



Pilkington Planar™ System Information

Pilkington Planar™ Insulating Glass Units (IGUs)

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

Pilkington Planar™ IGUs with 6mm Pilkington **Optifloat™** Clear inner pane and 16mm airspace

| Outer Pane Glass Type | Colour / Performance | Thickness (mm) | 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 | 10 | 0.77 | 0.14 | 0.67 | 0.77 | 2.7 | 38 |
| | | 12 | 0.76 | 0.14 | 0.64 | 0.74 | 2.7 | 38 |
| | | 15 | 0.74 | 0.13 | 0.60 | 0.69 | 2.7 | 40 |
| Pilkington Optifloat™ | Bronze | 10 | 0.28 | 0.06 | 0.34 | 0.39 | 2.7 | 38 |
| | | 10 | 0.23 | 0.05 | 0.34 | 0.39 | 2.7 | 38 |
| | | 10 | 0.60 | 0.10 | 0.39 | 0.45 | 2.7 | 38 |
| Pilkington Optiwhite™ | Clear | 10 | 0.80 | 0.15 | 0.78 | 0.90 | 2.7 | 38 |
| | | 12 | 0.80 | 0.15 | 0.78 | 0.90 | 2.7 | 38 |
| | | 15 | 0.80 | 0.15 | 0.77 | 0.89 | 2.7 | 40 |
| Pilkington Arctic Blue™ | Blue | 10 | 0.34 | 0.06 | 0.30 | 0.34 | 2.7 | 38 |
| Pilkington Activ™ Clear | Clear | 10 | 0.73 | 0.19 | 0.64 | 0.74 | 2.7 | 38 |
| Pilkington Activ™ Blue | Blue | 10 | 0.31 | 0.14 | 0.27 | 0.31 | 2.7 | 38 |
| *Planar Sun | 70/40 | 10 | 0.68 | 0.09 | 0.41 | 0.47 | 1.4 | 38 |
| *Planar Sun | 66/33 | 10 | 0.63 | 0.15 | 0.35 | 0.40 | 1.3 | 38 |
| *Planar Sun | 50/25 | 10 | 0.48 | 0.10 | 0.26 | 0.30 | 1.3 | 38 |
| *Planar Sun | 73/39 | 10 | 0.69 | 0.10 | 0.40 | 0.46 | 1.4 | 38 |
| *Planar Sun | 52/29 | 10 | 0.50 | 0.09 | 0.30 | 0.34 | 1.4 | 38 |
| *Planar Sun | 68/34 | 10 | 0.64 | 0.09 | 0.36 | 0.41 | 1.3 | 38 |
| *Planar Sun | 70/36 | 10 | 0.67 | 0.12 | 0.38 | 0.44 | 1.3 | 38 |

*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.

Pilkington Planar™ IGUs with 6mm Pilkington **K Glass™** inner pane and 16mm airspace

| Outer Pane Glass Type | Colour / Performance | Thickness (mm) | 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 | 10 | 0.71 | 0.17 | 0.64 | 0.74 | 1.7 | 38 |
| | | 12 | 0.70 | 0.16 | 0.60 | 0.69 | 1.7 | 38 |
| | | 15 | 0.68 | 0.16 | 0.56 | 0.64 | 1.7 | 40 |
| Pilkington Optifloat™ | Bronze | 10 | 0.26 | 0.06 | 0.29 | 0.33 | 1.7 | 38 |
| | | 10 | 0.21 | 0.06 | 0.29 | 0.33 | 1.7 | 38 |
| | | 10 | 0.55 | 0.12 | 0.35 | 0.40 | 1.7 | 38 |
| Pilkington Optiwhite™ | Clear | 10 | 0.74 | 0.18 | 0.75 | 0.86 | 1.7 | 38 |
| | | 12 | 0.74 | 0.18 | 0.74 | 0.85 | 1.7 | 38 |
| | | 15 | 0.73 | 0.17 | 0.74 | 0.85 | 1.7 | 40 |
| Pilkington Arctic Blue™ | Blue | 10 | 0.31 | 0.07 | 0.25 | 0.29 | 1.7 | 38 |
| Pilkington Activ™ Clear | Clear | 10 | 0.67 | 0.22 | 0.61 | 0.70 | 1.7 | 38 |
| Pilkington Activ™ Blue | Blue | 10 | 0.28 | 0.15 | 0.23 | 0.26 | 1.7 | 38 |

