

Pilkington **Activ**™ self-cleaning glass.
The clear choice for your conservatory.

The Pilkington **Activ**™ Range
Self-cleaning and solar control glass
for conservatories and orangeries.



Conservatories – bringing the outside in.

A conservatory is more than just an extension to your house. It can be somewhere to enjoy the peace and tranquillity of the garden, whatever the weather. A place to entertain in, or an extra space for the children to play in. But whatever the reason for adding a conservatory to your home, it is a significant investment, and choosing the right glass will only add to its value.

What is self-cleaning glass?

Pilkington **Activ™** is the world's first self-cleaning glass. It's basically the same as conventional glass, except for a unique dual action coating. It works in two ways: first it uses daylight to break down organic dirt (such as tree sap) and then uses rain to wash the dirt away.

Pilkington **Activ™** also dries faster, leaving the glass clean and with less streaks. Making it the perfect solution for conservatory roofs and windows.

The durable coating never needs reapplying, and will last as long as the glass does.

Pilkington **Activ™** range comprises:

Pilkington **Activ™** Clear – self-cleaning glass.

Pilkington **Activ™** Bronze – a tinted self-cleaning glass that combines self-cleaning with solar control.

Pilkington **Activ™** Blue – a tinted self-cleaning glass that combines self-cleaning with medium solar control.

Pilkington **Activ SunShade™** Neutral – a coloured glass that combines self-cleaning with superior solar control.

Pilkington **Activ SunShade™** Blue – an attractive blue tinted glass that combines self-cleaning with superior solar control.

Note: Pilkington **Activ SunShade™** Neutral is slightly grey in appearance.





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

Pilkington **Activ**™ can be used on any exterior application, such as windows, conservatories, façades and glass roofs. It is especially useful for difficult to clean windows and skylights where organic dirt normally collects. Pilkington **Activ**™ works best where both sunlight and rain can reach the glass. Although it does not need direct sunlight to work effectively, it does need rain so is not recommended where an overhang shelters the glass.

Note: The minimum recommended angle is 10 degrees from horizontal, so that rainwater can flush away loosened deposits.

Does it work on cloudy days and at night?

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

Will my windows ever need cleaning?

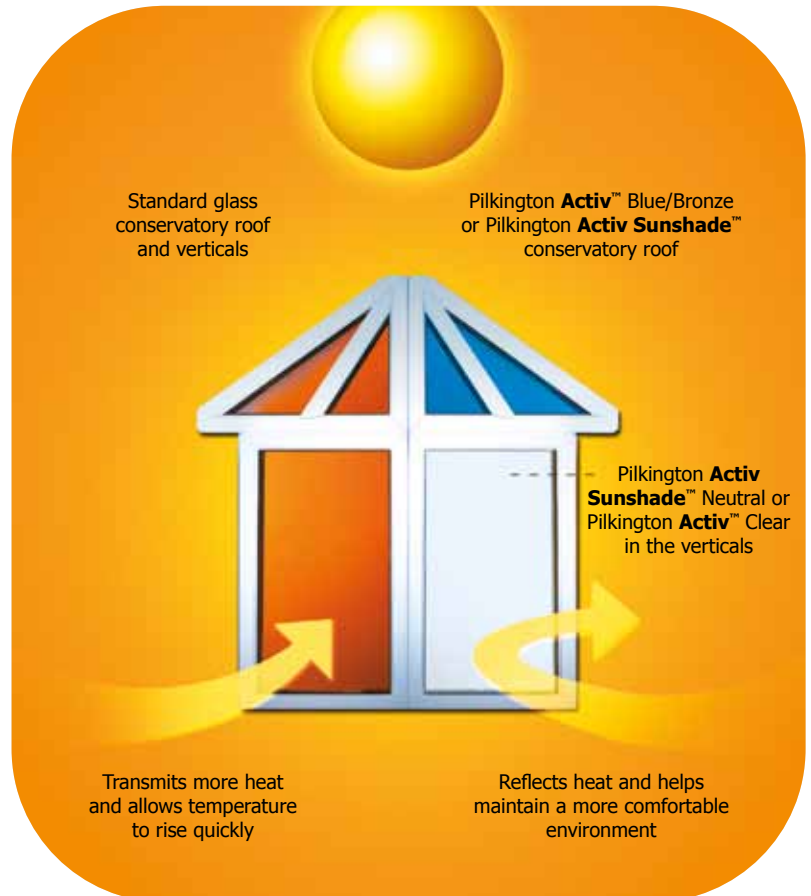
We cannot say that your windows will never need cleaning – that depends on the amount of dirt and the amount of rain the glass in your windows receive. However we can say that Pilkington **Activ**™ reduces the amount of maintenance required. If cleaning is necessary – such as during long dry spells or if your windows are heavily soiled – it is much easier than cleaning conventional glass, either by gentle hosing to replicate rainfall or by using a soft cloth and warm soapy water.



Solar control – reducing the sun's heat.

Pilkington **Activ**™ Blue, Pilkington **Activ**™ Bronze and Pilkington **Activ SunShade**™ combine the revolutionary benefits of a self-cleaning coating with solar control and good light transmission.

In summer months, glass with solar control can help prevent heat 'build up' by significantly reducing the amount of heat allowed to pass into your conservatory.



Benefits of Pilkington **Activ**™ self-cleaning glass with solar control.

- Perfect for hard to reach places which are difficult to clean such as conservatory roofs
- Combine solar control and self-cleaning properties
- Help reduce heat build up – when combined with good ventilation
- Self-cleaning properties work on cloudy days and during the night
- Easily cleaned during dry spells by hosing down
- Self-clean coating lasts the lifetime of the glazing
- Aesthetically pleasing
- It allows good light transmittance
- Using any of the Pilkington **Activ**™ range of products helps reduce the appearance of external condensation

Note: Pilkington **Activ**™ can be combined with a vast range of other Pilkington products to help with other performance benefits e.g. security, sound insulation, safety, climate control.



Give your conservatory a new lease of life.



You may not realise it but simply replacing your plastic roof with a new glass roof, incorporating Pilkington **Activ™** self-cleaning glass, will have a tremendous effect on the way your conservatory looks, feels and sounds. It will transform your conservatory from a forgotten storage area into a wonderful and usable extension to your home, one that can be enjoyed all year round, come rain or shine.

