

**Pilkington Activ™ and Pilkington Activ™ Blue.**  
The world's first self-cleaning glass.

Handling and Processing Guidelines



**PILKINGTON**

A member of NSG Group

## Handling & Processing



### Pilkington Activ™ – Product Description

Pilkington Activ™ is a durable, coated, self-cleaning glass with neutral light transmission and a subtle blue tint by reflection. Compared to ordinary float glass it provides clearer vision immediately after rainfall and it also requires less frequent cleaning. It has good scratch resistance and durability, and in most circumstances can be treated the same as ordinary float glass. It is also available on a blue glass substrate, for the additional benefit of solar control. Handling and maintenance instructions are the same for both Pilkington Activ™ and Pilkington Activ™ Blue.

Under normal conditions the unique coating breaks down and loosens organic contaminants on the surface and induces a water sheeting action on the coated surface. This allows dirt to be washed easily from the surface and reduces the need for manual cleaning.

Pilkington Activ™ can be single glazed or incorporated into an insulating glass unit with the self-cleaning coating positioned on surface #1, on the outside of the building.

Pilkington Activ™ is classified as a Class A coated glass in accordance with EN 1096. It is therefore important that this coated product is handled and processed in accordance with good practice. It must be glazed following Pilkington recommendations to obtain maximum benefit from its unique self-cleaning properties.

Silicone and silicone oils are contaminants and should be kept away from the coated surface throughout the fabrication and installation process.

For Pilkington Activ Suncool™ see separate H&P Guidelines.

## 1

### Delivery and Storage

There are a number of measures that we have put in place to protect Pilkington Activ™ during delivery and storage. They are as follows:

- The glass and coated surfaces of stock sheet products are protected with an interleaving material. This helps to prevent moisture staining and abrasions between the individual sheets.
- For additional protection during handling, cover the coated surface with standard plastic wrap. This can be removed immediately after installation to avoid thermal risk.
- To ensure adequate protection of the coated surface a range of transport pads have been tested and approved for cut sizes or assembled IGUs, they should be used during storage and transportation.
- Pilkington Activ™ is generally delivered on stillages in pack quantities, exactly the same as clear glass of similar thickness and size. It can be supplied with the coating facing in or out of the pack.
- When offloading and storing, care should be taken to avoid damage to the coated surface, as well as the edges.
- The glass should be stored in dry conditions, stacked upright and fully supported following normal good practices.

For more information, please consult Pilkington.

## 2

### Handling

- Suction cups can be used on the coated surface. However they should be clean, dry, and must not slide on the surface. Always ensure that silicone oil is not present on the suction cup.
- Suitable clean dipped gloves should be used.
- The coated surface must not be marked with adhesive labels or wax crayons as subsequent removal may be difficult. If the glass requires some form of identification it should be placed on the non-coated surface.

# 3

## Coating Detector

- Pilkington **Activ™** coating can be identified using a hand-held detector on the coated surface. These detectors are available from Norcott Instrumentation at [www.norcotti.com](http://www.norcotti.com)



# 4

## Edge Deletion

- Pilkington **Activ™** coating is always on surface #1 and does not require edge deletion.

# 5

## Cutting

- To prevent coating damage from glass particles, we recommend that Pilkington **Activ™** be cut with the coated surface facing up. Care must be taken if straight edges, metal tape measures, cutting bars or cutting sticks are used on this surface.
- Wear gloves and aprons to protect the coated surface from contact with belt buckles or metal studs. Care should be taken with watch straps and other jewellery.
- Gloves should be clean and checked to ensure that they do not leave prints on the coated surface.
- When cutting the glass automatically, cutting wheel pressure and break-out settings will be very similar to those used for float glass. If needed, fast dispersive lubricant should be used. No change in wheel type is required, however wheel life may be shortened, even with hand cutting.
- The glass should be processed with the coated surface face up. Therefore special attention should be paid to any parts of the process which involve contact with the upper surface to ensure that they do not mark the coating.
- Hand scoring of the glass on the coated side may feel different to that of float glass.

# 6

## Washing

- Pilkington **Activ™** is a hard, durable coating applied to the surface during float glass manufacture. As with any coated glass product, care should be taken while washing to prevent damage. It is essential to ensure that no metal, e.g. cleaning equipment, comes into contact with the coated surface.

