



Pilkington **Planar**™ System Information

Single Pilkington **Planar**™ Laminated Safety Glass

Single Pilkington **Planar**™ Laminated Safety Glass
Performance of typical combinations with clear interlayer

Pilkington Toughened and Heat Soaked Glass Outer Leaf	Pilkington Heat Strengthened or Toughened and Heat Soaked Glass Inner Leaf	Light Transmittance LT	Light Reflectance LR	Total Solar Radiant Heat Transmittance	Total Shading Coefficient	U Value (W/m ² K)	R _w Value (dB)
Pilkington Optifloat ™ Clear	Pilkington Optifloat ™ Clear						
10 mm	6 mm	0.82	0.08	0.67	0.77	5.3	39
12 mm	6 mm	0.81	0.07	0.65	0.75	5.3	39
15 mm	6 mm	0.79	0.07	0.62	0.71	5.2	40
19 mm	6 mm	0.77	0.07	0.58	0.67	5.1	-
Pilkington Optiwhite ™	Pilkington Optiwhite ™						
10 mm	6 mm	0.88	0.08	0.81	0.93	5.3	39
12 mm	6 mm	0.88	0.08	0.81	0.93	5.3	39
15 mm	6 mm	0.87	0.08	0.80	0.92	5.2	40
19 mm	6 mm	0.86	0.08	0.78	0.90	5.1	-
Pilkington Activ ™ Clear	Pilkington Optifloat ™ Clear						
10 mm	6 mm	0.77	0.14	0.63	0.72	5.3	39
Pilkington Activ ™ Blue	Pilkington Optifloat ™ Clear						
10 mm	6 mm	0.34	0.12	0.35	0.40	5.3	39
Pilkington Arctic Blue ™	Pilkington Optifloat ™ Clear						
10 mm	6 mm	0.36	0.05	0.38	0.44	5.3	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**™ Laminated Safety Glass – Glass Types

Glass Type	Colour	6 mm	10 mm	12 mm	15 mm	19 mm	Notes
Pilkington Optifloat ™	Clear	✓	✓	✓	✓	✓	
Pilkington Optifloat ™	Grey	✓	✓				
Pilkington Optifloat ™	Bronze	✓	✓				
Pilkington Optifloat ™	Green	✓	✓				
Pilkington Optiwhite ™	Extra Clear	✓	✓	✓	✓	✓	
Pilkington Arctic Blue ™	Blue	✓	✓				
Pilkington Screen Printed Glass	All	✓	✓	✓	✓	✓	Maximum screened area 2400 x 4500 mm (See enclosed data sheet for further details)
Pilkington Activ ™ Clear Pilkington Activ ™ Blue	Clear Blue	✓ ✓	✓ ✓				

Notes

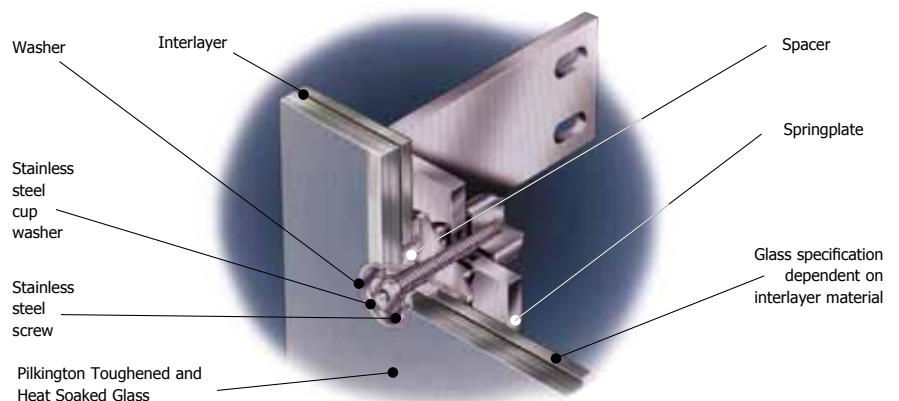
Pilkington **Planar**™ Laminated Safety Glasses are available with a selection of interlayers including PVB and DuPont™ SentryGlas®.

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. Coloured, curved and solar control laminates are currently in development. Please refer to Pilkington Architectural for advice.

902 Fitting to Single Pilkington **Planar**™ Laminated Safety Glass



Specification – Single Pilkington **Planar**™ Laminated Safety Glass

Indicative Glass combinations

10 mm + 6 mm
12 mm + 6 mm or 8 mm or 10 mm
15 mm + 6 mm or 8 mm or 10 mm

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 (6-19 mm): 2400 x 4500 mm 0 + 4 mm
(Larger sizes upon request)

Minimum: 450 x 900 mm 0 + 4 mm

Aspect ratio: 14:1 Maximum

Larger glass sizes and weights greater than 650 kg subject to enquiry.

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: 38 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.

Tolerance: ±2 mm from one datum point

Number: Up to 10

Method of production

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 as required by design

Bow

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

Roller wave

Mean roller wave: t = 6 mm 0.05 mm

Mean roller wave: t > 6 mm 0.02 mm

Maximum edge dip: 0.25 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 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.

Visual quality

PVB

Advances in PVB technology in recent years have led to improved edge stability. Under natural exposure conditions the edge of a PVB laminate will be of an acceptable quality when properly installed and maintained. However the possibility of minor delamination cannot entirely be excluded. 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.

DuPont™ SentryGlas®

This interlayer technology delivers increased load bearing characteristics and improved overall durability. Laminates with exposed edges shall not develop defects at edges (including holes) as characterised by the Edge Stability Number (ESN), greater than a value of 200, 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.

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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