



## Pilkington Activ™

The world's first self-cleaning glass  
with advanced dual-action for superior results.



**PILKINGTON**  
NSG Group Flat Glass Business

## A revolution in glass

Self-cleaning glass has been described as an impossible dream. Yet, following an intensive research and development programme by Pilkington – inventors of the universally used float glass process, and the world's leading glass manufacturer – Pilkington **Activ™** does just that.

Its unique dual-action uses the forces of nature to help keep the glass clear of organic dirt, giving you not only the practical benefit of less cleaning, but also clearer, better-looking windows.

This brochure has been designed to answer all the questions you may have about Pilkington **Activ™** and how it works.

## The benefits of Pilkington **Activ™**

- The world's first self-cleaning glass.
- Saves you time and money, and is safer than cleaning your own windows.
- Unique coating breaks down and loosens organic soiling.
- Even works on cloudy days and during the night.
- Can be used in almost any external domestic application – ideal for conservatories and windows.
- Will not be worn away or rubbed off under normal conditions – lasts the lifetime of the glazing itself.
- Easily cleaned during dry spells by hosing down or wiping with a soft cloth and warm soapy water.
- Also available – Pilkington **Activ™** Blue and Pilkington **Activ™** Neutral, combining self-cleaning properties with solar control performance for conservatory roofs.
- Pilkington **Activ™** helps reduce the visual appearance of external condensation.
- Can be used in conjunction with other Pilkington glass products for example Pilkington **K Glass™** to provide increased energy efficiency and save on heating bills.
- Created and manufactured by the world's leading glass producer – Pilkington.

For more information please visit [www.pilkington.com/selfcleaningglass](http://www.pilkington.com/selfcleaningglass)



## How Pilkington **Activ™** works

### What do you mean by ‘dual-action’?

The secret of Pilkington **Activ™** lies in its special coating, which works in two stages:

#### *Breaking down organic dirt*

Firstly, the coating reacts with ultra-violet (UV) rays from natural daylight to break down organic dirt (see figures 1 & 2).

Organic dirt generally comes from plants and animals e.g. bird droppings, pollen or tree sap, while inorganic dirt comes from other, non-living sources e.g. cement or plaster.

#### *Washing dirt away*

The second part of the process happens when water hits the glass. Rainwater runs down the glass to wash the loosened dirt (both organic and inorganic) away. Loose inorganic dirt will only be removed by water (see figure 3).

Compared with conventional glass, the water dries very quickly, reducing unsightly streaks or marks.

### How long does the self-cleaning operation take?

Pilkington **Activ™** works continuously, with dirt being washed away whenever it rains.

### Does Pilkington **Activ™** work straight away?

After fitting, the coating on the glass takes about five days to activate itself fully.

### Will this process work even when the glass is very dirty?

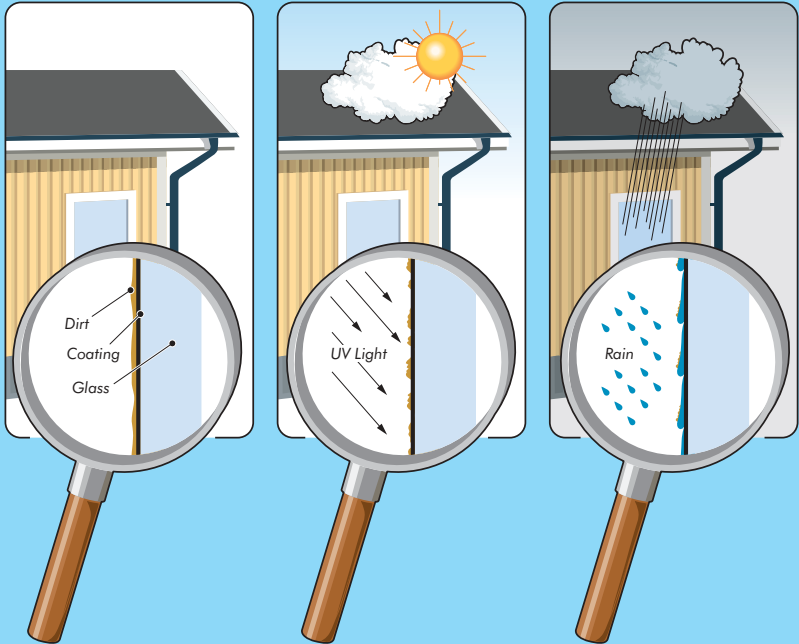
The coating will eventually break down quite heavy deposits of organic dirt. However, if the surface is so dirty that UV light cannot reach the glass, the self-cleaning action will become steadily less effective. In such cases, clean the glass with warm soapy water and a soft cloth, and in a few days the glass will have re-activated.

