



Pilkington Planar™ System Information

Pilkington Planar™ Integral

Pilkington Planar™ Integral Laminated Safety Glass – performance of typical combinations with clear interlayer

Pilkington Toughened and Heat Soaked Glass Outer Leaf	Pilkington Toughened and Heat Soaked Glass Inner Leaf	Light Transmittance LT	Light Reflectance LR	Total Solar Radiant Heat Transmittance	Total Shading Coefficient	U _g -value [W/m ² K]	R _w -value [dB]
6 mm Pilkington Optifloat™ Clear	10 mm Pilkington Optifloat™ Clear	0.86	0.08	0.72	0.83	5.2	39
6 mm Pilkington Optifloat™ Clear	12 mm Pilkington Optifloat™ Clear	0.86	0.08	0.71	0.82	5.1	40
6 mm Pilkington Suncool™ 70/40	10 mm Pilkington Optifloat™ Clear	0.74	0.09	0.44	0.51	5.2	39
6 mm Pilkington Suncool™ 70/40	12 mm Pilkington Optifloat™ Clear	0.73	0.09	0.44	0.51	5.1	40
6 mm Pilkington Suncool™ 66/33	10 mm Pilkington Optifloat™ Clear	0.60	0.24	0.37	0.43	5.2	39
6 mm Pilkington Suncool™ 66/33	12 mm Pilkington Optifloat™ Clear	0.60	0.24	0.37	0.43	5.1	40
6 mm Pilkington Suncool™ 50/25	10 mm Pilkington Optifloat™ Clear	0.47	0.25	0.33	0.38	5.2	39
6 mm Pilkington Suncool™ 50/25	12 mm Pilkington Optifloat™ Clear	0.47	0.25	0.33	0.38	5.1	40
6 mm Pilkington Optiwhite™	10 mm Pilkington Optiwhite™	0.90	0.08	0.82	0.94	5.2	39
6 mm Pilkington Optiwhite™	12 mm Pilkington Optiwhite™	0.90	0.08	0.81	0.93	5.1	40
6 mm Pilkington Suncool™ 70/40 OW	10 mm Pilkington Optiwhite™	0.77	0.09	0.46	0.53	5.2	39
6 mm Pilkington Suncool™ 70/40 OW	12 mm Pilkington Optiwhite™	0.77	0.09	0.45	0.52	5.1	40
6 mm Pilkington Suncool™ 66/33 OW	10 mm Pilkington Optiwhite™	0.63	0.25	0.38	0.44	5.2	39
6 mm Pilkington Suncool™ 66/33 OW	12 mm Pilkington Optiwhite™	0.63	0.25	0.38	0.44	5.1	40
6 mm Pilkington Suncool™ 50/25 OW	10 mm Pilkington Optiwhite™	0.49	0.25	0.34	0.39	5.2	39
6 mm Pilkington Suncool™ 50/25 OW	12 mm Pilkington Optiwhite™	0.49	0.25	0.34	0.39	5.1	40
6 mm Pilkington Activ™ Clear	10 mm Pilkington Optifloat™ Clear	0.81	0.14	0.68	0.78	5.2	39
6 mm Pilkington Activ™ Blue	10 mm Pilkington Optifloat™ Clear	0.48	0.12	0.43	0.49	5.2	39
6 mm Pilkington Arctic Blue™	10 mm Pilkington Optifloat™ Clear	0.52	0.06	0.46	0.53	5.2	39

Technical data has been calculated according to BS EN 410 and BS EN 673. The above table has been updated to take into account the declared values of radiation and thermal properties required for CE Marking. R_w-value is indicative for PVB interlayer product only and will be subject to minor variations dependent upon the size of the glass panels and the number of fittings required.

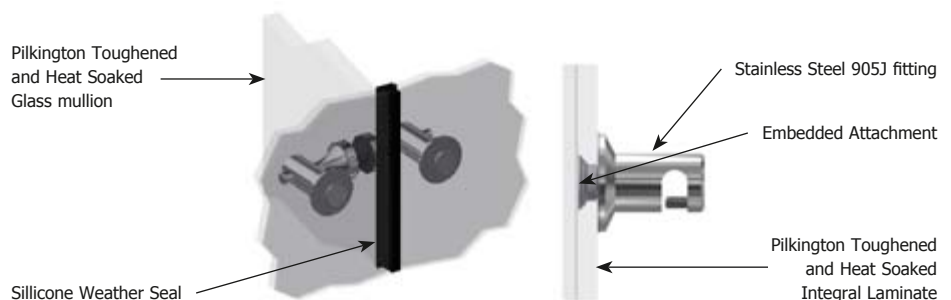
Pilkington Planar™ Integral – Glass Types

Glass Type	6 mm	10 mm	12 mm	15 mm	19 mm	Notes
Pilkington Optifloat™ Clear	+	+	+	+	+	
Pilkington Optifloat™ Bronze	+	+				
Pilkington Optifloat™ Grey	+	+				
Pilkington Optifloat™ Green	+	+				
Pilkington Suncool™ 70/40	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington Suncool™ 66/33	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington Suncool™ 50/25	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington Optiwhite™	+	+	+	+	+	
Pilkington Suncool™ 70/40 OW	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington Suncool™ 66/33 OW	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington Suncool™ 50/25 OW	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington Arctic Blue™	+	+				
Pilkington Activ™ Clear	+	+				
Pilkington Activ™ Blue	+	+				
Pilkington Screen Printed Glass	+	+	+	+	+	Maximum screened area 2400x4500 mm (See enclosed data sheet for further details)

Pilkington Planar™ Integral

A fully tested and patented method of fixing laminated glass panels to a backup structure without any exterior bolts, caps or washers. All fixings are embedded within the laminated glass. This fixing system allows a wider variety of external glass types to be used in a structural application. Integral allows us to horizontally glaze an entire roof or canopy without any fasteners in the exterior glass. Silicone weather seal must be compatible with Pilkington Laminated Safety Glass.

