



Self-cleaning Glass
Pilkington **Activ™**



Pilkington **Activ**™ Self-cleaning Glass

Pilkington **Activ**™ is the world's first pyrolytic self-cleaning glass. This revolutionary kind of glass actually uses the power of the sun to clean itself.

Pilkington **Activ**™ is applied to float glass via on-line chemical vapor deposition, it is an integral part of one surface of the glass, and lasts the entire life of the glass. Pilkington **Activ**™ uses daylight which is abundant even on cloudy days to keep windows clean with a two-step process.



The photocatalytic action of Pilkington **Activ**™ glass (upper) gradually breaks down and loosens organic dirt, while the hydrophilic action causes rain to sheet on the glass, leaving a clean exterior with minimal spotting or streaking.

1. Pilkington **Activ**™ loosens dirt, and gradually breaks down organic residue with a special self-cleaning surface that uses energy from daylight.
2. When it rains, the water sheets off the Pilkington **Activ**™ surface, removing dust particles and inorganic dirt so windows dry without spots and streaks. Under most

conditions, natural rain is sufficient to keep the window clean. And in dry weather, a quick spray with the hose will achieve the same results. Pilkington **Activ**™ dramatically reduces window cleaning, providing crisp, clear views.

The proper application of Pilkington **Activ**™ is with the Pilkington **Activ**™ surface glazed to the exterior of a building (#1 surface) in either a monolithic or Insulating Glass Unit (IGU). The Pilkington **Activ**™ surface requires several days exposure to daylight to be activated.

When combined in an IGU with an inboard lite of Pilkington **Energy Advantage**™ Low-e Glass or Pilkington **Solar-E**™ Solar Control Low-e Glass (coating on #3 surface); it provides the ultimate energy efficient/low maintenance package in one window.

Features & Benefits

- Saves cleaning time and costs
- Breaks down organic dirt
- Sheets water away
- Never needs re-treating
- Environmentally friendly
- UV control properties
- Easily fabricated
- Color neutral

Residential Applications

- Residential homes
- Apartment buildings
- Condominiums
- Conservatories/sunrooms
- Skylights



Pilkington **Activ**™ Clear
Watkins Residence,
Adelaide, Australia

Single Glass Performance Data^{1, 10}

	Nominal Glass Thickness		Visible Light ²			Solar Energy ²			U-Factor ⁵			Solar Heat Gain Coefficient ⁷	Shading Coefficient ⁸
	in.	mm	Transmittance ³ %	Reflectance ⁴ %		Transmittance ³ %	Reflectance ⁴ %	UV Transmittance ² %	U.S. Summer [*]	U.S. Winter [*]	European ^{6**}		
				Outside	Inside								
Pilkington Activ TM self-cleaning glass (coating on #1 surface)													
Pilkington Activ TM Clear	1/8	3	84	15	15	80	12	49	0.94	1.04	5.8	0.82	0.95
	5/32	4	83	15	15	79	12	47	0.94	1.04	5.8	0.81	0.93
	3/16	5	83	15	14	77	12	46	0.93	1.03	5.7	0.80	0.92
	1/4	6	82	15	15	75	12	44	0.93	1.02	5.7	0.79	0.90
Pilkington Activ TM Arctic Blue	1/4	6	49	14	9	32	11	14	0.93	1.02	5.7	0.50	0.57

Double Glass Performance Data^{1, 10}

	Nominal Glass Thickness		Visible Light ²			Solar Energy ²			U-Factor ⁵						Solar Heat Gain Coefficient ⁷	Shading Coefficient ⁸
	in.	mm	Transmittance ³ %	Reflectance ⁴ %		Transmittance ³ %	Reflectance ⁴ %	UV Transmittance ² %	U.S. Summer [*]		U.S. Winter [*]		European ^{6**}			
				Outside	Inside				Air	Argon	Air	Argon	Air	Argon		
Pilkington Activ TM outer lite (coating on #1 surface) and Pilkington Optifloat TM Clear inner lite																
Pilkington Activ TM Clear	1/8	3	77	21	20	71	17	43	0.51	0.48	0.48	0.45	2.8	2.7	0.74	0.86
	5/32	4	76	21	20	69	17	41	0.50	0.48	0.48	0.45	2.8	2.7	0.73	0.84
	3/16	5	75	20	20	62	16	36	0.50	0.48	0.48	0.45	2.8	2.6	0.70	0.81
	1/4	6	74	21	20	59	16	34	0.50	0.47	0.47	0.45	2.8	2.6	0.68	0.78
Pilkington Activ TM Arctic Blue	1/4	6	44	16	15	26	12	11	0.50	0.47	0.47	0.45	2.8	2.6	0.38	0.43
Pilkington Activ TM outer lite (coating on #1 surface) and Pilkington Energy Advantage TM Thermal Control Low-e inner lite (coating on #3 surface)																
Pilkington Activ TM Clear	1/8	3	72	23	21	60	20	36	0.33	0.28	0.34	0.29	1.9	1.6	0.69	0.80
	5/32	4	71	23	21	58	20	34	0.33	0.28	0.34	0.29	1.9	1.5	0.68	0.78
	3/16	5	70	23	21	53	19	30	0.33	0.28	0.33	0.29	1.8	1.5	0.66	0.76
	1/4	6	69	23	20	51	19	27	0.33	0.28	0.33	0.29	1.8	1.5	0.64	0.74
Pilkington Activ TM Arctic Blue	1/4	6	40	17	16	22	12	9	0.33	0.28	0.33	0.29	1.8	1.5	0.33	0.38
Pilkington Activ TM outer lite (coating on #1 surface) and Pilkington Solar-E TM Solar Control Low-e inner lite (coating on #3 surface)																
Pilkington Activ TM Clear	1/8	3	51	21	13	37	20	27	0.33	0.28	0.34	0.29	1.9	1.6	0.64	0.74
	5/32	4	51	21	13	36	20	26	0.33	0.28	0.34	0.29	1.9	1.6	0.63	0.73
	3/16	5	50	21	13	35	19	25	0.33	0.28	0.33	0.29	1.9	1.6	0.62	0.71
	1/4	6	50	21	13	34	19	24	0.33	0.28	0.33	0.29	1.8	1.5	0.60	0.69
Pilkington Activ TM Arctic Blue	1/4	6	30	16	11	15	12	8	0.33	0.28	0.33	0.29	1.8	1.5	0.31	0.36

An insulating unit consists of two lites of equal glass thickness, containing 1/4 in. lites: 1/2 in. airspace and 1 in. overall thickness.

*U.S. U-Factor (Btu/hr.sq ft. °F) is based on NFRC/ASTM standards.

**European U-Factor (W/sq m K) is based on EN 410/673 (CEN) standard.

All performance values are center-of-glass values calculated by the LBNL Window 6.3 program.

See Pilkington Architectural Product Guide for explanation of superscript references¹⁻¹⁰.

This publication provides only a general description of the product. 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 this product 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, "Activ," "Energy Advantage," "Optifloat," and "Solar-E" are trademarks owned by Nippon Sheet Glass Co. Ltd, or a subsidiary thereof.



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