# 7

## Machine Washing

- There should be no difficulty in machine washing Pilkington **Activ™** using the washer manufacturer's recommended set-up instructions for a given glass thickness.
- Ensure adequate water flow through all nozzles, use the recommended water temperatures, make sure the brushes are in good condition and are set at the correct height and not rotating when the glass is stationary and ensure air knives and filters are clean.
- For best results, the Pilkington **Activ™** surface should be transported through the washer with the coating away from the glass support rollers. This will minimise any contact with the coating that could necessitate further spot cleaning.
- Where possible use the washing machine manufacturer's recommended glass cleaning detergent. Final rinsing should be with clean de-ionized water (conductivity: less than 30µmS/cm) heated to at least 40°C.
- Under no circumstances should abrasive cleaners, hydrofluoric acid, fluorine compounds or strong alkalis be used on the coated surface.



## 8

### Washing/Spot Cleaning

- Pilkington **Activ™** can be cleaned and maintained by hand. A mild, non-abrasive detergent (i.e. one that does not contain solids in suspension) and water solution is recommended.
- Abrasive cleaners must not be used.
- 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. Take care to ensure that no abrasive particles are trapped between the glass and the drying device otherwise coating damage may occur.
- Dilute ammonia or alcohol based window cleaners may be used for spot cleaning. Steel wool or razor blades must not be used on the Pilkington **Activ™** surface.

## 9

### Laminating

- Pilkington **Activ™** is suitable for lamination by either PVB autoclave or cast-in-place processes. To preserve its self-cleaning property, it should be laminated with the coating outward, away from the interlayer.
- Laminating processes should not normally damage the Pilkington **Activ™** coating. Avoid excess interlayer material adhering to the coated surface as this may be difficult to remove completely.

## 10

### Toughening

- Once cut to size, Pilkington **Activ™** can be heat strengthened or fully toughened like float glass – the coating should be washed and dried before carrying out either of these processes.
- The coated surface must be visibly clean before entering the heat treatment furnace and should be face up in the furnace to minimise the chance of coating damage. You may process the glass with the coating face down provided furnace rollers are clean and no skidding or sliding of the glass occurs as it is transported through the process. This orientation will be necessary, when a toughened glass is required which has a frit or coating applied to the other glass surface.
- The coating should not be put down onto castor rollers. The abrasive scrubbing action of pivoting castors will leave deposit marks that can be difficult to remove.
- Do not overheat Pilkington **Activ™** during the heat strengthening or toughening process, as this can damage the coating and destroy its self-cleaning action. Overheating will normally be characterised by excessive distortion in the glass. To eliminate this problem a cooler glass temperature should be used during the process.
- The heat strengthening and toughening parameters used for processing Pilkington **Activ™** are similar settings to those used for Pilkington **Optifloat™** of equivalent thickness.

