheets separated by interleavant powder. Pilkington **Mirropane™** Chrome must be unloaded and stored in dry, well-ventilated conditions, stacked upright and fully supported in a safe manner.

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

Handling

When manually handling the glass, direct contact with the coating should be avoided. If contact is unavoidable please ensure clean, dry, glass handling gloves are used. When cutting, washing and toughening, the glass should be handled with the coated surface outermost facing away from tables or conveyors.

It is the responsibility of the processor to carefully inspect Pilkington **Mirropane™** Chrome both before and after processing.

Cutting

Sheets of Pilkington **Mirropane™** Chrome must be loaded onto the cutting table with the coated surface uppermost.

Automatic cutting is recommended so that contact with the coating is minimised. The glass should be cut using a cutting lubricant that has a fast evaporation rate. The cutting table must be free of debris and glass shards to avoid damage, especially if contact with the coated surface is unavoidable.

If manual cutting is used, 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.

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

Edge processing

Edge working should be performed with the coated surface facing uppermost or outermost. It is recommended that Pilkington **Mirropane™** Chrome is handled, transported and processed automatically where possible. Horizontal diamond belts or vertical cross belt grinding devices are also recommended.

Contact between the coating and driving belts should be avoided while transporting the glass during the operations. If contact is necessary, it should be limited to a maximum distance of 10 mm from 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 are the recommended option in order to minimize both surface damage and contamination to the coating. The coated surface should be washed immediately after grinding.

The coated glass must not be allowed to stop under moving parts, such as drive belts, brushes or rollers while processing, due to the risk of coating damage.

Usual precautions for glass processing should be taken such as ensuring suitable gloves are worn while 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 Pilkington **Mirropane™** Chrome products apply:

Machine washing

For best washing results, the coated surface of Pilkington **Mirropane™** Chrome should be transported through the washer with the coating outermost, facing away from glass support rollers using a washing machine equipped with rotating roller-brushes. Deionised water is recommended for use during the rinsing process. We also recommend warm, clean water is used in the initial and intermediate wash sections.

Ensure that the coated surface is free of water droplets and stains following the washing process. Water contamination or stains may result in permanent damage if not removed from the coated surface before tempering.

Polypropylene washing brushes should be used in washing machines to clean glass. The brush height should be properly adjusted to ensure that there is minimal contact with the coated surface.

To prevent damage to the coated surface, glass should not be allowed to stop beneath any 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. Contamination of brushes may result in damage to the glass or coated surfaces and should be avoided.

Hand washing

Pilkington **Mirropane™** Chrome can be cleaned manually using a mild, non-abrasive detergent and water solution.

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. Care must be taken 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.

Pilkington **Mirropane™** Chrome can be heat strengthened, toughened or bent after it is cut to size. The use of a furnace that is fitted with upper convection heating nozzles is strongly recommended. The coated surface should be visibly clean before entering the furnace as any handling marks, water stains or other contamination are likely to cause blemishes and permanent damage during tempering. 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.

Due to the reflective nature of the coating on the upper surface, some warping may occur during the early stages of heating as the lower glass surface heats up at a faster rate than the upper surface. This can lead to issues with centre line haze and optical disturbances within the viewing area if not managed correctly. The upper convection pressure should be raised and adjusted accordingly in the early stages of the heating phase in order to avoid this effect. Overall heating time should be around 10-15% longer than is used when tempering clear glass of the same thickness. Some initial adjustments may be required to the quench air balance or nozzle distance in order to attain the desired level of flatness.

It is recommended that processors establish those conditions most suited to their own equipment.

Visual disturbances such as distortion or roller wave are typical characteristics of heat-treated glass products however these visual effects may be more obvious due to the reflective nature of the coating.

Therefore, it is important not to overheat Pilkington **Mirropane™** Chrome when tempering, as this can lead to issues with the optical quality and damage to the reflective coating.

Laminating

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

Structural glazing

Despite the excellent corrosion resistance of Pilkington **Mirropane™** Chrome, exposure to excessive amounts of water or high humidity should be avoided on the coated side. Potential bonding spaces that can trap moisture should be avoided or back ventilation installed.

Compared with conventional framing systems, structural glazing allows a clear, unobstructed view onto the Pilkington **Mirropane™** Chrome. 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.

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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