



Clear float glass

Pilkington **OptiView™**

Anti-reflective Glass

Pilkington **OptiView™** and Pilkington **OptiView™** OW



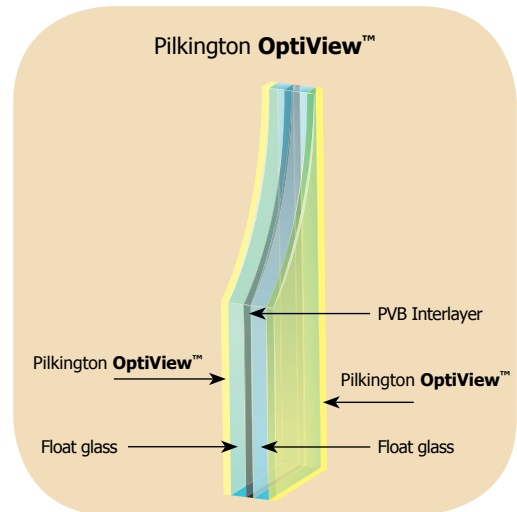
Pilkington **OptiView**[™]

Color neutral, anti-reflective glass

Pilkington **OptiView**[™] is a laminated glass with anti-reflective coatings on surfaces #1 and #4 (both outer surfaces of the laminated glass), which reduces interior and exterior visible light reflectance to under 2%. As a consequence, views from both inside and out are clear, un-obscured and virtually reflection-free.

Pilkington **OptiView**[™] offers all the traditional benefits of laminated glass, such as improved safety, enhanced security, durability, acoustic properties, and solar energy control. It also offers durability, design flexibility, easy installation and low visual distortion. Furthermore, it provides protection from UV radiation (UVA and UVB) by blocking over 99% of UV transmittance, helping to reduce fading of the contents and interiors of a building.

A single lite of Pilkington **OptiView**[™] can be used in a monolithic application, with the anti-reflective coating on one surface, which reduces visible light reflectance and allows more visible light to pass through, when compared to clear float glass with 8% light reflectance as standard.



Available Laminated Glass Thicknesses

- 1/4" (6mm) Based on 3mm (1/8") + clear pvb + 3mm (1/8")
- 5/16" (8mm) Based on 4mm (5/32") + clear pvb + 4mm (5/32")
- 1/2" (12mm) Based on 6mm (1/4") + clear pvb + 6mm (1/4")

Available Stock Sizes

- 96" x 130"
- 102" x 130"
- 130" x 180"
- 130" x 204"

Pilkington **OptiView**[™]
Shanghai Museum, China



Applications

With its large size capability and ability to be processed like ordinary glass, Pilkington **OptiView™** is ideal for a wide range of traditional and new anti-reflective applications in which clarity of view is of paramount importance.

- Display cases
- Retail shop fronts
- Showrooms
- Panoramic restaurants
- High rise condominiums or apartments
- Glass atriums
- Sports stadiums

Pilkington **OptiView™** can be used to enhance any view, either looking inwards or outwards. At night, occupants in high rise condominiums or apartments can enjoy spectacular views from their residence, reducing reflected images in the glass as seen with standard glass.

Adding to its unique properties, it is available in larger sizes and achieves a more neutral color than any other anti-reflective glasses, providing architects with greater freedom to innovate than before. Pilkington **OptiView™** is easily fabricated due to the durable coating and when incorporated into insulating glass units, it can be combined with other products from the Pilkington range to provide additional benefits such as solar control or thermal insulation.

Benefits

Safety

Pilkington **OptiView™** is a laminated safety glass that performs under impact. Ordinary glass shatters into large pieces when impacted, while the laminated lites of Pilkington **OptiView™** resist penetration and are shatter-resistant. Even though the glass may break, the glass fragments will remain firmly bonded to the interlayer, minimizing the risk of injury.