# 11

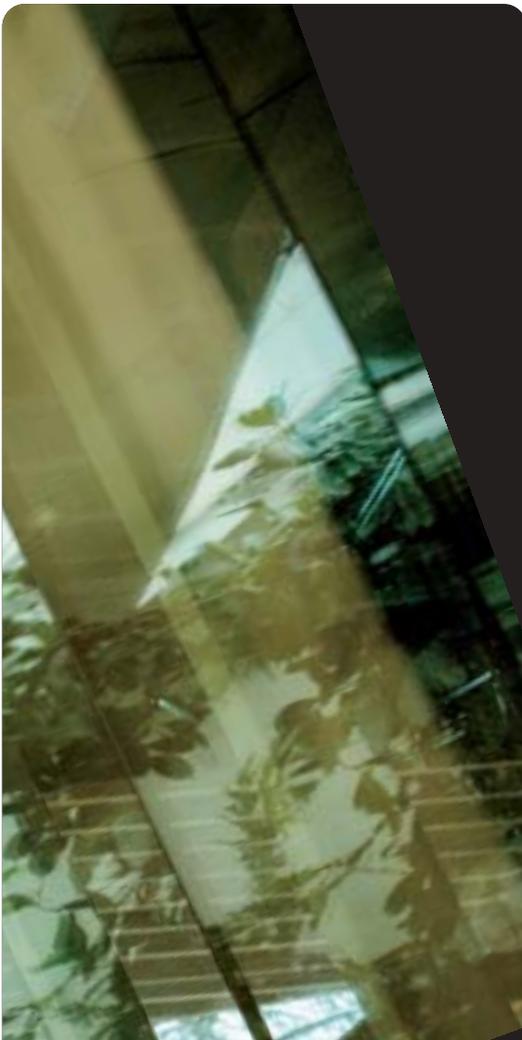
## Insulating Glass Units

- The uncoated float glass surface of Pilkington **Activ**™ is compatible with a range of sealants including Hotmelt Butyls, Polysulphides, Polyurethanes and 2 Part Silicones.
- In the event of sealant spillage onto the coated surface, a soft cloth soaked in methylated spirits or acetone should be used to remove the sealant while still wet (any health and safety requirements for using these chemicals should be followed). If sealant is allowed to dry the same method is recommended for its removal, but the task will be more difficult.
- Under no circumstances should razor blades, steel wool or abrasives be used.
- When assembling the unit, make sure there is no metal contact with the coated surface and once the insulating glass unit is complete, ensure the coated surface is protected from mechanical damage such as scratching.

# 12

## Other Processing

- Lead and/or colour overlay can generally be applied to the Pilkington **Activ**™ coated surface. However, Pilkington **Activ**™ will only retain its self-cleaning behaviour on the uncovered surface. Lead should be patinated or treated with Leadshield™.
- Take care with any tools used to apply the lead effect or overlay and ensure they do not indelibly mark the coated surface. It is the responsibility of the unit manufacturer to ensure anything applied to the coated surface, is compatible with the Pilkington **Activ**™ coating and will not have a detrimental effect.
- Adding other components, such as Georgian Bars inside the airspace of the insulating glass unit will not affect the Pilkington **Activ**™ coating. The appearance of the components may change slightly when viewed through the coating, compared with clear float glass.



# 13

## Appearance

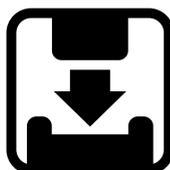
- It is the responsibility of the processor to carefully inspect Pilkington **Activ**™, both before and after processing. (Glass not rejected by the processor during inspection and prior to processing will be considered acceptable by Pilkington). Glass should be inspected upon delivery. Pilkington will not accept rejection once glass has been processed.

# 14

## Merchanting/Redistribution

- When packing Pilkington **Activ**™ for transport with the coating exposed, a fine even distribution of powder interleavant or a standard paper interleavant should be used.
- When securing to pallets or transit frames, no strapping or other means of retention should come into direct contact with the coated surface.

# Installation



## 1

### Glazing

- To differentiate each surface, all insulating glass units are supplied with a Pilkington label applied to the non-Pilkington **Activ™** side. A hand-held detector can also be used to identify the coated side. They are available from Norcott Instrumentation at [www.norcotti.com](http://www.norcotti.com)
- When glazing a clean, dry, gasket glazing system or a system that uses non-setting oil-free glazing compounds should be used. The gasket should be of high quality and free of any form of silicone oil lubrication.
- The use of silicone oil-containing lubricants on gaskets **must not be used**. Dry gaskets or those lubricated with glycerine oil or talc can be used as alternatives. However, the Pilkington **Activ™** coating can be expected to break down some oils and lubricants over time.
- Details of gaskets that are compatible with Pilkington **Activ™** and that have been approved are listed on [www.pilkington.com/uk/technicalupdate](http://www.pilkington.com/uk/technicalupdate)
- Silicone sealants can exude oil or plasticisers containing silicones. These materials are very difficult to remove from the glass and Pilkington **Activ™** coating. They are usually only visible when the glass/coating is wet, and even then they are only noticeable by the different water droplet formation when compared with non-contaminated glass.
- Only use glazing sealants that do not leach silicone oils onto the glass or coated surface. For general wet sealing, use the correct grade of sealant listed on our website [www.pilkington.com/uk/technicalupdate](http://www.pilkington.com/uk/technicalupdate) and for butt jointing and weather sealing in structural glazing systems, use the recommended alternative non silicone based product.
- When glazing into frames do not use glazing tapes that contain oil (e.g. silicone and/or paraffin wax). Putty is compatible, but it is not an appropriate glazing material for IGUs or laminates.
- Where the glass is adjacent to new lead flashings (e.g. conservatory installations), white carbonate run-off from the lead can stain Pilkington **Activ™** as it would ordinary float glass. Apply patination oil or **Leadshield™** to both sides of the flashing when it is new, to minimise this effect.