When fitted with our revolutionary Pilkington **Activ™** glass and our low-emissivity (low-e) Pilkington **K Glass™**, your newly transformed conservatory will be warmer in the winter, cooler in the summer and a lot less noisy when it rains. Even conservatories with old glass roofs will benefit from better thermal insulation and solar control properties. And thanks to the clever self-cleaning capabilities of the glass, you can be sure your beautiful new conservatory roof stays that way.

Conservatory roofs: glass vs. plastic.

- Glass provides a better view than plastic (polycarbonate), which can also become dirty very quickly
- Due to its reduced maintenance requirements, self-cleaning glass is safer for hard to reach places such as conservatory roofs
- Increased energy efficiency for greater comfort and lower heating bills
- Less noise when it rains for a more relaxing and peaceful environment
- Revolutionary self-cleaning glass for a more practical and attractive finish
- Available with solar control for greater comfort during summer months

From this



To this

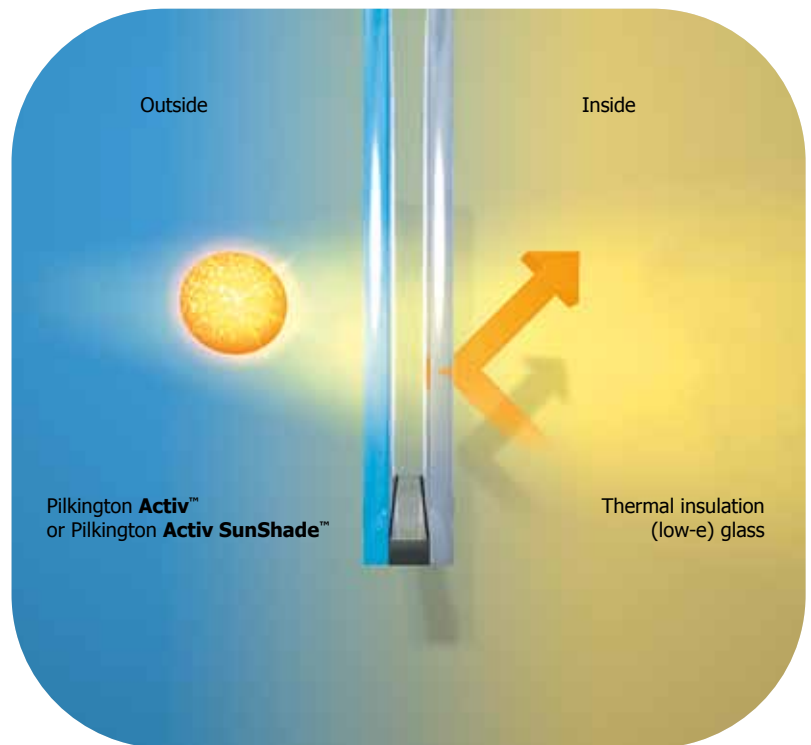


Thermal insulation.

When it comes to conservatories, we think you should be able to enjoy yours comfortably, all year round. That's why we suggest choosing an insulating glass unit that combines Pilkington **Activ**™ Blue, Pilkington **Activ**™ Bronze or Pilkington **Activ SunShade**™ with a low-e glass such as Pilkington **K Glass**™. That way, dual solar control and thermal insulation can help your conservatory maintain a comfortable temperature throughout the year.

Thermal insulation – keeping the heat in.

Pilkington **K Glass**™, which usually forms the inner pane of a double-glazing unit, has a special low-e coating to help reduce the amount of heat that escapes through your windows. This is particularly important for conservatories in winter, when it can be difficult to maintain a comfortable temperature. The special energy-saving coating on Pilkington **K Glass**™ lets the sun's rays through, but reflects heat from fires and radiators back into your home, saving energy and reducing your heating bills.



Benefits of thermal insulation.

- Allows you to increase the glazed area of a building without increasing heat loss
- Allows you to stay comfortable whilst using less energy
- Reduces unsightly internal condensation
- Helps to save energy, reducing heat loss by up to 45%
- Helps to save money on fuel bills plus: lowers your home's CO₂ emissions

The table below gives a simple comparison between standard double glazing, polycarbonate, and high performance Pilkington **Activ**™ conservatory options.

Product	Light Transmittance	Solar Heat Rejection	Colour	U-value (W/m ² K)	Self-cleaning Properties
Uncoated double glazing 4 mm / 12 mm air / 4 mm	0.82	22%	Clear	2.8	N
25 mm polycarbonate	0.68	45%	Clear	1,75	N
Pilkington Insulight Activ ™ (4 mm Pilkington Optitherm ™ S1 Plus inner pane, 16 mm 90% argon filled cavity)					
Pilkington Activ SunShade ™ Blue	0.27	80%	Blue	1.0	Y
Pilkington Activ SunShade ™ Neutral	0.42	68%	Neutral*	1.0	Y
Pilkington Activ ™ Blue	0.50	67%	Blue	1.0	Y
Pilkington Activ ™ Bronze	0.49	64%	Bronze	1.0	Y
Pilkington Activ ™ Clear	0.72	N/A	Clear	1.0	Y

INSTALLER/STOCKIST:

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 "Activ", "SunShade", "K Glass", "Optitherm", are trademarks owned by Nippon Sheet Glass Co. Ltd, or a subsidiary thereof.

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The CE marking label for each product, including declared values, can be found at www.pilkington.com/CE



Pilkington United Kingdom Ltd

European Technical Centre, Hall Lane, Lathom, Nr Ormskirk
Lancashire L40 5UF

Telephone 01744 692000 Fax 01744 692880

pilkington@respond.uk.com

www.pilkington.com/activ



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

Pilkington **Activ™** Range
Self-cleaning Glass





Note: When referring to Pilkington **Activ**™ this includes all products in the range.

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, windows and replacement conservatory roofs.
- The coating 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.
- 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 help to reduce heating bills.
- Created and manufactured by one of the world's leading glass brands – Pilkington.

Pilkington **Activ™** range

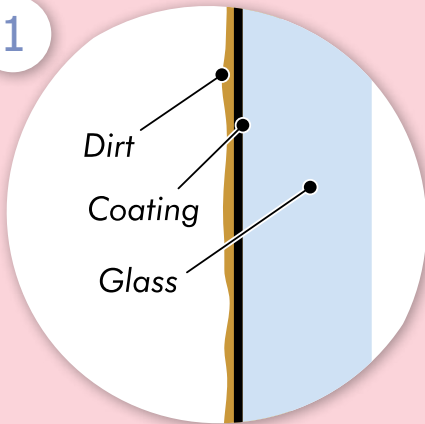
- Pilkington **Activ™** Clear – self-cleaning glass ideal for conservatory verticals.
- Pilkington **Activ™** Blue and Pilkington **Activ™** Bronze – attractive tinted glass that combine self-cleaning with medium solar control, perfect for conservatory roofs.
- Pilkington **Activ Sunshade™** Neutral, and Pilkington **Activ Sunshade™** Blue – coloured glass with superior solar control properties ideal for conservatory roofs and verticals.