905J Fitting to Pilkington Planar™ Integral Laminate



Specification - Pilkington Planar™ Integral

INDICATIVE GLASS COMBINATIONS

6 mm + 10 mm (csk)

6 mm + 12 mm (csk)

6 mm + 15 mm (csk)

Pilkington **Planar™** Laminated Safety Glass

Interlayer: 1.52 mm or 2.28 mm

There may be a step on each side of up to 3 mm

GLASS SIZE – RECTANGLES

Maximum: 6 to 19 mm | 3050×6000 mm | 0 + 4 mm

Minimum: 6 to 19 mm | 450×900 mm | 0 + 4 mm

Aspect Ratio: 14:1 | Larger on request

All laminates subject to a weight limit of 1847 kg.

SHAPE CAPABILITY

Rectangles and simple shapes. All tolerances will vary depending on the complexity of shape.

EDGE CONDITION

Smooth ground edges giving a flat profile with small ground arris. Shells or chips at edges will be ground out prior to toughening and do not constitute reason for rejection. Corners may be dubbed.

Some variation in edgework may be discernible on exposed edges where different machines and/or hand forming is a requirement for manufacture. Such variations shall be kept to a minimum.

HOLE DRILLING – RECTANGLES

Diameter: 19 mm | ±1.0 mm (countersunk)

23 mm | minimum 12 mm thick | ±1.0 mm (countersunk)

Position: Normally 60 mm from glass edge at corners and sometimes along edge.

Other configurations subject to confirmation.

Tolerance: ±2 mm from one datum point.

Number: Up to 10 (larger on request)

METHOD OF PRODUCTION

Kuraray SentryGlas®

TOUGHENING STRESS

6 to 19 mm: Pilkington Toughened and Heat Soaked glass.

6 to 8 mm: Pilkington Heat Strengthened or Toughened and Heat Soaked glass as required by design.

Thermally toughened soda lime silicate glass to BS EN 12150. Classified as 1(C)1 to BS EN 12600. Checked regularly during production by fracture count or the Differential Stress Refractometer (DSR) method.

HEAT SOAK TESTING

All toughened glass will be supplied heat soaked to or in excess of international specifications e.g. BS EN 14179.

BOW

Maximum bow: 0.15% (Float Glass)

0.2% (Ceramic coated glass)

ROLLER WAVE

Mean roller wave: t = 6 mm 0.05 mm

t > 6 mm 0.02 mm

Coated glass: 0.05 mm

Roller wave is usually parallel to the short side and in coated glass should be glazed horizontal where possible.

LITE SENTRY OSPREY SCANNER

A Lite Sentry Osprey Scanner is used to monitor and ensure high quality aesthetics of the Pilkington **Planar™** glass products.

GLASS MARKING

Glass will be marked with the Pilkington toughening stamp and will show compliance with regulatory requirements. The mark will be on each glass pane, usually near a corner. Multiple panes will not necessarily be marked in the same corner, however, the thinner glass will generally be marked with a relatively discreet linear brand close to and parallel to the edge of the pane.

KURARAY SENTRYGLAS®

This interlayer technology delivers increased load bearing characteristics and improved overall durability. Compared to standard conventional glass interlayers, SentryGlas® ionoplast is more resistant to moisture and the effects of weather due to its exceptional edge stability, with no defect extending greater than 3 mm normal to the chamfered edge of the laminate. Laminates will conform to the specification for process blemishes set forth in ASTM C1172-03, Table 1. When viewed from a distance of 3 m in transmission and in the vertical position, bubbles, dirt or fibres within the laminate will be considered to be unacceptable if readily visible due to their size or quantity.

DISTORTION

When laminating toughened or heat strengthened glasses together slight visible distortion in transmission due to the small lens effects will be noted with increase in viewing angle. The phenomenon is not normally a problem in roof glazing, but may be discernible in vertical glazing. On occasion such effects can be increased by the specification of a coated glass. Site inspection should be from a distance of 3 m and viewed at right angles to the glass.

INSTALLATION

Whilst the Pilkington **Planar™** system is completely weatherproof, the components are not designed to be left in contact with water for extended periods, and adequate ventilation or drainage should be provided to allow the system to dry out periodically. Weatherseals used around the periphery must be compatible with the Pilkington **Planar™** system and approval from Pilkington Architectural should be sought prior to application. The integral system should be installed with silicone weatherseals. Applications in which a weatherseal is not necessary should be discussed with the Pilkington Architectural design team during concept development.

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CE marking confirms that a product complies with its relevant harmonised European Norm.

The Declaration of Performance for each product, including declared values, can be found at www.pilkington.com/CE



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2803 – January 2021