**Leadshield™** is a trademark of British Lead Mills.

- It is the installer's responsibility to ensure that the above recommendations are adhered to.
- When Pilkington **Activ™** is glazed into a building, care must be taken during any further construction. Protect the coating from site contamination such as welding, rusty deposits, cement, plaster products or adhesives. Care should also be taken to ensure that alkaline leach-out from concrete, etc. does not occur. For advice on remedial action to remove contaminants, please refer to Pilkington datasheets.
- After building work is complete the glass should be cleaned by rinsing with water to remove all traces of dust or abrasives which may have accumulated during construction. Then apply a cleaning solution (a mild detergent and water solution is recommended) onto the coated surface. Gently rub the wetted coated surface with a clean, lint-free towel or cloth and wipe nearly dry. Any moisture remaining on the surface will evaporate to leave a clean surface.
- The use of a squeegee on the coated surface is not recommended. If a squeegee is used then particular care must be taken to prevent dirt particles from becoming trapped under the blade and dragged across the coating and also to stop any metal parts from contacting the surface.

## 2

### Repeat Orders, Colour Deviation

- Production tolerances can cause slight colour deviations between different batches. These are minimal within a production run. Where glass will have to be supplied over a longer period for the same project, please indicate to the manufacturer so they can minimise colour deviations.

# 3

## Recommended Glazing Angle

- Pilkington **Activ**<sup>™</sup> works best when glazed either vertical or at least 30° from horizontal. The minimum glazing angle is 10° from horizontal.



# 4

## Glazing Locations

- Pilkington **Activ**<sup>™</sup> can be used in almost any exterior application, such as windows, conservatories, facades and pitched glass roofs. It's especially useful for inaccessible windows where organic dirt normally collects, such as skylights. Please note, it is designed for exterior use only.
- Glazing with Pilkington **Activ**<sup>™</sup> under an overhang or in a situation where daylight and/or rain cannot reach it, may promote a build up of residue on the outer pane. If daylight can reach the glass but rainfall cannot, rainfall should be simulated with a hose pipe. A gentle action is all that is required to wet the glass. Pressure washers should not be used.
- When the glass is located in a position where the amount of material deposited on the surface overwhelms the self-cleaning properties of the glass, or the glass is not flushed clean by the rain, then manual cleaning or hosing may be required at more frequent intervals.
- In coastal areas, salt can be naturally deposited onto the Pilkington **Activ**<sup>™</sup> surface of the glass and can dry or crystallise. The amount will depend on how close the installation is to the sea, wind direction, weather conditions and the glazing aspect. As salt is inorganic, it is not broken down by the photocatalytic action of Pilkington **Activ**<sup>™</sup>. Although some deposits will be washed away by rainfall, it may not be enough to remove all of them and hosing may be required. During a dry spell or for especially heavy contamination consumers may wish to lightly hose or wash down the glass. This will make Pilkington **Activ**<sup>™</sup> considerably cleaner than non coated glass in the same circumstances, with the additional benefit of not having to manually dry the glass.

- If the installation is in an area of exceptionally hard water (i.e. greater than 180ppm combined content of calcium carbonate, CaCO<sup>3</sup> and magnesium carbonate, MgCO<sup>3</sup>) then rinsing water should be softened with a domestic water softener or by the addition of detergent (a couple of drops of dishwashing detergent) to a litre of water.

# 5

## General

- Pilkington **Activ**<sup>™</sup> requires a short period of exposure to daylight to become fully effective.
- Advise customers that the self-cleaning property is not activated until the glass has been exposed to UV light from the sun from 4-7 days.
- In long dry spells, a hose pipe can be used to simply wash away loosened particles of dirt.

# 6

## Recycling

- Pilkington **Activ**<sup>™</sup> can be recycled as float glass. Nevertheless, all country regulations should be followed for the disposal of the glass.

# 7

## Customer Information

- Ensure all Pilkington **Activ**<sup>™</sup> customers are provided with the appropriate brochure detailing maintenance and cleaning advice. All customers should be provided with a Pilkington **Activ**<sup>™</sup> installation certificate.

The information contained in this document provides general guidance as to best practice with regard to the handling, processing and glazing of Pilkington **Activ™**. It does not, however, constitute any representation or warranty with respect to the product, its performance or its suitability for any application. Pilkington hereby disclaim all liability howsoever arising from any error on or omission from this publication and for all consequences of relying on it. Pilkington **Activ™** and the logo are trademarks of Pilkington Group Limited.



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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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