

# 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 (Tvis)	Light Reflectance (Rfvis)	Solar Heat Gain Coefficient (SHGC)	Total Shading Coefficient (SC)	'U'-value (Summer) (Btu/hr-ft <sup>2</sup> -°F)	'U'-value (Winter) (Btu/hr-ft <sup>2</sup> -°F)	OITC Rating
6 mm Pilkington <b>Optifloat™</b> Clear	10 mm Pilkington <b>Optifloat™</b> Clear	0.85	0.08	0.75	0.86	0.84	0.92	33
6 mm Pilkington <b>Optifloat™</b> Clear	12 mm Pilkington <b>Optifloat™</b> Clear	0.85	0.08	0.73	0.84	0.83	0.91	34
6 mm Pilkington <b>Suncool™</b> 70/40	10 mm Pilkington <b>Optifloat™</b> Clear	0.73	0.09	0.43	0.50	0.84	0.92	33
6 mm Pilkington <b>Suncool™</b> 70/40	12 mm Pilkington <b>Optifloat™</b> Clear	0.73	0.09	0.43	0.49	0.83	0.91	34
6 mm Pilkington <b>Suncool™</b> 66/33	10 mm Pilkington <b>Optifloat™</b> Clear	0.60	0.24	0.37	0.42	0.84	0.92	33
6 mm Pilkington <b>Suncool™</b> 66/33	12 mm Pilkington <b>Optifloat™</b> Clear	0.59	0.24	0.37	0.42	0.83	0.91	34
6 mm Pilkington <b>Suncool™</b> 50/25	10 mm Pilkington <b>Optifloat™</b> Clear	0.47	0.25	0.35	0.40	0.84	0.92	33
6 mm Pilkington <b>Suncool™</b> 50/25	12 mm Pilkington <b>Optifloat™</b> Clear	0.46	0.25	0.35	0.40	0.83	0.91	34
6 mm Pilkington <b>Optiwhite™</b>	10 mm Pilkington <b>Optiwhite™</b>	0.89	0.08	0.84	0.96	0.84	0.93	33
6 mm Pilkington <b>Optiwhite™</b>	12 mm Pilkington <b>Optiwhite™</b>	0.89	0.08	0.84	0.96	0.83	0.92	34
6 mm Pilkington <b>Suncool™</b> 70/40 OW	10 mm Pilkington <b>Optiwhite™</b>	0.76	0.09	0.43	0.50	0.84	0.93	33
6 mm Pilkington <b>Suncool™</b> 70/40 OW	12 mm Pilkington <b>Optiwhite™</b>	0.76	0.09	0.43	0.50	0.83	0.92	34
6 mm Pilkington <b>Suncool™</b> 66/33 OW	10 mm Pilkington <b>Optiwhite™</b>	0.63	0.25	0.36	0.42	0.84	0.93	33
6 mm Pilkington <b>Suncool™</b> 66/33 OW	12 mm Pilkington <b>Optiwhite™</b>	0.63	0.25	0.36	0.42	0.83	0.92	34
6 mm Pilkington <b>Suncool™</b> 50/25 OW	10 mm Pilkington <b>Optiwhite™</b>	0.49	0.25	0.34	0.39	0.84	0.93	33
6 mm Pilkington <b>Suncool™</b> 50/25 OW	12 mm Pilkington <b>Optiwhite™</b>	0.49	0.25	0.34	0.39	0.83	0.92	34
6 mm Pilkington <b>Activ™</b> Clear	10 mm Pilkington <b>Optifloat™</b> Clear	0.80	0.14	0.71	0.82	0.84	0.92	33
6 mm Pilkington <b>Activ™</b> Blue	10 mm Pilkington <b>Optifloat™</b> Clear	0.48	0.12	0.48	0.55	0.84	0.93	33
6 mm Pilkington <b>Arctic Blue™</b>	10 mm Pilkington <b>Optifloat™</b> Clear	0.52	0.06	0.51	0.58	0.84	0.93	33

Technical data has been calculated using Window 7.3.4.0 (NFRC 100-2010). OITC value is indicative for Kuraray SentryGlas® interlayer product only and will be subject to minor variations dependent upon the size of the glass panels and the number of fittings required.

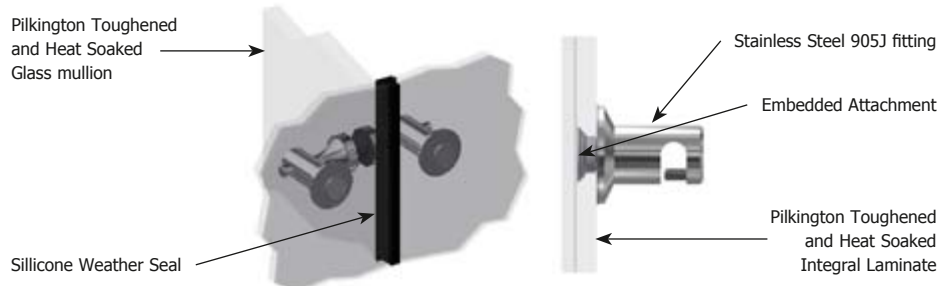
### Pilkington Planar™ Integral – Glass Types

Glass Type	6 mm	10 mm	12 mm	15 mm	19 mm	Notes
Pilkington <b>Optifloat™</b> Clear	+	+	+	+	+	
Pilkington <b>Optifloat™</b> Bronze	+	+				
Pilkington <b>Optifloat™</b> Grey	+	+				
Pilkington <b>Optifloat™</b> Green	+	+				
Pilkington <b>Suncool™</b> 70/40	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington <b>Suncool™</b> 66/33	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington <b>Suncool™</b> 50/25	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington <b>Optiwhite™</b>	+	+	+	+	+	
Pilkington <b>Suncool™</b> 70/40 OW	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington <b>Suncool™</b> 66/33 OW	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington <b>Suncool™</b> 50/25 OW	+	+	+			Campaign Product. Must be forecast in advance of manufacturing
Pilkington <b>Arctic Blue™</b>	+	+				
Pilkington <b>Activ™</b> Clear	+	+				
Pilkington <b>Activ™</b> Blue	+	+				
Pilkington Screen Printed Glass	+	+	+	+	+	Maximum screened area 2400×4500 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 Laminated



# 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)

## 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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