Pilkington Planar™ IGUs with 8mm Pilkington **Optitherm™** SN, inner pane and 16mm airspace

| Outer Pane Glass Type | Colour / Performance | Thickness (mm) | 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 | 10 | 0.75 | 0.11 | 0.57 | 0.66 | 1.4 | 38 |
| | | 12 | 0.73 | 0.11 | 0.55 | 0.63 | 1.4 | 38 |
| | | 15 | 0.72 | 0.10 | 0.52 | 0.60 | 1.4 | 40 |
| Pilkington Optifloat™ | Bronze | 10 | 0.27 | 0.05 | 0.25 | 0.29 | 1.4 | 38 |
| | | 10 | 0.23 | 0.05 | 0.25 | 0.29 | 1.4 | 38 |
| | | 10 | 0.58 | 0.08 | 0.34 | 0.39 | 1.4 | 38 |
| Pilkington Optiwhite™ | Clear | 10 | 0.78 | 0.12 | 0.65 | 0.75 | 1.4 | 38 |
| | | 12 | 0.77 | 0.11 | 0.65 | 0.75 | 1.4 | 38 |
| | | 15 | 0.77 | 0.11 | 0.64 | 0.74 | 1.4 | 40 |
| Pilkington Arctic Blue™ | Blue | 10 | 0.33 | 0.06 | 0.24 | 0.28 | 1.4 | 38 |
| Pilkington Activ™ Clear | Clear | 10 | 0.70 | 0.17 | 0.54 | 0.62 | 1.4 | 38 |
| Pilkington Activ™ Blue | Blue | 10 | 0.30 | 0.14 | 0.22 | 0.25 | 1.4 | 38 |

Technical data has been calculated according to EN 410 and EN 673.

The above table has been updated to take into account the declared values of radiation and thermal properties required for CE Marking.

Pilkington **Planar**™ Units – Glass Types

| Glass Type | Colour | 6mm | 8mm | 10mm | 12mm | 15mm | 19mm | Notes |
|---|---------------|-----|-----|------|------|------|------|--|
| Pilkington Optifloat ™ | Clear | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Pilkington Optifloat ™ | Grey | ✓ | | ✓ | | | | |
| | Bronze | ✓ | | ✓ | | | | |
| | Green | ✓ | | ✓ | | | | |
| Pilkington Optiwhite ™ | Clear | ✓ | | ✓ | ✓ | ✓ | ✓ | |
| Pilkington Arctic Blue ™ | Blue | ✓ | | ✓ | | | | |
| Pilkington K Glass ™ | Clear | ✓ | | | | | | |
| Pilkington Optitherm ™ SN | Clear | | ✓ | | | | | <i>Subject to minimum quantity. Max. size 2400 x 4800mm</i> |
| Planar Sun | | ✓ | | ✓ | | | | <i>Subject to minimum quantity. Max. size 2400 x 4800mm</i> |
| Pilkington Decorative Glass Screen Printed | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | <i>Maximum screened area 2400 x 4500mm (See enclosed data sheet for further details)</i> |
| Pilkington Activ ™ Clear and Pilkington Activ ™ Blue | Clear Blue | ✓ | | ✓ | | | | |

Specification – Pilkington **Planar**™ IGUs

Composition

Pilkington **Planar**™ IGUs are manufactured from two Pilkington T glass Plus 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: 6mm ±0.2mm
8, 10, 12mm ±0.3mm

Pilkington **Planar**™ Insulating Glass Units

Airspace: 16mm ±1mm
Depth of silicone seal: Minimum 4mm
Aluminium spacer depth: 7mm
Sight line of unit edge seal: 12mm min. 20mm max.
Spacer colour: Black or natural
Overall thickness: ±2mm tolerance

Glass size – rectangles

Maximum: 2400 x 4800mm 0 + 4.5mm
Minimum: 300 x 500mm 0 + 4.5mm
Aspect ratio: 14:1 Maximum
Diagonal tolerances: Up to 4m: 3mm Maximum difference
Over 4m: 4mm Maximum difference
Overall thickness: 80mm Maximum

Shape capability

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

Roller wave – both glasses in same direction

Standard mean roller wave depth: 0.02mm
Planar Sun and Pilkington **Optitherm**™ SN
mean roller wave length: 0.05mm
Maximum edge dip: 0.25mm
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.

Hole drilling – rectangles

Diameter: 34mm ±1mm
Diameter: 19mm ±1mm Countersunk
Position: Normally 60mm from glass edge at corners and sometimes along edge. Other configurations subject to confirmation.
Tolerance: ±2mm from one datum point.
Number: Up to 10

Toughening stress

Thermally toughened soda glass silicate safety glass to EN 12150. Classified as 1 (C) 1 to 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 eg. EN 14179-1.

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.

Visual quality

Distortion

Pilkington **Planar**™ IGUs are manufactured from two Pilkington T glass Plus 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 3m 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 should be sought prior to application.

This publication gives a general description of the product and materials. It is the responsibility of the users of this document to ensure that the proposed application of the product is appropriate and that such application complies with all relevant local and national legislation, standards, codes of practice and other requirements. To the extent allowed by law, Pilkington United Kingdom Limited, hereby disclaims all liability howsoever arising from any error in or omission from this publication and all consequences of relying on it.



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