



Pilkington Planar™ System Information

Pilkington Planar™ Insulating Glass Units (IGUs)

Pilkington Architectural offer a wide range of coated performance glasses for incorporation into the Pilkington **Planar™** system. A selection of such products and performance data is indicated below:

Glass Type	Colour	Thickness (mm)	Light Transmittance (Tvis)	Light Reflectance (Rfvis)	Solar Heat Gain Coefficient (SHGC)	Total Shading Coefficient (SC)	'U'-value (Summer) (Btu/hr-ft ² -°F)	'U'-value (Winter) (Btu/hr-ft ² -°F)	OITC Rating
Pilkington Planar™ IGU's with 6 mm Pilkington Optifloat™ Clear THS inner pane and 16 mm airspace									
Pilkington Optifloat™	Clear	10	0.80	0.14	0.72	0.83	0.48	0.47	33
Pilkington Optifloat™	Clear	12	0.79	0.14	0.71	0.81	0.47	0.47	35
Pilkington Optifloat™	Clear	15	0.78	0.14	0.68	0.79	0.47	0.46	34
Pilkington Planar™ Sun	60/27	10	0.58	0.16	0.26	0.30	0.22	0.29	33
Pilkington Planar™ Sun	62/29	10	0.60	0.09	0.27	0.31	0.22	0.29	33
Pilkington Suncool™	70/40	10	0.72	0.10	0.39	0.45	0.24	0.30	33
Pilkington Suncool™	70/35	10	0.69	0.15	0.34	0.39	0.22	0.29	33
Pilkington Suncool™	66/33	10	0.65	0.16	0.33	0.38	0.22	0.29	33
Pilkington Suncool™	50/25	10	0.49	0.18	0.26	0.29	0.22	0.29	33
Pilkington Planar™ IGU's with 6 mm Pilkington K Glass™ Clear THS inner pane and 16 mm airspace									
Pilkington Optifloat™	Clear	10	0.74	0.17	0.68	0.78	0.30	0.33	33
Pilkington Optifloat™	Clear	12	0.73	0.17	0.66	0.76	0.29	0.33	35
Pilkington Optifloat™	Clear	15	0.72	0.17	0.64	0.73	0.29	0.33	34
Pilkington Planar™ IGU's with 6 mm Pilkington Optitherm™ S1 Plus THS inner pane and 16 mm airspace									
Pilkington Optifloat™	Clear	10	0.67	0.22	0.43	0.49	0.22	0.29	33
Pilkington Optifloat™	Clear	12	0.67	0.21	0.42	0.48	0.22	0.29	35
Pilkington Optifloat™	Clear	15	0.66	0.21	0.41	0.47	0.22	0.29	34
Pilkington Optiwhite™	Extra Clear	10	0.71	0.23	0.46	0.53	0.22	0.29	33
Pilkington Optiwhite™	Extra Clear	12	0.70	0.23	0.46	0.53	0.22	0.29	35
Pilkington Optiwhite™	Extra Clear	15	0.70	0.23	0.46	0.53	0.22	0.29	34
Pilkington Planar™ IGU's with 6 mm Pilkington Optiwhite™ THS inner pane and 16 mm airspace									
Pilkington Optiwhite™	Extra Clear	10	0.83	0.15	0.82	0.94	0.48	0.47	33
Pilkington Optiwhite™	Extra Clear	12	0.83	0.15	0.81	0.94	0.47	0.47	35
Pilkington Optiwhite™	Extra Clear	15	0.83	0.15	0.81	0.93	0.47	0.46	34
Pilkington Planar™ Sun OW	60/27	10	0.61	0.16	0.26	0.29	0.22	0.29	33
Pilkington Planar™ Sun OW	62/29	10	0.63	0.10	0.27	0.31	0.22	0.29	33
Pilkington Suncool™ OW	70/40	10	0.75	0.10	0.41	0.47	0.24	0.30	33
Pilkington Suncool™ OW	70/35	10	0.72	0.16	0.35	0.40	0.22	0.29	33
Pilkington Suncool™ OW	66/33	10	0.68	0.17	0.34	0.39	0.22	0.29	33
Pilkington Suncool™ OW	50/25	10	0.52	0.19	0.26	0.30	0.22	0.29	33
Pilkington Planar™ IGU's with 6 mm Pilkington K Glass™ OW THS inner pane and 16 mm airspace									
Pilkington Optiwhite™	Extra Clear	10	0.77	0.18	0.77	0.88	0.30	0.33	33
Pilkington Optiwhite™	Extra Clear	12	0.77	0.18	0.76	0.88	0.29	0.33	35
Pilkington Optiwhite™	Extra Clear	15	0.77	0.18	0.76	0.87	0.29	0.33	34