Note: The neutral coating gives a slightly grey appearance.

For more information please visit www.pilkington.co.uk/activ

How Pilkington **Activ™** works

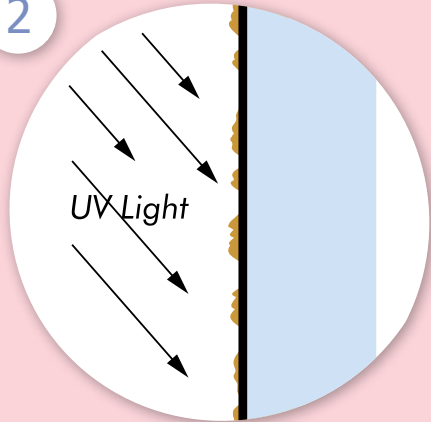
1



1. Coating is activated by UV light

After installation the special coating needs 5 to 7 days of exposure to daylight to activate fully.

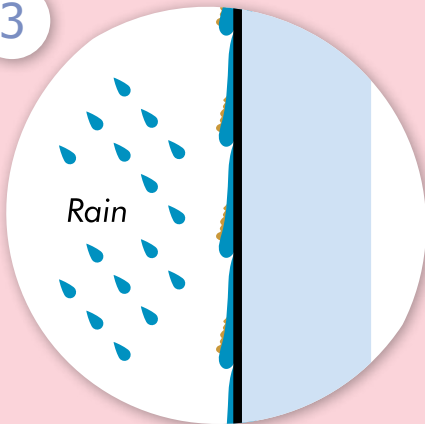
2



2. Organic dirt is broken down

The coating breaks down organic dirt and by doing so, reduces the adherence of inorganic dirt.

3



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 the glass – a remarkable difference you can actually see.

Note: When referring to Pilkington **Activ™** this includes all products in the range.

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 gently hosed down.

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.

For more information please visit www.pilkington.co.uk/activ

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 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.

Note: When referring to Pilkington **Activ™** this includes all products in the range.



1. The window is exposed to daylight.



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



3. Reaction loosens organic dirt.



4. Rainwater hits window and sheets down glass.



5. Dirt is washed away by rain.



6. Window is left clean.

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**[™] 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**[™] in my windows?

Pilkington **Activ**[™] 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**[™] installation certificate.

For more information please visit
www.pilkington.co.uk/activ



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.

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 the Pilkington **Activ**[™] range

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 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**[™] 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**[™], as they will damage the coated surface.

Note: When referring to Pilkington **Activ**[™] this includes all products in the range.

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**™ 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.**
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**™. Advice on suitable sealants is available from Pilkington. www.pilkington.com/uk/technicalupdate

*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.

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

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Leadshield™ is a trademark of British Lead Mills.

For further technical information, visit www.pilkington.co.uk/activ



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Pilkington United Kingdom Ltd

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/activ

Pilkington **Activ™** Range

Performance Data



Table 1 – Performance Data Pilkington **Insulight Activ™** with 6 mm Pilkington **Optifloat™** Clear inner pane unless otherwise indicated.