### What happens if it does not rain for some time?

Normally, rainfall will be enough to keep your windows clean. In dry spells though, your windows can be washed with a soft cloth and warm soapy water or hosed down gently.

### What about cloudy days and at night?

Pilkington **Activ™** needs only a small amount of UV radiation to keep the coating activated – so it works even on overcast days.



**Figure 1:**  
**Coating is activated by UV light**  
After installation the special coating needs 5 to 7 days' of exposure to daylight to activate fully.

**Figure 2:**  
**Organic dirt is broken down**  
The coating breaks down organic dirt and by doing so, reduces the adherence of inorganic dirt.

**Figure 3:**  
**Rain washes dirt away**  
Water droplets spread out to form a 'sheet', dirt particles on the surface are picked up by water and washed off glass - a remarkable difference you can actually see.

## Frequently asked questions

### **Exactly what is self-cleaning glass?**

Pilkington **Activ**<sup>™</sup> is normal glass with a special coating on the outside that has a unique dual-action. Once exposed to daylight, the coating firstly breaks down any organic dirt deposits and secondly, causes rainwater to ‘sheet’ down the glass to wash the loosened dirt away.

### **What effect does the coating have on the glass?**

Very little, other than keeping it cleaner for longer! It has no effect on its strength, and only reduces the amount of light and energy that passes through by about 5%. From certain angles it has a slightly greater reflective quality than normal glass, with an attractive faint blue tint, giving it a clearer, brighter appearance.

### **Can it be scratched or rubbed off?**

The coating is integral to the glass – it will not flake off or discolour, so it can only be affected if the surface itself is damaged; for example, by pointed objects, abrasive cleaners or steel wool.

### **How long will the coating last? Can it be replaced?**

The coating has been developed to last as long as the insulating glass unit itself. The coating is permanent and will not need re-applying.

### **Is it environmentally friendly?**

Yes. The coating contains harmless chemical substances already found in the home, in items such as bath oils and toothpaste. In fact, because of the reduction in the use of detergents and fresh water needed to clean the glass, The Building Research Establishment has indicated that Pilkington **Activ**<sup>™</sup> is actually more beneficial to the environment than normal glass. What’s more, it also reduces maintenance costs.

### **How do I know I have Pilkington **Activ**<sup>™</sup> in my windows?**

Pilkington **Activ**<sup>™</sup> can be identified using a unique hand-held detector on the coated surface, which your installer should have available. Your installer should also provide you with a Pilkington **Activ**<sup>™</sup> installation certificate.



1. The window is exposed to daylight



4. Rainwater hits window and sheets down glass



2. Daylight triggers the Pilkington **Activ**™ coating



5. Dirt is washed away by rain



3. Reaction loosens organic dirt



6. Window is left clean

### **Where can Pilkington Activ™ be used?**

Almost any exterior application, such as windows, conservatories, façades and glass roofs, on any orientation for example North, South, East or West facing. It can be installed vertically or at sloping angles of at least 10 degrees, but ideally 30 degrees or more to ensure good water flow. It is especially useful for inaccessible windows where organic dirt normally collects, such as skylights. Avoid glazing with Pilkington Activ™ under an overhang or in a situation where daylight and/or rain cannot reach it. It has been designed for exterior use only. The installation of Pilkington Activ™ reduces the need for awkward access equipment or taking risks to clean the glass.

### **Can it be combined with other types of glass?**

Pilkington Activ™ can be combined with other Pilkington glass products in insulating glass units to provide benefits such as thermal insulation, noise reduction, solar control and fire protection. Additionally, Pilkington Activ™ is available in toughened or laminated form for increased safety and security. Also, Pilkington Activ™ Blue and Pilkington Activ™ Neutral offer self-cleaning properties with solar control performance.

### **Will my windows ever need cleaning?**

We do not say that your windows will never need cleaning – that depends on the type and amount of dirt and the volume of rain the glass in your window receives. Pilkington Activ™ reduces the amount of maintenance required. If the glass is located in a position where the amount of material being 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 with a soft cloth and warm soapy water or hosing to replicate the action of rain may be required at more frequent intervals.