* 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. Please check current availability of the coated product range at www.pilkington.com/planarcoatedupdate at the time of specification. It is strongly recommended that indicative 6/12/6 colour samples are viewed and approved as the basis for colour selection. It should be noted that although the performance data of some of the products are very similar there may still be colour differences.

Technical data has been calculated using Window 7.3.4.0 (NFRC 100-2010).

Pilkington Planar™ Units – 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 Artic Blue™	+	+				
Pilkington Activ™ Clear	+	+				
Pilkington Activ™ Blue	+	+				
Pilkington K Glass™	+					
Pilkington K Glass™ OW	+					
Pilkington Optitherm™ S1	+	+	+			
Pilkington Screen Printed Glass	+	+	+	+	+	Maximum screened area 2400x4500 mm (See enclosed data sheet for further details)

Specification - Pilkington Planar™ IGUs

COMPOSITION

Pilkington **Planar™** IGUs are manufactured from two Pilkington Toughened and Heat Soaked Glass panes and reference should be made to the single Pilkington **Planar™** Specification for technical data which is not contained herein.

OUTER GLASS

Outer glass to conform to single Pilkington **Planar™** specification.

INNER GLASS

Thickness: 6 mm ±0.2 mm
8, 10, 12 mm ±0.3 mm

Pilkington **Planar™** Insulating Glass Units

Airspace: 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

Overall thickness: ±2 mm tolerance

GLASS SIZE – RECTANGLES

Maximum: 2500 × 5000 mm 0 + 4.5 mm

Minimum: 300 × 500 mm 0 + 4.5 mm

Aspect ratio: 14:1 Maximum

Diagonal tolerances: Up to 4 m: 3 mm Maximum difference

Over 4 m: 4 mm Maximum difference

Overall thickness: 54 mm Maximum

Maximum weight: 1000 kg

SHAPE CAPABILITY

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

ROLLER WAVE – BOTH GLASSES IN SAME DIRECTION

Mean roller wave: t < 8 mm 0.05 mm

Mean roller wave: t > 8 mm 0.02 mm

Pilkington **Planar™** Sun mean roller wave: 0.05 mm

Maximum edge dip: 0.25 mm

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

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 area may be visible to the naked eye.

HOLE DRILLING – RECTANGLES

Diameter: 19 mm ±1 mm countersunk
23 mm ±1 mm countersunk (minimum glass thickness = 12 mm)
34 mm ±1 mm

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 (more on request)

TOUGHENING STRESS

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.

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. 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 within the area of the unit edge seal.

VISUAL QUALITY

Distortion

Pilkington **Planar™** IGUs are manufactured from two Pilkington Toughened and Heat Soaked Glass panes which have minimal effect on visual transmission through the glass but some distortion can be seen in reflection. 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. 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.

ARGON FILLING

It is generally accepted that Argon gas will slowly dissolve through the seals over a period of time, the rate of diffusion being dependent on several factors such as unit size and the environment in which it is glazed. The total retention of Argon in the unit cannot therefore be guaranteed for the life of the unit.

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