Product Description	Light		Solar Radiant Heat				Shading Coefficients			U _g -value (W/m²K)	Unit Maximum Sizes		Descriptive Code
	Transmittance	Reflectance	Direct Transmittance	Reflectance	Absorptance	Total Transmittance (g value)	Short Wavelength	Long Wavelength	Total	Argon (90%)	Annealed (mm)	Toughened (mm)	
Pilkington Insulight Activ™ (with 4 mm Pilkington Optifloat™ Clear inner pane and 16 mm 90% argon filled cavity)													
4 mm Pilkington Activ™ Clear	0.77	0.20	0.70	0.19	0.11	0.74	0.80	0.05	0.85	2.6	2000×1200	2000×1500	77/74
4 mm Pilkington Activ™ Blue	0.53	0.18	0.39	0.15	0.46	0.45	0.45	0.07	0.52	2.6	2000×1200	2000×1500	53/45
4 mm Pilkington Activ™ Bronze	0.53	0.18	0.48	0.16	0.36	0.53	0.55	0.06	0.61	2.6	2000×1200	2000×1500	53/53
4 mm Pilkington Activ SunShade™ Neutral	0.45	0.30	0.41	0.24	0.35	0.47	0.47	0.07	0.54	2.6	2000×1200	2000×1500	45/47
4 mm Pilkington Activ SunShade™ Blue	0.29	0.22	0.21	0.17	0.62	0.28	0.24	0.08	0.32	2.5	2000×1200	2000×1500	29/28
Pilkington Insulight Activ™ (with 4 mm Pilkington K Glass™ inner pane and 16 mm 90% argon filled cavity)													
4 mm Pilkington Activ™ Clear	0.71	0.23	0.59	0.21	0.19	0.70	0.68	0.12	0.80	1.5	2000×1200	2000×1500	71/70
4 mm Pilkington Activ™ Blue	0.49	0.19	0.33	0.16	0.51	0.41	0.38	0.09	0.47	1.5	2000×1200	2000×1500	49/41
4 mm Pilkington Activ™ Bronze	0.49	0.19	0.40	0.18	0.42	0.49	0.46	0.10	0.56	1.5	2000×1200	2000×1500	49/49
4 mm Pilkington Activ SunShade™ Neutral	0.42	0.31	0.35	0.25	0.40	0.43	0.40	0.09	0.49	1.5	2000×1200	2000×1500	42/43
4 mm Pilkington Activ SunShade™ Blue	0.27	0.22	0.18	0.17	0.65	0.25	0.21	0.08	0.29	1.5	2000×1200	2000×1500	27/25
Pilkington Insulight Activ™ (with 4 mm Pilkington K Glass™ S inner pane and 16 mm 90% argon filled cavity)													
4 mm Pilkington Activ™ Clear	0.75	0.17	0.57	0.25	0.17	0.67	0.66	0.11	0.77	1.2	2000×1200	2000×1500	75/67
4 mm Pilkington Activ™ Blue	0.52	0.17	0.33	0.16	0.51	0.39	0.38	0.07	0.45	1.2	2000×1200	2000×1500	52/39
4 mm Pilkington Activ™ Bronze	0.51	0.17	0.39	0.20	0.41	0.47	0.45	0.09	0.54	1.2	2000×1200	2000×1500	51/47
4 mm Pilkington Activ SunShade™ Neutral	0.44	0.29	0.34	0.26	0.40	0.41	0.39	0.08	0.47	1.2	2000×1200	2000×1500	44/41
4 mm Pilkington Activ SunShade™ Blue	0.28	0.22	0.18	0.17	0.65	0.24	0.21	0.07	0.28	1.2	2000×1200	2000×1500	28/24
Pilkington Insulight Activ™ (with 4 mm Pilkington Optitherm™ S3 inner pane and 16 mm 90% argon filled cavity)													
4 mm Pilkington Activ™ Clear	0.75	0.18	0.52	0.33	0.15	0.59	0.60	0.08	0.68	1.1	2000×1200	2000×1500	75/59
4 mm Pilkington Activ™ Blue	0.52	0.17	0.31	0.18	0.51	0.36	0.36	0.05	0.41	1.1	2000×1200	2000×1500	52/36
4 mm Pilkington Activ™ Bronze	0.52	0.17	0.35	0.23	0.42	0.41	0.40	0.07	0.47	1.1	2000×1200	2000×1500	52/41
4 mm Pilkington Activ SunShade™ Neutral	0.44	0.29	0.31	0.29	0.40	0.36	0.36	0.05	0.41	1.1	2000×1200	2000×1500	44/36
4 mm Pilkington Activ SunShade™ Blue	0.29	0.22	0.17	0.18	0.65	0.22	0.20	0.05	0.25	1.1	2000×1200	2000×1500	29/22
Pilkington Insulight Activ™ (with 4 mm Pilkington Optitherm™ S1 Plus inner pane and 16 mm 90% argon filled cavity)													
4 mm Pilkington Activ™ Clear	0.72	0.22	0.46	0.39	0.15	0.52	0.53	0.07	0.60	1.0	2000×1200	2000×1500	72/52
4 mm Pilkington Activ™ Blue	0.50	0.19	0.28	0.19	0.53	0.33	0.32	0.06	0.38	1.0	2000×1200	2000×1500	50/33
4 mm Pilkington Activ™ Bronze	0.49	0.19	0.31	0.26	0.43	0.36	0.36	0.05	0.41	1.0	2000×1200	2000×1500	49/36
4 mm Pilkington Activ SunShade™ Neutral	0.42	0.31	0.28	0.31	0.41	0.32	0.32	0.05	0.37	1.0	2000×1200	2000×1500	42/32
4 mm Pilkington Activ SunShade™ Blue	0.27	0.22	0.16	0.18	0.66	0.20	0.18	0.05	0.23	1.0	2000×1200	2000×1500	27/20
Pilkington Insulight Activ™ (with 6 mm Pilkington Optifloat™ Clear inner pane and 16 mm 90% argon filled cavity)													
6 mm Pilkington Activ™ Clear	0.75	0.20	0.63	0.18	0.19	0.71	0.72	0.10	0.82	2.6	2500×1500	4000×2000	75/71
6 mm Pilkington Activ SunShade™ Neutral	0.44	0.29	0.36	0.22	0.42	0.44	0.41	0.10	0.51	2.5	2500×1500	4000×2000	44/44
6 mm Pilkington Activ™ Blue	0.44	0.16	0.28	0.14	0.58	0.36	0.32	0.09	0.41	2.6	2500×1500	4000×2000	44/36
Pilkington Insulight Activ™ (with 6 mm Pilkington K Glass™ inner pane and 16 mm 90% argon filled cavity)													
6 mm Pilkington Activ™ Clear	0.69	0.22	0.55	0.21	0.24	0.68	0.63	0.15	0.78	1.5	2500×1500	4000×2000	69/68
6 mm Pilkington Activ SunShade™ Neutral	0.40	0.30	0.31	0.23	0.46	0.41	0.36	0.11	0.47	1.5	2500×1500	4000×2000	40/41
6 mm Pilkington Activ™ Blue	0.40	0.17	0.24	0.14	0.62	0.32	0.28	0.09	0.37	1.5	2500×1500	4000×2000	40/32
Pilkington Insulight Activ™ (with 6 mm Pilkington K Glass™ S inner pane and 16 mm 90% argon filled cavity)													
6 mm Pilkington Activ™ Clear	0.72	0.17	0.52	0.34	0.24	0.65	0.60	0.15	0.75	1.2	2500×1500	4000×2000	72/65
6 mm Pilkington Activ SunShade™ Neutral	0.42	0.28	0.30	0.24	0.46	0.39	0.34	0.11	0.45	1.2	2500×1500	4000×2000	42/39
6 mm Pilkington Activ™ Blue	0.42	0.15	0.24	0.14	0.62	0.31	0.28	0.08	0.36	1.2	2500×1500	4000×2000	42/31
Pilkington Insulight Activ™ (with 6 mm Pilkington Optitherm™ S3 inner pane and 16 mm 90% argon filled cavity)													
6 mm Pilkington Activ™ Clear	0.73	0.18	0.48	0.31	0.21	0.57	0.55	0.11	0.66	1.1	2500×1500	4000×2000	73/57
6 mm Pilkington Activ SunShade™ Neutral	0.43	0.28	0.28	0.27	0.44	0.35	0.32	0.08	0.40	1.1	2500×1500	4000×2000	43/35
6 mm Pilkington Activ™ Blue	0.43	0.15	0.23	0.15	0.62	0.29	0.26	0.07	0.33	1.1	2500×1500	4000×2000	43/29
Pilkington Insulight Activ™ (with 6 mm Pilkington Optitherm™ S1 Plus inner pane and 16 mm 90% argon filled cavity)													
6 mm Pilkington Activ™ Clear	0.70	0.22	0.44	0.37	0.19	0.51	0.51	0.08	0.59	1.0	2500×1500	4000×2000	70/51
6 mm Pilkington Activ SunShade™ Neutral	0.41	0.29	0.26	0.29	0.45	0.31	0.30	0.06	0.36	1.0	2500×1500	4000×2000	41/31
6 mm Pilkington Activ™ Blue	0.41	0.17	0.21	0.16	0.63	0.26	0.24	0.06	0.30	1.0	2500×1500	4000×2000	41/26

All performance data determined in accordance with EN 410 and EN 673.

