

# Pilkington **Planar**<sup>™</sup> System Information

## Pilkington **Planar**<sup>™</sup> Laminated Insulating Glass Units (IGUs)



Pilkington **Planar**<sup>™</sup> Integral Laminated IGUs

Performance of typical combinations with clear interlayer

Pilkington Toughened and Heat Soaked Glass Outer Leaf	Pilkington Heat Strengthened Glasses forming Laminated Inner Leaf	Light Transmittance LT	Light Reflectance LR	Total Solar Radiant Heat Transmittance	Total Shading Coefficient	U Value (W/m <sup>2</sup> K)	R <sub>w</sub> Value (dB)
Pilkington <b>Optifloat</b> <sup>™</sup> Clear		Pilkington <b>Optifloat</b> <sup>™</sup> Clear					
10 mm	6 mm + 6 mm	0.73	0.14	0.63	0.72	2.6	41
12 mm	6 mm + 6 mm	0.72	0.13	0.60	0.69	2.6	42
15 mm	6 mm + 6 mm	0.70	0.13	0.57	0.66	2.6	43
Pilkington <b>Optifloat</b> <sup>™</sup> Clear		Pilkington <b>K Glass</b> <sup>™</sup> & Pilkington <b>Optifloat</b> <sup>™</sup> Clear					
10 mm	6 mm + 6 mm	0.68	0.16	0.62	0.71	1.7	41
12 mm	6 mm + 6 mm	0.67	0.16	0.59	0.68	1.7	42
15 mm	6 mm + 6 mm	0.65	0.15	0.55	0.63	1.7	43
Pilkington <b>Optiwhite</b> <sup>™</sup>		Pilkington <b>Optiwhite</b> <sup>™</sup>					
10 mm	6 mm + 6 mm	0.81	0.15	0.78	0.90	2.6	41
12 mm	6 mm + 6 mm	0.80	0.15	0.77	0.89	2.6	42
15 mm	6 mm + 6 mm	0.80	0.15	0.76	0.87	2.6	43
10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 73/42 OW	6 mm + 6 mm	0.73	0.10	0.43	0.49	1.3	41
10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 69/37 OW	6 mm + 6 mm	0.69	0.12	0.38	0.44	1.3	41
10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 62/29 OW	6 mm + 6 mm	0.61	0.10	0.30	0.34	1.3	41
10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 50/27 OW	6 mm + 6 mm	0.50	0.10	0.28	0.32	1.3	41
Pilkington <b>Optiwhite</b> <sup>™</sup>		Pilkington <b>K Glass</b> <sup>™</sup> OW & Pilkington <b>Optiwhite</b> <sup>™</sup>					
10 mm	6 mm + 6 mm	0.75	0.17	0.75	0.86	1.7	41
12 mm	6 mm + 6 mm	0.74	0.17	0.75	0.86	1.7	42
15 mm	6 mm + 6 mm	0.74	0.17	0.74	0.85	1.7	43
Pilkington <b>Optiwhite</b> <sup>™</sup>		Pilkington <b>Optiwhite</b> <sup>™</sup>					
*10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 73/42	6 mm + 6 mm	0.66	0.10	0.39	0.45	1.3	41
*10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 70/39	6 mm + 6 mm	0.63	0.11	0.37	0.43	1.3	41
*10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 69/37	6 mm + 6 mm	0.62	0.11	0.35	0.40	1.3	41
*10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 62/29	6 mm + 6 mm	0.55	0.09	0.29	0.33	1.3	41
*10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 50/27	6 mm + 6 mm	0.45	0.09	0.26	0.30	1.3	41
*10 mm Pilkington <b>Planar</b> <sup>™</sup> Sun 30/17	6 mm + 6 mm	0.28	0.24	0.18	0.21	1.3	41

\*Please note that these are a selection of Solar Control glasses within the range and the performance data supplied is indicative only and can vary subject to the substrate used. 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<sub>w</sub> 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**<sup>™</sup> Laminated IGUs – Glass Types

Glass Type	Colour	6 mm	8 mm	10 mm	12 mm	15 mm	19 mm	Notes
Pilkington <b>Optifloat</b> <sup>™</sup>	Clear	✓	✓	✓	✓	✓	✓	
Pilkington <b>Optifloat</b> <sup>™</sup>	Grey	✓		✓				
Pilkington <b>Optifloat</b> <sup>™</sup>	Bronze	✓		✓				
Pilkington <b>Optifloat</b> <sup>™</sup>	Green	✓		✓				
Pilkington <b>Optiwhite</b> <sup>™</sup>	Extra Clear	✓	✓	✓	✓	✓	✓	
Pilkington <b>Arctic Blue</b> <sup>™</sup>	Blue	✓		✓				
Pilkington <b>K Glass</b> <sup>™</sup>	Clear	✓						
Pilkington <b>Planar</b> <sup>™</sup> Sun		✓	✓	✓	✓	✓		Subject to minimum quantity. Max. size 2400 x 4500 mm
Pilkington Screen Printed Glass	All	✓	✓	✓	✓	✓	✓	Maximum screened area 2400 x 4500 mm (See enclosed data sheet for further details)
Pilkington <b>Activ</b> <sup>™</sup> Clear	Clear	✓		✓				
Pilkington <b>Activ</b> <sup>™</sup> Blue	Blue	✓		✓				

