



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 (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 | |
|-------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------|---------------------------|------------------------------------|--------------------------------|-------------------------------------------------|-------------------------------------------------|-------------|----|
| 10 mm Pilkington Optifloat™ Clear | 6 mm Pilkington Optifloat™ Clear | 0.85 | 0.08 | 0.75 | 0.86 | 0.84 | 0.92 | 33 | |
| 12 mm Pilkington Optifloat™ Clear | | 0.85 | 0.08 | 0.73 | 0.84 | 0.83 | 0.91 | 34 | |
| 15 mm Pilkington Optifloat™ Clear | | 0.84 | 0.08 | 0.72 | 0.82 | 0.82 | 0.90 | 35 | |
| 19 mm Pilkington Optifloat™ Clear | | 0.83 | 0.08 | 0.70 | 0.80 | 0.80 | 0.88 | - | |
| 10 mm Pilkington Suncool™ 70/40 | | 0.73 | 0.09 | 0.45 | 0.52 | 0.84 | 0.92 | 33 | |
| 12 mm Pilkington Suncool™ 70/40 | | 0.73 | 0.09 | 0.45 | 0.52 | 0.83 | 0.91 | 34 | |
| 10 mm Pilkington Suncool™ 66/33 | | 0.60 | 0.23 | 0.39 | 0.44 | 0.84 | 0.92 | 33 | |
| 12 mm Pilkington Suncool™ 66/33 | | 0.59 | 0.23 | 0.39 | 0.45 | 0.83 | 0.91 | 34 | |
| 10 mm Pilkington Suncool™ 50/25 | | 0.47 | 0.24 | 0.36 | 0.42 | 0.84 | 0.92 | 33 | |
| 12 mm Pilkington Suncool™ 50/25 | | 0.46 | 0.24 | 0.37 | 0.43 | 0.83 | 0.91 | 34 | |
| 10 mm Pilkington Optiwhite™ | | 6 mm Pilkington Optiwhite™ | 0.89 | 0.08 | 0.84 | 0.96 | 0.84 | 0.93 | 33 |
| 12 mm Pilkington Optiwhite™ | | | 0.89 | 0.08 | 0.84 | 0.96 | 0.83 | 0.92 | 34 |
| 15 mm Pilkington Optiwhite™ | 0.89 | | 0.08 | 0.83 | 0.96 | 0.82 | 0.90 | 35 | |
| 19 mm Pilkington Optiwhite™ | 0.89 | | 0.08 | 0.82 | 0.95 | 0.80 | 0.88 | - | |
| 10 mm Pilkington Suncool™ 70/40 OW | 0.76 | | 0.09 | 0.44 | 0.50 | 0.84 | 0.93 | 33 | |
| 12 mm Pilkington Suncool™ 70/40 OW | 0.76 | | 0.09 | 0.44 | 0.50 | 0.83 | 0.92 | 34 | |
| 10 mm Pilkington Suncool™ 66/33 OW | 0.63 | | 0.25 | 0.37 | 0.42 | 0.84 | 0.93 | 33 | |
| 12 mm Pilkington Suncool™ 66/33 OW | 0.63 | | 0.24 | 0.37 | 0.42 | 0.83 | 0.92 | 34 | |
| 10 mm Pilkington Suncool™ 50/25 OW | 0.49 | | 0.25 | 0.35 | 0.40 | 0.84 | 0.93 | 33 | |
| 12 mm Pilkington Suncool™ 50/25 OW | 0.49 | | 0.25 | 0.35 | 0.40 | 0.83 | 0.92 | 34 | |
| 10 mm Pilkington Activ™ Clear | 6 mm Pilkington Optifloat™ Clear | | 0.80 | 0.14 | 0.71 | 0.82 | 0.84 | 0.92 | 33 |
| 10 mm Pilkington Activ™ Blue | 6 mm Pilkington Optifloat™ Clear | | 0.35 | 0.12 | 0.42 | 0.48 | 0.84 | 0.93 | 33 |
| 10 mm Pilkington Arctic Blue™ | 6 mm Pilkington Optifloat™ Clear | 0.37 | 0.05 | 0.44 | 0.51 | 0.84 | 0.93 | 33 | |

* The use of Heat Strengthened or Toughened and Heat Soaked glass in the laminate is dependent on the interlayer specification.

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™ Laminated Safety Glass – 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 Screen Printed Glass | + | + | + | + | + | Maximum screened area 2400x4500 mm (See enclosed data sheet for further details) |

Notes

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

Coloured and curved laminates are also available. Please refer to Pilkington Architectural for details.

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 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)

38 mm | ±1.0 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 (larger on request)

METHOD OF PRODUCTION

Kuraray SentryGlas® or PVB

TOUGHENING STRESS

10 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.

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.

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.

W&W GLASS, LLC | 300 Airport Executive Park | Nanuet, NY 10954-5285 | 1-800-452-7925 (845) 425-4000 | www.glass.com

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Pilkington United Kingdom Limited

Registered office: European Technical Centre, Hall Lane, Lathom, Nr Ormskirk, Lancashire L40 5UF

Tel: 01744 692538 | Planar@nsg.com

www.pilkington.co.uk/planar

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