Table 2 – Performance Data Pilkington **Insulight Activ™** with 6 mm Pilkington **Optifloat™** Clear inner pane.

Product Description	Light		Solar Radiant Heat				Shading Coefficients			U _g -value (W/m²K)	Unit Maximum Sizes		
	Transmittance	Reflectance	Direct Transmittance	Reflectance	Absorptance	Total Transmittance (g value)	Short Wavelength	Long Wavelength	Total	Argon (90%)	Annealed (mm)	Toughened (mm)	Descriptive Code
Pilkington Insulight Activ™ (with 6 mm Pilkington Optifloat™ Clear inner pane and 16 mm 90% argon filled cavity)													
6 mm Pilkington Activ Suncool™ 70/40	0.65	0.16	0.36	0.38	0.26	0.40	0.41	0.05	0.46	1.1	2500×1500	4000×2000	65/40
6 mm Pilkington Activ Suncool™ 70/35	0.65	0.21	0.32	0.44	0.24	0.35	0.37	0.03	0.40	1.0	2500×1500	4000×2000	65/35
6 mm Pilkington Activ Suncool™ 66/33	0.61	0.21	0.31	0.44	0.25	0.34	0.36	0.03	0.39	1.0	2500×1500	4000×2000	61/34
6 mm Pilkington Activ Suncool™ Silver 50/30	0.47	0.42	0.27	0.52	0.21	0.30	0.31	0.03	0.34	1.0	2500×1500	4000×2000	47/30
6 mm Pilkington Activ Suncool™ Blue 50/27	0.47	0.24	0.23	0.39	0.38	0.27	0.27	0.04	0.31	1.1	2500×1500	4000×2000	47/27
6 mm Pilkington Activ Suncool™ 50/25	0.47	0.23	0.23	0.42	0.35	0.26	0.26	0.04	0.30	1.0	2500×1500	4000×2000	47/26
6 mm Pilkington Activ Suncool™ 40/22	0.37	0.25	0.19	0.44	0.37	0.21	0.22	0.02	0.24	1.1	2500×1500	4000×2000	37/21
6 mm Pilkington Activ Suncool™ 30/17	0.28	0.30	0.15	0.46	0.39	0.17	0.17	0.03	0.20	1.1	2500×1500	4000×2000	28/17

All performance data determined in accordance with EN 410 and EN 673.

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 "Insulight", "Optifloat", "Activ", "SunShade", "K Glass", "Optitherm", "Suncool" are trademarks owned by Nippon Sheet Glass Co. Ltd, or a subsidiary thereof.



CE marking confirms that a product complies with its relevant harmonised European Norm.
The CE marking label for each product, including declared values, can be found at www.pilkington.com/CE



Pilkington United Kingdom Ltd
European Technical Centre
Hall Lane, Lathom, Nr. Ormskirk, Lancs L40 5UF United Kingdom
pilkington@respond.uk.com
www.pilkington.co.uk

Pilkington Activ™: QUESTIONS AND ANSWERS

1. Application

Is it true that Pilkington Activ™ is only for use in domestic situations?

No. Pilkington Activ™ offers benefits for domestic, light commercial, public sector and high-specification commercial applications. It is particularly beneficial in areas which are difficult to access for cleaning such as upper floor windows, conservatory roofs, other sloping roofs, atria and any building where the occupants find it difficult to clean their windows safely.

Can Pilkington Activ™ be used in shop windows?

Yes, however it should be noted that Pilkington Activ™ needs both daylight and rainfall to work effectively. Shops are often situated in covered walkways or arcades where large projecting canopies may prevent sufficient daylight and rain reaching the glass.

Is it OK to use Pilkington Activ™ to achieve other performance benefits?

Yes. Pilkington Activ™ must be on surface 1, the external surface of an IGU. Once incorporated into an insulating glass unit, Pilkington Activ™ can be used in combination with an extensive range of products offered by Pilkington to achieve the required benefits. For thermal insulation, Pilkington Activ™ can be incorporated into IGUs with Pilkington K Glass™ or Pilkington Optitherm™ SN. If it is necessary to have another glass as the inner pane, then the dual coated Pilkington Activ Optitherm™ SN can be used. For solar control, Pilkington Activ Blue™ can be used. This is a light blue tinted glass with Pilkington Activ™ on one surface. The Pilkington Activ Suncool™ products are also available. These are dual coated products with Suncool on the reverse side to Activ.

Pilkington Activ Optilam™ Brown, a solar control laminate can also be used. Pilkington Activ™ can be toughened or laminated for safety or security applications. For noise control, Pilkington Activ™ can be combined with Pilkington Optilam™ Phon. Pilkington Activ™ can be laminated to Pilkington Stippolyte™ for decoration. Finally, Pilkington Activ™ can be combined with Pilkington's fire products such as Pilkington Pyrostop™ or Pilkington Pyrodur™.

Is Pilkington Activ™ suitable for internal use?

No. Pilkington Activ™ needs daylight and rain in order to work properly so it may only be used externally.

Can Pilkington Activ™ be used with frame-less glazing?

Pilkington Activ™ can be installed in a frameless glazing system such as Pilkington Planar™. It requires the use of specialist sealants that don't leach silicone. Information on these products are listed on the Technical Update that is available on www.pilkington.com or by calling 01744 692000. It is also possible to butt joint panes of Pilkington Activ™ using the specialist sealants listed above. It is not currently possible to install Pilkington Activ™ in a structurally bonded or "stuck back" type system.

Is it acceptable to use Pilkington Activ™ in Single Glazing?

Yes, providing that the system meets the requirements of the relevant Building Regulations. Pilkington Activ™ can be provided in annealed, toughened and laminate forms.

2. Processing

Can I buy or make Insulating Glass Units (IGUs);

- with Internal Georgian Bars?

Yes. However, where it is the intention of the customer not to replace all glazing with Pilkington Activ™ the customer should be advised that the visual properties of Pilkington Activ™ are different to clear glass. Therefore internal Georgian bars may look slightly different from those with clear glass.

- with Applied Bevels?

Yes, but the adhesive used to apply the bevels to the glass must be one that has passed Pilkington's compatibility tests. These products are listed on the Technical Update that is available on www.pilkington.com or by calling 01744 692000.

- for Timber framing systems?

Yes but only with sealants or glazing tapes, which have passed Pilkington's compatibility tests. These products are listed on the Technical Update that is available on www.pilkington.com or by calling 01744 692000.

