PILKINGTON

NSG GROUP

Pilkington **OptiView**™
Pilkington **OptiView**™ Protect
Handling and Processing Guidelines

Pilkington **OptiView**™ and Pilkington **OptiView**™ Protect

1. Product description

Pilkington **OptiView**™ and Pilkington **OptiView**™ Protect are pyrolitic on-line coated anti-reflective products. Pilkington **OptiView**™ is a monolithic glass with the anti-reflective coating on one surface, which reduces reflectance and allows more light to pass through, when compared with clear float glass. Pilkington **OptiView**™ Protect is a laminated glass with anti-reflective coatings on surfaces #1 and #4 (both outer surfaces of the laminated glass), which reduces interior and exterior reflectance below 2%. Pilkington **OptiView**™ coating has been tested to EN1096 -2 Class A.

2. Product range

Pilkington **OptiView**™ is available in 3 mm, 4 mm, 5 mm, 6 mm and 8 mm sizes up to 3300 mm × 2440 mm. Pilkington **OptiView**™ Protect is available in a range of thicknesses from 6,4 mm to 16,8 mm.

3. Delivery and storage

Pilkington **OptiView**™ products are supplied loose on stillages. All sheets are protected with an interleavant powder to resist staining and abrasion.

Pilkington **OptiView**™ 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.

4. Handling

Although Pilkington **OptiView**™ products have a durable, on-line pyrolitic coating that is not easy to damage, care should be taken when handling the glass. It is recommended that all forms of glass identification are always done to the uncoated surface.

When manually handling the glass, clean, dry glass handling gloves should be worn at all times to avoid leaving fingerprints. Gloves should be inspected before use and changed at regular intervals. Aprons should be worn to protect the coated surface from any contact with hard materials, which can cause damage to the coating. It is essential to ensure that no metal comes into contact with the coated surface as it may result in metal deposits on the coating.

Pilkington **OptiView**™ coating can be handled with suction cups. The cups must be clean and dry to prevent marking of the coating.The cups should not be slid across the coated surface and systems should be checked to ensure they are oil free.

5. Cutting

Sheets of monolithic Pilkington **OptiView**™ must be loaded onto the cutting table with the coated surface uppermost. Since Pilkington **OptiView**™ Protect has a coating on both surfaces of the laminated glass, cutting must be performed with one of the coated surfaces in contact with the cutting table. 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 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.

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.

6. Washing

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

Machine Washing

Pilkington **OptiView**™ 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. Drying air should be filtered and directed so as not to leave water droplets on the glass surfaces.

Polypropylene brush rolls are recommended for use in the glass washing machines since they generally have a lower coefficient of friction and are softer and more flexible than nylon. If nylon brushes are used, care should be taken to ensure the brushes are adjusted correctly to avoid the possibility of surface damage. Washing machines should be designed so that the conveyor never stops with the glass underneath the washing brushes, otherwise coating damage may occur.

We recommend a test pane to be run through the washer before starting production. The 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.

Hand washing/spot cleaning

Pilkington **OptiView**™ 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. 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, then 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-reflective coated surface. Some spot defects and handling marks such as excess sealants or label adhesive residue can be removed from the coated Pilkington **OptiView**™ surface using a mild, non abrasive detergent. Isopropyl alcohol, acetone or methylated spirits, which are recommended for spot cleaning should be applied in small quantity to a clean, dry cloth or towel, and rubbed on the areas needing spot cleaning. The glass should then be wiped using a dry, clean, lint free towel or cloth following with the routine cleaning procedure given above.

Steel wool, razor blades, abrasive cleaners, hydrofluoric acid, fluorine compounds or strong alkalis should never be used on the coated surface of Pilkington **OptiView**™ glass.

7. Laminating

Pilkington **OptiView**™ Protect has been designed as a laminated product with the anti-reflective coating on the outer surfaces. The anti-reflective coating is not placed against the PVB interlayer since there are no visible reflections from that interface in any case. Monolithic Pilkington **OptiView**™ is suitable for lamination by either PVB autoclave or cast-in-place processes.

When laminating, care should be taken to avoid excess interlayer material adhering to the coated surface as this may be difficult to remove completely.

When laminated, Pilkington **OptiView**™ Protect has a coating on both sides, therefore it should not be marked with adhesive labels/stickers, wax crayons, and nor should metal objects be dragged across the surface.

8. Heat treatment: heat strengthening, toughening, bending

Prior to being laminated, monolithic Pilkington **OptiView**™ can be heat-strengthened, fully toughened or bent, after it is cut to size. It is recommended that Pilkington **OptiView**™ is thoroughly cleaned and dried prior to heat-treatment. Clean cotton or cloth gloves should be used at this stage to prevent hand or fingerprints, which could be burnt into the surface during heat-treating. The coated surface should be visibly clean before entering the heat treatment furnace.

When heat-treating in a horizontal furnace the anti-reflective coating should be positioned facing upwards in order to minimize coating damage. If frit is being applied to the glass surface it may be necessary to process the glass with the coating side down, which is possible when the furnace rollers are clean and there is no risk of the glass skidding or sliding, especially when the rollers reverse direction.

The same furnace settings used when heat treating Pilkington **Optifloat**™ may be used as a starting point when processing Pilkington **OptiView**™. We recommend a furnace setting of approximately 670°C and a heating cycle time of 240 seconds as a starting point for 6 mm Pilkington **OptiView**™ test panes. Since each furnace is unique, furnace times and/or temperature adjustments will be required.

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 **OptiView**™ should be re-inspected for distortion and tested to ensure compliance to applicable safety glazing standards.

Pilkington **OptiView**™ has a reduced emissivity value compared to non-coated glass. This will have a slight effect in the furnace section where the glass top surface can run cooler because of some radiant heat reflection. The thermal characteristics of the coated glass surface may require adjustment of the top and bottom furnace temperatures, cycle times and convection profiles. These parameters will vary from furnace to furnace. The furnace settings for bending can initially be those for clear non-coated glass of the same thickness.

9. Insulating Glass Units

Pilkington **OptiView**™ products do not require edge deletion when used in Insulating Glass Units. The anti-reflective Pilkington **OptiView**™ coating is generally compatible with all major insulating glass sealants, however, specific questions concerning compatibility should be directed to the individual sealant manufacturers. When assembling the Insulating Glass Unit, contact with the coated surface should be kept to a minimum.

10. 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 **OptiView**™ products during each processing stage. In the case of any claims, both samples and the batch number of the affected glass will be required.

Production tolerances can cause slight colour deviations between different batches. These are minimal within a production run. At a viewing distance of 3 m it is acceptable for some mottling or streaking of the coating to appear. Slight differences between adjacent panes may be visible.

11. Mock up construction

The construction of a full scale mock up is recommended where the glass can be examined, from both sides, in transmission and reflection. The mock up should be constructed and viewed on site, representing the proposed building location and viewing geometry, and should be approved prior to the final glass production.

NSG GROUP

Pilkington United Kingdom Limited
Registered Office: European Technical Centre, Hall Lane, Lathom, Nr Ormskirk, Lancashire L40 5UF
Telephone 01744 692000 Fax 01744 692880
pilkington@respond.uk.com
www.pilkington.co.uk