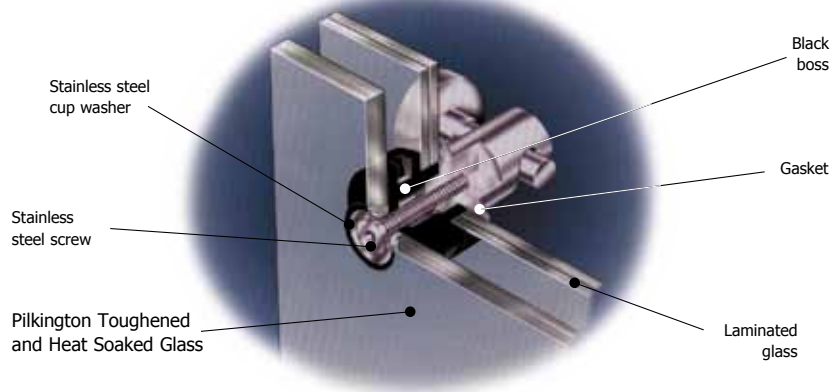
**Notes**

Pilkington **Planar**™ Laminated IGUs are available with a selection of interlayers including PVB and DuPont™ SentryGlas®.

Silicone perimeter seals must be compatible with Pilkington Laminated Safety Glass.

A wide range of glass combinations and a choice of clear, translucent and coloured interlayers are available with laminated glasses. Please refer to Pilkington Architectural for advice.

In line with regulations applicable in many European countries, Pilkington Architectural recommend the use of laminated glass in overhead or sloping overhead glazing.

**905 Fitting to Double Glazed Pilkington **Planar**™ Laminated IGUs****Specification – Pilkington **Planar**™ Laminated IGUs****Composition**

Pilkington **Planar**™ Laminated IGUs are manufactured from an outer pane of Pilkington Toughened and Heat Soaked Glass and one laminated inner glass comprising typically of 6 mm or 8 mm glasses. The use of heat strengthened or toughened glass in the laminate is dependent on the exact interlayer specification.

**Pilkington **Planar**™ Laminated IGUs**

Air space:	16 mm	±1 mm
Depth of silicone seal:	Minimum 4 mm	
Aluminium spacer depth:	7 mm	
Sight line of unit edge seal:	12 mm min.	20 mm max.
Spacer colour:	Black or Natural	
Laminated interlayer:	1.52 mm or 2.28 mm	
There may be a step on each side up to 3 mm		
Overall thickness:	±2 mm tolerance	

**Glass size – rectangles**

Maximum:	2400 x 4500 mm	0 + 4.5 mm (Larger sizes upon request)
Minimum:	300 x 500 mm	0 + 4.5 mm
Aspect ratio:	14:1	Maximum for larger sizes
Overall thickness:	54 mm thickness	
Maximum weight:	600 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. Where the detail of a structure is such that the double glazing edge sealant is fully exposed, minor undulations in the edge seal may be discernible particularly near corners of the unit. The Pilkington **Planar**™ Sun Range of coatings will be edge deleted in the area of the unit edge seal to ensure maximum unit durability, depending on product type, orientation and light conditions the edge deleted zone may be visible to the naked eye.

**Hole drilling – rectangles**

Diameter:	34 mm ±1 mm
Diameter:	19 mm ±1 mm Countersunk
Position:	Normally 60 mm from glass edge at corners and sometimes along edge. Other configurations subject to confirmation.

Positional Tolerance:	±2 mm from one datum point
Number of holes:	Up to 10

**Interlayers available as standard**

DuPont™ SentryGlas® or PVB.

**Toughening Stress**

10/12/15/19 mm glass:	Pilkington Toughened and Heat Soaked Glass
6/8 mm glass:	Pilkington Heat Strengthened or Toughened and Heat Soaked Glass

**Bow**

Maximum bow:	0.15%	(Float glass)
	0.2%	(Ceramic coated glass)

**Roller wave**

Mean roller wave:	t ≤ 8 mm	0.05 mm
Mean roller wave:	t > 8 mm	0.02 mm
Maximum edge dip:	0.25 mm	
Pilkington <b>Planar</b> ™ Sun mean roller wave depth:		0.05 mm

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

**Glass marking**

Glass will be marked with the Pilkington toughening stamp and will show compliance with other regulatory requirements. The mark will be on each glass pane. Multiple panes will not necessarily be marked in the same corner. However the thinner glasses will generally be marked with a relatively discreet linear brand within the area of the unit edge seal.

**Visual quality****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. The air in all sealed units expands and contracts in hot and cold weather causing the glass to bow out and in respectively and again reflections will reflect this movement. On occasion, such effects can be increased by the specification of a coated glass within the unit. Site inspection should be from a distance of 3 m and 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.

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, code 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.

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**Pilkington Architectural**

Prescot Road St Helens WA10 3TT United Kingdom

Telephone 01744 692000 Fax 01744 692880

pilkington@respond.uk.com

[www.pilkington.co.uk/planar](http://www.pilkington.co.uk/planar)