Note: Pilkington test regimes only confirm product compatibility with Pilkington **Activ**[™]. Sealant suppliers are responsible for testing the life span and/or recommending the suitability for purpose of the glazing.

- with Applied Leads?

Yes, but the make of leading used, and the adhesive used to apply it to the glass must have passed Pilkington's compatibility tests. These products are listed on the Technical Update that is available on www.pilkington.com or by calling 01744 692000. The customer should be made aware that applying leading, in effect breaks up the window into many small windows and this will change the water sheeting effect.

- with Duplex, Cottage or Applied Georgian Bars?

Yes, but the tapes used to adhere the bars to the glass must have passed Pilkington's compatibility tests. These products are listed on the Technical Update that is available on www.pilkington.com or by calling 01744 692000. These decorative bars, once installed, may act as a dam causing a build up of residual dirt along the edges of the applied bars.

Can I sandblast the Pilkington **Activ**[™] coating?

No. Any processing of this nature to the coated surface will result in the loss of self-cleaning characteristics permanently wherever the coating is damaged or removed.

Can we safety mark toughened Pilkington **Activ**[™] on the coated surface?

Pilkington recommend that wherever possible, the application of any safety mark should be to the non-coated surface. Where this is not practical however, the coated surface may be marked but great care is necessary.

Does the toughening process affect the colouring of Pilkington **Activ**[™]?

Only in cases of excessive temperatures.

Can a Pilkington **Activ**[™] IGU be manufactured with a silicone seal?

Yes with care, so that there is no silicone contamination on the glass surface. A silicone sealed unit is normally glazed to ensure that moisture could not reach the seal and eventually drain onto the glass.

How do you cover the sealant from UV attack in a stepped unit?

We normally apply lead strip on the outer leaf.

So what do you do with Pilkington **Activ**[™]?

We would still recommend covering the step with a lead strip. The lead should be treated with Leadshield[™] or Patination oil to reduce potential of carbonate run off. In this type of application, run off is generally not an issue as the stepped edge is normally at the bottom of the glazing.

Conservatories, however, pose a greater potential risk of run off, carrying lead carbonate from flashing onto the glass roof below. This can lead to marking of any glass type, not just Pilkington **Activ**[™].

3. Technical

What is the current situation regarding compatibility with dry gasket glazing systems?

All glazing systems where the gasket is lubricated with silicone oil are incompatible with Pilkington **Activ**[™]. Leaching from these product types onto the glass coating will create a hydrophobic area around the edge of the glass known as "picture framing", which is unacceptable to customers. The same is true of many silicone based rubber gaskets. However, there are many gaskets that are compatible with Pilkington **Activ**[™], e.g. gaskets that are part of a co-extruded system, a dry gasket used without lubricant, or a gasket using an alternative lubricant such as glycerine oil. These products are listed on the Technical Update that is available on www.pilkington.com or by calling 01744 692000.

Are EPDM gaskets silicone-free?

Some are. A list of gaskets that have passed Pilkington's compatibility tests can be found on the Technical Update that is available on www.pilkington.com or by calling 01744 692000.

How do we comply with Part L in units requiring Texture Glass for privacy and Pilkington Activ™?

By using new Pilkington **Activ Stippolyte™** Laminated Glass as the outer pane of the IGU and Pilkington **K Glass™** as the inner pane. Details can be obtained from your local Pilkington branch. It is also possible to manufacture a triple glazed unit with Pilkington **Activ™** on the outer pane, the Pilkington Texture Glass of your choice as the middle pane and Pilkington **K Glass™** as the inner pane.

Does Pilkington Activ™ clean off finger prints?

Pilkington **Activ™** will clean off finger prints but it may take a period of time, dependent upon environmental conditions. It may take as long as several weeks. Pilkington suggest customers avoid touching the glass wherever possible, as fingerprints may act as a key for inorganic dirt to stick to and therefore appears worse. Pilkington also recommend that installers wear gloves for avoidance of fingerprints and traces of contaminants from other glazing compounds, silicone in particular, which may be more difficult to remove.

Is it true that more dust and dirt sticks to Pilkington Activ™ than to normal float glass in dry weather?

In dry weather, Pilkington **Activ™** destroys organic dirt, but inorganic dirt is not washed off. However, there is no difference in the amount of dirt or dust that sticks to Pilkington **Activ™** compared to normal glass. This has been shown in laboratory tests and real life tests in the dusty Arizona Desert.

What effect do PVC cleaners have on the coating?

Several brands have been tested. If and when used, the agent needs to be rinsed off the glass with warm soapy water, which should ensure that the coating remains unharmed. There is a list of suitable cleaners on the Technical Update that is available on www.pilkington.com or by calling 01744 692000.

Is Pilkington Activ™ Nanotechnology?

Pilkington **Activ™** has been cited as an example of Nanotechnology. Whilst the coating is nanometres thick it is really a development of thin film technology, rather than being a specific Nanotechnology product. The name nanotechnology is usually applied to the scientific investigation or application of particles and/or structures, which have sizes of less than one hundred nanometres. Particles or structures of this size can have unique properties compared to bulk materials. Pilkington **Activ™** is based on a thin film of titanium dioxide rather than particles of titanium dioxide and the film is approximately 15 nanometres thick. Whilst falling under the broad definition of nanotechnology we feel it is best referred to as a development of thin film technology. The coating is applied by a process called chemical vapour deposition which involves the pyrolytic addition of chemicals on a hot glass substrate to form a thin film. This process is conducted as the glass is manufactured.

Does silicone permanently damage the coating?

No it just blocks the effectiveness of Pilkington **Activ™**. Small amounts can eventually be broken down by Pilkington **Activ™** but large amounts may need a special chemical silicone remover.

Will my Pilkington Activ™ glass ever get dirty?

When there are long dry spells there will not be any rainwater to wash off loosened organic dirt and organic particles. Light use of a hosepipe can simulate rain and clean the glass.

Is Pilkington Activ™ suitable for coastal areas?

Salt deposits from salt spray are inorganic. Rain normally removes this but if there is a long dry spell then you may have to resort to using a hose pipe to simulate rain.

Why is there a limit for the slope of roofs and Pilkington Activ™?

Pilkington **Activ™** needs both daylight and rain to work effectively. When the roof angle gets too low the rain does not wash the loosened dirt off as effectively. A good flow of water across the glass is beneficial. Pilkington **Activ™** still gives better results than ordinary glass with low angle roof applications.

