

Pilkington **Pyroclear**[®]

Fire Test Summary

For timber door sets and glazed screens
30 and 60 minutes integrity



Pilkington **Pyroclear**[®] in Single Leaf, Single Acting Timber Doorset with Fanlight and Glazed Side Screen for 30 minutes integrity

Pilkington **Pyroclear**[®] is a clear, monolithic, high performance fire-resistant glass providing integrity with impact resistance for screens and doors.

30 minutes integrity – monolithic

Test reference:

RF 11150

Test laboratory:

Chiltern International Fire Ltd

Test date:

13th October 2011

Test sponsor:

Pilkington

Test standard:

BS EN 1634-1:2008 and BS EN 1363-1:1999

General description of the assembly:

- Pilkington **Pyroclear**[®] 30-001 (6 mm)
- Pane sizes – refer to summary of fire test evidence in timber
- Single leaf, single acting timber doorset with fanlight and glazed side screen

Key to figures 1 and 2

1. Door leaf stiles and rails – European Redwood (density 508 kg/m³) 100 mm x 45 mm thick
2. Framing – head, jambs, sidelight and fanlight - European Redwood (density 481 kg/m³) 80 mm x 44 mm thick Fixed with steel wood screws 100 mm long placed at 600 - 800 mm centres
3. Door stop – planted (pinned) - European Redwood (density 481 kg/m³) 20 mm wide x 12 mm thick
4. Lorient Polyproducts Ltd LP1504 Type 617, 15 x 4 mm (fitted centrally in the frame reveal)
5. Fibrefrax ceramic glazing tape, 20 x 5 mm – compressed to 3 mm (fitted between the glass and bead on both faces)
6. Pilkington **Pyroclear**[®] 30-001 (6 mm)
7. Glazing packers - Sapele 6 mm thick x 10 mm high x 40 mm long (fitted along the bottom edge of the glass in each aperture)
8. Beading (leaf) – Sapele (density 738 kg/m³), 25 mm high x 21 mm deep including 5 mm x 5 mm bolection return and 20° chamfer
9. Beading (fanlight and side screen) - Sapele (density 738 kg/m³), 20 high x 25 mm deep with a 20° chamfer
10. 50 mm long steel screws, fitted at nominally 70 mm in from corners, at 150 mm (max) centres at 45° to face of glass

Note: Full details of the test (including hardware) are available upon request.

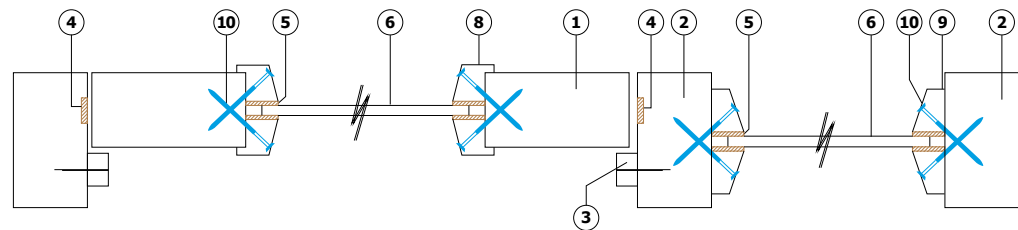


Figure 1: Horizontal section

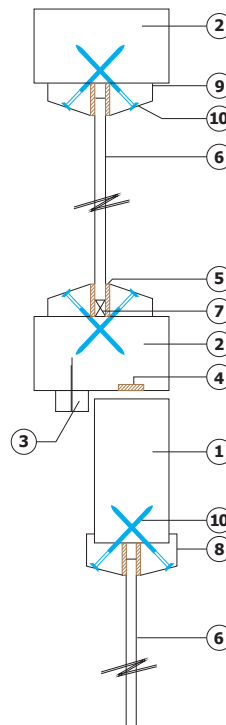


Figure 2: Vertical section

30 minutes integrity – Insulating Glass Unit

Pilkington **Pyroclear**[®] in a single leaf, single acting timber doorset with a fanlight and glazed side screen for 30 minutes integrity.