Security

Pilkington **OptiView™** can help protect against break-ins and theft. Standard glass can be easily broken, allowing burglars easy access. The interlayers provide a safeguard against intrusion by remaining intact even when glass is broken.



Pilkington **OptiView™** can be bulletproof and even protect against bomb blasts by using certain glazing combinations.

Pilkington **OptiView™**
Falcon Warf, UK

Pilkington **OptiView™** can be used in place of metal bars in applications such as banks, prisons and convenient stores requiring high security.

Audio Performance

Pilkington **OptiView™** provides an excellent barrier to noise. The laminated lites provide insulation against audio disturbances by dampening the sound.



Pilkington **OptiView™**
J Foster Jewelers, Ohio.



Solar Energy Control

Pilkington **OptiView™** reduces solar heat gain and heat transfer when compared to ordinary clear glass.

UV Control

Its anti-reflective properties allow it to absorb UV wavelengths and reduce damage and fading caused by UV radiation.

Thermal Performance

The Pilkington **OptiView™** coating contains emissivity properties that provide a U-factor comparable to that of a laminated insulated glass unit with our thermal performance low-e, Pilkington **Energy Advantage™**.

Pilkington **OptiView™**
Beijing Museum, China



Pilkington **OptiView™**
Flagstar Bank, Michigan



Pilkington **OptiView™** OW
Bernardino Luini Museum
Italy

Durability

Pilkington **OptiView™** is durable and maintains its strength and is easy to clean like ordinary glass.

Design Flexibility

Pilkington **OptiView™** can be bent, tempered, heat-strengthened, painted for spandrel and a ceramic frit can be applied.

Custom designs, images, logos, text, patterns, or tinted interlayers can be laminated into the lites to create a truly personalized application. The design can be easily cleaned and free of fingerprints and other abrasions.

Easy Installation

Pilkington **OptiView™** is easily installed. Most laminated combinations can be easily cut to size and fabricated.

No Visual Distortion

Distortion can occur with heat-strengthened and tempered glass, known as roller wave distortion. Pilkington **OptiView™** provides crisp, clean views, free of distortion.

Severe Weather and Natural Disaster Protection

Extra protection should be taken in areas where severe weather is expected, such as severe storms, high winds, hurricanes or cyclones. Air born debris can easily shatter windows, causing interior damage and personal injury. Combinations of laminated Pilkington **OptiView™** can be designed to withstand impact to prevent devastating damage. It can even prevent damage caused from glass breakage during earthquakes. Laminated glass can keep the glass intact and in its frame.

Features

- Exterior and interior light reflection reduced to less than 2%;
- Light transmittance greater than 90%;
- High clarity;
- UV transmittance reduced by over 99%;
- Superior safety, security and acoustic performance;
- Highly durable, on-line pyrolytic coating which;
- Large size capability.



Pilkington **OptiView™** OW anti-reflective coating on low iron glass

Pilkington **OptiView™** OW
Museo Egizio di Torino
Italy

Pilkington **OptiView™** OW offers a new level of clarity to anti-reflective glazing. This low iron anti-reflective glass offers the same benefits as the original product; safety, security, solar energy control, UV control, thermal performance - with the clarity of low iron glass.

The Pilkington **Optiwhite™** low iron base glass is a practically colorless, extra clear float glass. Its clarity enhances the appearance of the items on display. The lack of color makes colors appear brighter and more natural.

Ideal for a wide range of applications, Pilkington **OptiView™** OW is proven to be a dynamic addition to any museum display, exhibition showcase, or storefront.