Does Pilkington Activ™ use bacteria to break down the deposits?

No. On the contrary the process is photocatalytic and is anti bacterial. This prevents fungi and mould growth that might start to build on ordinary glass.

4. Quality

Will each Pilkington **Activ**[™] unit arrive wrapped or protected in some way other than the normal protection pads?

This depends on the decision of the IGU supplier. Pilkington **Insulight Activ**[™] units will generally not be supplied with any special protection, other than standard protective pads. Care should also be taken when choosing protective film especially where the film may be adhered to the unit for long periods of time. A list of suitable protective films can be found on the Technical Update that is available on www.pilkington.com or by calling 01744 692000. However, correct handling, transportation, storage and installation of Pilkington **Activ**[™] units should mean that the product does not require protective film.

Will Pilkington **Insulight Activ**[™] units be supplied with edge tape?

No.

Will we be permanently marking Pilkington **Activ**[™]?

No, every Pilkington **Activ**[™] unit will be labelled on surface 4 with a Pilkington **Activ**[™] instruction label for Installer and Consumer. The installer should leave these labels intact whilst installing and beyond as proof to the customer that they the product contains Pilkington **Activ**[™]. Consumers should always be left with a copy of the cleaning and maintenance guidelines, which are included in the back of the A5 Consumer brochure.

Are there any plans to issue certificates of installation for Pilkington **Activ**[™]?

Yes, this is something that is available exclusively to members of Pilkington **ProActiv**[™].

I am concerned about cleaning off sealant deposits:

Sealant deposits should be removed before they dry using a suitable solvent according to procedures outlined in the "Handling and Processing Guidelines for Window Manufacturers". Residual deposits of cured sealant will be more difficult to remove and abrasive materials must not be used to aid cleaning.

Does the unit come with the Logo on or does the Installer have to apply it?

All Pilkington **Activ**[™] units should have the logo label with Installer and Consumer instructions applied by the IGU manufacturer.

What is the life-span of Pilkington **Activ**[™]?

The Pilkington **Activ**[™] coating will last as long as the glass.

Were real life tests carried out on Pilkington **Activ**[™] before it was released?

Yes, glass was installed and monitored at various locations round the world. These were chosen to test the glass under a variety of weather conditions. The glass was tested for six months in the Arizona Desert, six months in Florida, twelve months in Ohio in the USA, twelve months in Gelsenkirchen in Germany and thirty months outside our Technology Centre in the north west of England.

What were the results of the real life test?

The longest real life test was in the north west of England and lasted thirty months. During that time, measurements of how dirty the glass looked were taken every two weeks. During the thirty months, there was only one occasion when the Pilkington **Activ**[™] looked dirtier than the normal glass.

Is there a British or European Quality Standard for self cleaning glass?

As self cleaning glass is such a new product, there is not yet a quality standard to measure it against. Pilkington is working with other glass manufacturers, Standards Institutes and universities to formulate recommendations for such a standard. At present, Pilkington **Activ**[™] is tested against EN 1096 Part 2 but this concerns the durability of the coating not how good it is at self-cleaning.

How do I know Pilkington **Activ**[™] has been supplied?

The glass may carry a label on one of the surfaces stating that there is a Pilkington **Activ**[™] coating and specialists may carry a Pilkington **Activ**[™] coating detector. A simple test is to spray water at the surface and compare it with ordinary glass, see it sheet off the glass rather than form lots of rivulets. Silicone contaminated surfaces will also form rivulets similar to non Pilkington **Activ**[™] glass.

5. Marketing

What is Pilkington's marketing strategy for Pilkington **Activ**™?

On the Commercial Project side, we are increasing awareness of Pilkington **Activ**™ and Pilkington **Activ Suncool**™ among Architects, through advertisements, award sponsorship and competitions. At the same time, we are targeting Architects who have live projects that may be suitable for Pilkington **Activ**™.

We are also targeting marketing effort at the social housing market, where there are considerable opportunities in three storey and above dwellings.

Are there still Pilkington **Activ**™ Partners?

No the Partner arrangement was a short-term arrangement for the launch period, which ended on 31st March 2003.

I have some literature, which refers to a hologram?

This was used during the launch period and has now been withdrawn.

How do I pronounce the brand name?

The product is pronounced as Active not Acteev.

How do I get my company on the Pilkington **Activ**™ Installer finder?

Firstly you need to be an installer, trade suppliers aren't eligible (however we are keen that their installer customers are on the site.)

There is then a simple form that needs to be completed. Copies of this are available from pilkingttonactiv@respond.uk.com or from the helpline on 01744 692000.

You will also be able to have a hyperlink to your own website if you wish.

Will IGU samples combined with Pilkington **K Glass**™ be available?

You should obtain any samples you require from your IGU supplier. It is recommended that samples are used for appearance purposes only. This is because Pilkington **Activ**™ needs 5-7 days exposure to UV light to charge the coating initially and regular exposure afterwards. This means that samples kept in salesmen's cars for example would not properly demonstrate the self-cleaning characteristics of the product.

Will there be any further marketing support from Pilkington?

Yes. There will continue to be strong ongoing PR and sales support for this product. The aim being to help in building consumer awareness of Pilkington **Activ**™ and provide you with the materials and other support you need to help you to sell successfully. You are encouraged to carry out your own marketing activity at a local or regional level to reinforce the message to consumers and achieve your own added value sales. Please refer to the Advertising and Identity guidelines.

What is the average cost of cleaning a commercial building?

Pilkington did a survey to answer this question and concluded that there is no typical case. Most architects we spoke to agreed that there are too many variables, such as size of building, amount of glazing, accessibility, and the attitude of the owner, to quote an average. However, low rise buildings, those of four stories and under, tend to cost £2000 per annum. Medium rise buildings of five to eight stories tend to cost £5000 per annum. And for taller buildings, the bill can be up to £50000 per annum, depending on how tall they are. These do not include the cost of the capital cleaning equipment installed when the building is built.

6. Product Improvements

When will 8mm and 10 mm Pilkington **Activ**™ be available?

Both are available from stock.

Are there any plans to apply the coating to products other than Pilkington **Optifloat**™ Clear?

Pilkington **Activ**™ is only available coated directly onto clear glass. It has also been available since September 2005 coated onto a light blue tinted glass. We call this product Pilkington **Activ**™ Blue. It is available in 4mm, 6mm and 10mm thicknesses. It handles and processes in the same way as Pilkington **Activ**™. However it has the benefit of good solar control capabilities and is ideal for conservatory and Atria roofs.