### **What if dust collects on the surface during dry weather?**

Pilkington Activ™ will remove organic and loosened deposits, but it will not break down inorganic dirt. To remove loose inorganic dirt before the next rainfall, simply spray or hose the glass with water.



## Cleaning and maintenance instructions for Pilkington **Activ**<sup>™</sup> range

An insulating glass unit incorporating Pilkington **Activ**<sup>™</sup> self-cleaning glass must be glazed with the Pilkington **Activ**<sup>™</sup> coating to the outer surface.

Pilkington **Activ**<sup>™</sup> has a durable coating, and through utilisation of natural UV light, requires less frequent cleaning and provides clearer vision after rainfall.

To achieve and maintain these properties, these guidelines must be followed:

1. Regular cleaning of this product should not normally be necessary. However, extended dry periods can cause a build-up of contaminants on the coated surface. Under such circumstances, hose down the window and let the glass dry naturally. Spraying should be conducted during the coolest part of the day and not in direct sunlight. It is best to spray from the top to the bottom in a zig zag pattern. (Note: pressure washers should not be used).
2. Periodically, the surface may become contaminated with stubborn marks that cannot easily be removed by hosing down the window. Where contamination occurs, the window should be hosed to remove any accumulation of dirt, cleaned with warm soapy water and a soft cloth, followed by a final water rinse.\* If necessary use a non-abrasive liquid glass cleaner, after the final water rinse. Do not trap dirt between the cloth and the Pilkington **Activ**<sup>™</sup> surface. Rubber squeegees should not be used as they may trap grit and damage the coated surface and the glass.
3. After cleaning with a soft cloth a period of reactivation may be required. This is typically 5-7 days.
4. Finger marks on the coated surface will, under normal circumstances, disappear. Where such marks persist, the glass should be cleaned in accordance with point 2 above.
5. If silver-coloured areas or grease appear on the surface of the glass – this means that the coating is working and the oil-like stains will be washed away next time it rains.
6. Do not use abrasive cleaners, cream cleaners and functional (e.g. anti-mist) type products on Pilkington **Activ**<sup>™</sup>, as they will damage the coated surface.
7. In areas of hard water\* supply, hosing down could result in white marks or milky appearance to the coated surface, caused by minerals in the water. Where this occurs, it is recommended that a solvent-free detergent be added via a suitable applicator to minimise the effect. The white marks can be minimised by avoiding hosing the glass at the hottest time of the day.

8. Do not splash paint or cement products on to the glass. If ink or paint gets onto the glass, remove it using a soft cloth and cleaner (methylated spirits). If cement gets onto the glass, remove it using a limescale remover. Never use scouring agents, steel wool, razor blades or other hard objects which will scratch the glass.\*\*
9. Where Pilkington **Activ**<sup>™</sup> Insulating Glass Units are likely to be stained by white carbonate run-off from lead flashing (i.e. conservatory roofs), it is recommended that all lead adjacent to the glass surface is treated with patination oil or Leadshield<sup>™</sup> prior to installation.\*\*
10. Care should be taken to ensure that alkali run-off from concrete etc. does not contaminate the glass surface.\*\*
11. Under no circumstances should any metal objects or harsh chemical cleaners be used to clean or otherwise come into contact with the coated surface. Steel scrapers, razor blades, steel wool, squeegees, rings etc. will cause scratching and may lead to permanent damage of the coating.
12. All maintenance and repairs above and beyond basic cleaning needs should be carried out by a recommended installer. Note: silicone should never be used in conjunction with Pilkington **Activ**<sup>™</sup>. Advice on suitable sealants is available from Pilkington. [www.pilkington.com/uk/technicalupdate](http://www.pilkington.com/uk/technicalupdate)

\*If the water quality is very hard (greater than 180ppm combined content of calcium carbonate  $\text{CaCO}_3$  and magnesium carbonate  $\text{MgCO}_3$ ), rinsing water should be softened with a domestic water softener or by adding a couple of drops of detergent (such as dishwashing detergent) to a litre of water.

\*\*Please seek out specialist advice for removal of contaminating deposits.

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For further technical information, visit [www.pilkington.com/selfcleaningglass](http://www.pilkington.com/selfcleaningglass)



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