



Pilkington **Activ**™

The world's first self-cleaning glass

*with advanced **dual action** for superior results*



PILKINGTON

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 free from 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 safer than cleaning your own windows.
- Unique coating breaks down and loosens even heavy organic soiling.
- Also works even on cloudy days and during the night.
- Can be used in almost any external domestic application.
- Will not be worn away or rubbed off – 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.
- Created and manufactured by the world's leading glass producer – Pilkington.
- Can be used in conjunction with other Pilkington glass products to provide increased energy efficiency and save on heating bills.
- For more information please visit www.activglass.com



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 and disintegrate organic dirt (see figures 1 & 2).

Organic dirt is defined as having come from living plants and animals (e.g. bird droppings 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. Rain water runs down the glass to wash the loosened dirt (both organic and inorganic) away. Inorganic dirt will only be removed by water. Compared with conventional glass, the water dries very quickly, without leaving 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. For the best results, after installation the windows should be left until the coating has activated before any cleaning is undertaken.

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

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

What happens if it does not rain for some time?

Normally, rainfall or hosing with water 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.

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 and the water sheeting effect will last through the night.

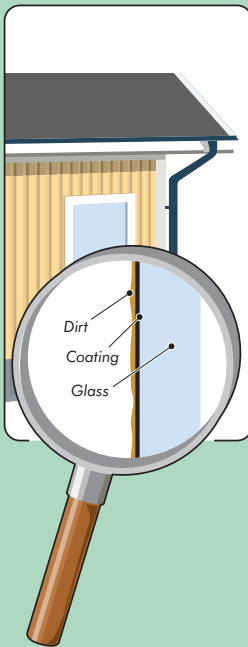


Figure 1:
Coating is activated by UV light
After installation the special coating needs 5 to 7 days exposure to daylight to activate

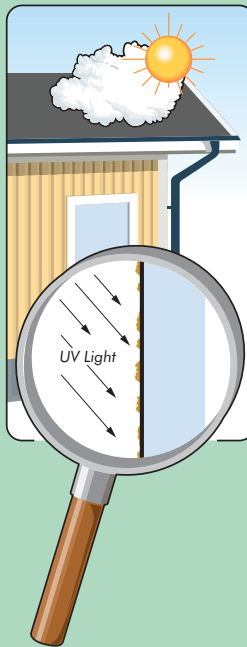


Figure 2:
Organic dirt is broken down
The coating breaks down organic dirt and also reduces the adherence of inorganic dirt

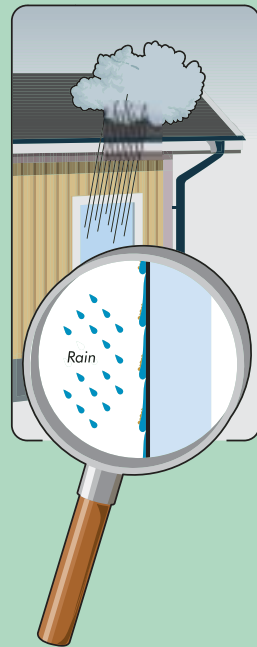


Figure 3:
Rain washes dirt away
Water droplets spread out to form a 'sheet', dirt particles on surface are picked up by water and washed off glass

Frequently Asked Questions

Exactly what is self-cleaning glass?

Pilkington **Activ™** 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 rain water 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 mirror effect 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 – so it can only be affected if the surface itself is damaged; for example, by pointed objects, abrasive cleaners or steel wool. Our tests have also shown it will not flake off or discolour, either.

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

The coating has been proven to last as long as the glass itself.

Is it environmentally friendly?

Yes. The coating contains harmless chemical substances already found in the home, in such things as bath oils and toothpaste. In fact, with only small amounts of cleaning agents needed, Pilkington **Activ™** is kinder to the environment than normal glass.

How do I know I have Pilkington **Activ™ in my windows?**

Pilkington **Activ™** can be identified using a unique hand-held detector on the coated surface, which your installer should have available.

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

Almost any exterior application, such as windows, conservatories, façades and glass roofs. It can be installed vertically or at an angle, and is especially useful for inaccessible windows where organic dirt normally collects, such as skylights. It has been designed for exterior use only.



The window is exposed to daylight



Daylight triggers the Pilkington **Activ**[™] coating



Reaction loosens organic dirt



Rain water hits window and sheets down glass



Dirt is washed away by rain



Window is left clean

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.

Will my windows ever need cleaning?

The glass is designed to reduce the amount of cleaning required. If cleaning is necessary, it will be much less frequent and will be much easier than with conventional glass. This may occur during long dry spells or if your windows are heavily soiled.

How easy is it to clean Pilkington **Activ™?**

Normally a simple hosing down with water will suffice, but you can also use a soft cloth and warm, soapy water. No special cleaners are required, and the coating will naturally re-activate after a few days.

What do silver-coloured areas or grease stains on the surface mean?

This happens occasionally when the organic particles are broken down on the surface. It means that the coating is working and the oil-like stains will be washed away next time it rains.

I can see rainbow colours on the glass. What's that?

This occurs during the accelerated drying process and will disappear once the glass is dry.

What if dust collects on the surface during dry weather?

Pilkington **Activ™** will remove organic deposits, such as fingerprints or tree sap, but it will not break down inorganic dirt. To remove inorganic dirt before the next rainfall, simply spray or hose the glass with water.

How can I remove ink or paint?

Ink or paint will have to be carefully removed from the glass using a soft cloth and methylated spirits. Never use scouring agents, steel wool, razor blades or other hard objects which will scratch the glass.

How can I stop the formation of drops and dirt on the bottom of the pane?

In exceptional cases, dirt may be washed to the bottom of the pane and is not washed away completely. This build up may stop UV rays from activating the cleaning process. Clean the area by first flushing off the dirt with water, then wiping with warm soapy water and a soft cloth.





Cleaning and Maintenance instructions

An insulating glass unit incorporating Pilkington **Activ**[™] self-cleaning glass must be glazed with the Pilkington **Activ**[™] coating to the outer surface.

Pilkington **Activ**[™] has a durable coating, and through utilisation of natural UV light, requires less frequent cleaning and provides clearer vision during and 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.
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. Do not trap dirt between the cloth and the Pilkington **Activ**[™] surface. Rubber squeegees should not be used as they may damage the coated surface.
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 item 2 above.
5. Do not use abrasive cleaners, cream cleaners and functional (e.g. anti-mist) type products on Pilkington **Activ**[™], as they will damage the coated surface.
6. 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.

7. Do not splash paint or cement products on to the glass. If 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.
8. Where Pilkington **Activ**[™] 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 prior to installation.
9. Care should be taken to ensure that alkali run-off from concrete etc. does not contaminate the glass surface.
10. 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, metal squeegees, rings etc. will cause scratching and may lead to permanent damage of the coating.

*If the water quality is very hard (greater than 180ppm combined content of calcium carbonate CaCO_3 and magnesium carbonate 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.

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