Do you have any plans to produce Pilkington **Activ**[™] in colours other than blue?

At present no; if other colours are required it is possible to laminate Pilkington **Activ**[™] with a variety of tinted interlayers i.e. Pilkington **Activ Optilam**[™] Brown (Grey, Green and translucent white are also possible given sufficient demand) or to laminate a tinted glass to Pilkington **Activ**[™].

If you have any further questions, please contact your Pilkington representative or the Helpline on 01744 692000.

June 2006

Pilkington **Activ**[™]

The world's first self-cleaning glass

Technical Tips



Under normal circumstances, the dual action coating on Pilkington **Activ**[™] destroys organic contaminants on the surface of the glass and increases the water sheeting effect. This allows dirt to be washed away easily from the surface and greatly reduces the need for manual cleaning. Sometimes exceptional circumstances can reduce the coating's effectiveness. Hopefully you and your customers will never experience these circumstances, but if you do, here are some suggested solutions.

Please note that Pilkington cannot guarantee these solutions, as their effectiveness will depend on circumstances that are outside its control, e.g. the nature, amount and length of time the deposit has been on the surface.

Care should be taken to follow all recommended safety procedures associated with the products used to clean the glass. Please note that spraying windows with a hose will only be practical and safe for low-rise buildings. If the water quality is very hard (i.e. greater than 180ppm combined content of calcium carbonate and magnesium carbonate), use a domestic water softener, or a couple of drops of dishwashing detergent per litre, in rinsing water.

SYMPTOM	CAUSE	SOLUTION
Dusty windows	Dust from roads or building/construction work is mostly inorganic in nature, and so is not destroyed by the Pilkington Activ [™] coating.	Wait for natural rainfall or spray with hose.
Dusty window beneath overhang	Deeply recessed windows will not receive any natural rainfall.	The window will be "activated" by daylight, and so organic dirt will be destroyed, but will require hosing to remove any inorganic dirt.
Sand or salt build-up on window	Coastal areas are susceptible to this contamination.	Wait for rainfall or hose with water to remove.
Streaks, particularly in upper part of window	Sometimes streaks are seen after light rainfall following a dry spell, because the amount of water on the window is not sufficient to fully "wet out".	Hose the window with water at the coolest part of the day.
Fingerprints, outline of labels visible		The coating will naturally break down these contaminants. Until this happens you will see irregular sheeting of water.
Fresh paint or sealant splash/over-spray		Immediately remove with a solvent wipe before it sets or cures. Suitable solvents are acetone, isopropyl alcohol, methylated spirits and white spirits. Do not spread solvent mix over clean areas. Follow with detergent wash and water.
Dried paint or sealant, sticky marks or adhesive		These need to be wetted with a solvent soaked pad until they dissolve. Suitable solvents are acetone, isopropyl alcohol, methylated spirits and white spirits. Do not let the solvent run over unaffected areas. Keep reapplying the solvent with a fresh area of cloth until all the marks are gone. Do not rub the mark to remove it. Follow with detergent wash and water rinse. The Pilkington Activ [™] in the cleaned area will be reactivated after 5-7 days.
Silicone contamination	A drop of silicone has dripped from the gun, or a silicone fingerprint gets onto the glass. (Please note, silicone should not be used as part of the glazing system).	Let the silicone dry and then peel it off the glass. Do not use a knife or any abrasive action to remove it. Clean the contaminated area with methylated spirits, being careful not to spread the solvent over the glass surface. The glass in this area may need ongoing treatment with silicone eaters.

continued overleaf...

SYMPTOM	CAUSE	SOLUTION
Fresh mortar/cement splash		Remove immediately before it sets with plenty of water and soft sponge to avoid scratching the coating. Dab the splashed area with water. Do not rub and do not drag the material across the surface of the glass.
Dried or cured mortar/cement		The longer the cement/mortar is left on the surface, the more difficult it is to remove. However, light splashes and small areas of 1-2cm diameter that have been on the glass for less than one week can be removed by limescale remover, e.g. Ritec or Viakal. Gently dab the remover onto the affected area without rubbing. Do not let it run off onto areas that were not affected. Leave for a minimum of 30 minutes, maximum 2 hours. Rinse off with water making sure that the loosened material does not get dragged across the surface of the glass and scratch it. After all the material is removed, rinse the glass thoroughly with water. The Pilkington Activ™ in the cleaned area will be reactivated after 5-7 days.
Coating appears to be removed (brownish, blue or clear spots or streaks observed)	Direct mortar or cement splash can attack the coating. Water run-off that contains elements of mortar or cement can also have the same effect.	The coating cannot be rectified if attack by mortar/cement has already occurred. Film protection is required if cement splash is likely.
White streaks running down the window	Rain/water run-off from silicone caulking areas (sealant between window frame and building surrounds) can deposit silicones onto the Pilkington Activ™ surface.	If there is a straightforward pathway for water run-off between the silicone caulking and the Pilkington Activ™ surface, the caulking material used should not be silicone. Alternatives include MS Polymers and polyurethanes.
Milky-white streaks on window	Hosing windows with hard water supply.	Add drops of detergent to water through a fitting to the hose before spraying. Windows can be cleaned with limescale remover following procedures given. The white marks can be minimised by avoiding hosing the glass at the hottest time of the day.
Whitish streaks running down window (particularly conservatory roofs)	Possible run-off from untreated lead flashing.	Try to remove white stain as soon as possible with soft cloth. Do not use abrasives to clean off. Always treat lead flashing prior to installation.
Heavy bird dirt		Heavy bird dirt can take a while to break down. To remove immediately, either hose or use warm soapy water and soft cloth.
Scratches in coating	Scratches can occur through harsh metallic contact.	Scratches cannot be rectified through rouge or any other method.
Slight silvery spots visible	This is the coating actually breaking down dirt on the surface.	The silvery spot is temporary.
Pilkington Activ™ looks different ordinary clear float glass		Pilkington Activ™ has a cleaner, brighter appearance to than ordinary clear glass when the two are viewed side by side.



PILKINGTON
NSG Group Flat Glass Business

Pilkington United Kingdom Limited

Prescot Road, St Helens, WA10 3TT United Kingdom

Telephone 01744 692000 Fax 01744 692880

Registered Office: European Technical Centre, Hall Lane, Lathom, Nr. Ormskirk, Lancs. L40 5UF

pilkington@respond.uk.com

www.pilkington.co.uk