Available Stock Sizes

- 96" x 130"
- 102" x 130"

Laminated 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**		
				Outside	Inside								
Pilkington OptiView [™]	1/4	6.8	92	1.7	1.7	70	4	<1	0.68	0.80	4.6	0.77	0.88
Clear Glass (non-laminated)	1/4	6	88	8	8	77	7	63	0.93	1.03	5.7	0.82	0.94
Pilkington OptiView [™]	5/16	8.8	90	1.7	1.7	67	4	<1	0.67	0.79	4.5	0.75	0.86
Clear Glass (non-laminated)	5/16	8	87	8	8	73	7	57	0.92	1.01	5.6	0.79	0.91
Pilkington OptiView [™]	1/2	12.8	88	1.7	1.7	62	3	<1	0.66	0.77	4.4	0.71	0.82
Clear Glass (non-laminated)	1/2	12	84	8	8	64	6	49	0.89	0.98	5.5	0.73	0.84
Pilkington OptiView [™] OW	1/2	12.8	93	1.7	1.7	78	4	<1	0.66	0.77	4.4	0.82	0.95

Clear float glass performance based on non-laminated glass.

Thickness of Laminated Single Glass = thickness of glass layer + thickness of pvb + thickness of glass layer

- 6.8mm Pilkington **OptiView**[™] Laminated Single Glass = 3mm Pilkington **OptiView**[™] (#1) + 0.8 clear pvb layer + 3mm Pilkington **OptiView**[™] (#4)
- 8.8mm Pilkington **OptiView**[™] Laminated Single Glass = 4mm Pilkington **OptiView**[™] (#1) + 0.8 clear pvb layer + 4mm Pilkington **OptiView**[™] (#4)
- 12.8mm Pilkington **OptiView**[™] Laminated Single Glass = 6mm Pilkington **OptiView**[™] (#1) + 0.8 clear pvb layer + 6mm Pilkington **OptiView**[™] (#4)

(Note - all thicknesses are nominal)

Double Laminated Insulating 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**			
			Outside	Inside				Air	Argon	Air	Argon	Air	Argon		
Pilkington OptiView [™] Outer Lite (Coating on #1 and #2 Surface) and Pilkington OptiView [™] Inner Lite (Coating on #3 and #4 Surface)															
1/4	6.8	84	3	3	54	5	<1	0.33	0.30	0.33	0.30	1.9	1.7	0.66	0.76
5/16	8.8	81	3	3	50	5	<1	0.32	0.30	0.32	0.29	1.9	1.7	0.64	0.73
1/2	12.8	77	3	3	43	4	<1	0.32	0.29	0.32	0.29	1.9	1.7	0.59	0.68
Pilkington OptiView [™] OW Outer Lite (Coating on #1 and #4 Surface) and Pilkington OptiView [™] OW Inner Lite (Coating on #5 and #8 Surface)															
1/2	12.8	86	3	3	66	7	<1	0.32	0.29	0.32	0.29	1.9	1.7	0.73	0.85

An insulating unit consists of two lites of equal glass thickness.

Thickness of Double Laminated Insulating Glass = thickness of Laminated Single Glass layer + air space thickness + thickness of Laminated Single Glass layer

- 26.3mm Pilkington **OptiView**[™] Double Laminated Insulating Glass = 6.8mm Pilkington **OptiView**[™] Laminated Single Glass + 12.7 airspace + 6.8mm Pilkington **OptiView**[™] Laminated Single Glass
- 30.3mm Pilkington **OptiView**[™] Double Laminated Insulating Glass = 8.8mm Pilkington **OptiView**[™] Laminated Single Glass + 12.7 airspace + 8.8mm Pilkington **OptiView**[™] Laminated Single Glass
- 38.3mm Pilkington **OptiView**[™] Double Laminated Insulating Glass = 12.8mm Pilkington **OptiView**[™] Laminated Single Glass + 12.7 airspace + 12.8mm Pilkington **OptiView**[™] Laminated Single Glass

Notes: Contact Pilkington for other Pilkington **OptiView**[™] thickness and laminated glass combinations.
Pilkington **OptiView**[™] OW is a low iron, anti-reflective float glass

*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 references^{-1, 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, "OptiView," and "Energy Advantage" are trademarks owned by Nippon Sheet Glass Co. Ltd, or a subsidiary thereof.



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