Test reference:

RF 12034

Test laboratory:

Chiltern International Fire Ltd

Test date:

22nd March 2012

Test sponsor:

Pilkington

Test standard:

BS EN 1634-1:2008 and BS EN 1363-1:1999

General description of the assembly:

- Pilkington **Pyroclear**[®] 30-361 (IGU), comprising 4 mm Pilkington **Optitherm**[™] S3 toughened outer pane, 6 mm airspace and Pilkington **Pyroclear**[®] 30-001 (6 mm) inner pane (exposed to the fire)
- Pane sizes – refer to summary of fire test evidence in timber
- Single leaf, single acting doorset
- Single leaf, single acting timber doorset with fanlight and glazed side screen

The glazing details are summarised in Tables 1-5.

Table 1: Door leaf – both doorsets

	Species/type	Dimensions (mm)
Stiles and rails	None fitted	–
Core	Falcon Panel Products Strebord particleboard (density 630 – 635 kg/m ³)	44 thick
Adhesives/lippings	PU	–
Lippings (vertical edges only)	Sapele (density 640 kg/m ³)	6 thick

Table 2: Framing – both doorsets, fanlight and side screen of doorset B

	Species/type	Dimensions (mm)
Head, jambs, sidelight and fanlight	European Redwood (density 510 kg/m ³)	80 deep x 44 thick
Door stop – planted (pinned)	European Redwood (density 510 kg/m ³)	20 wide x 12 thick
Frame fixings	Steel wood screws at 600 - 800 mm centres	100 long

Table 3: Intumescent materials – both doorsets

	Make/type	Size (mm)	Location
Door frame reveal – head and jambs	Lorient Polyproducts Ltd LP1504 Type 617	15 x 4	Fitted centrally in the frame reveal
Around glazing perimeter – leaf, fanlight and side screen	Fibrefrac ceramic glazing tape	20 x 3 (compressed to 20 x 2)	Fitted between the glass and bead on both faces
	Interdens	10 x 2	Fitted lining the glazing aperture

Table 4: Hardware – both doorsets

	Make/type	Size (mm)	Location
Hinges type hinge	3No Royde and Tucker H101 lift off	100 x 35 (blade size)	Fitted 148 mm, 988 mm and 1830 mm from the head of the leaf
Closer	Rutland TS3204 overhead type closer	220 x 59 (footprint size)	Fitted on the exposed face as per the manufacturer's instructions
Latch - disengaged	E*S Easi T tubular mortice latch	57 x 26 (forend size)	Fitted 1000 mm from the threshold of the leaf
		57 x 26 (keep size)	
Furniture	Aluminium lever type handle	100 x 38 (footprint size)	Fitted appropriate to the latch

Table 5: Glazing – both doorsets

	Overall aperture size (mm)	Glass size (mm)
Leaf	470 wide x 1020 high	450 wide x 1000 high
Fanlight – doorset B	930 wide x 470 high	910 wide x 450 high
Side screen – upper aperture	470 wide x 470 high	450 wide x 450 high
Side screen – middle and lower apertures	470 wide x 1020 high	450 wide x 1000 high
Edge clearance between glazing and frame	10 mm on all edges	
Glazing packers	Supalux 16 mm thick x 10 mm high x 40 mm long. Fitted along the bottom edge of the glass in each aperture (2 No per aperture)	
Beading	Sapele (640 kg/m ³ nominal density)	
Beading size – leaf	20 mm high x 17 mm deep including a 5 mm x 5 mm bolection return and a 20° chamfer	
Beading size – fanlight and side screen	20 mm high x 25 mm deep with a 20° chamfer	
Beading fixing	50 mm long steel screws, fitted at nominally 70 mm in from the corners, at 150 mm (max) centres at 45° to the face of the glass	

60 minutes integrity – monolithic

Pilkington **Pyroclear**® in a single leaf, single acting timber doorset for 60 minutes integrity.

Test reference:

RF 12077

Test laboratory:

Chiltern International Fire Ltd

Test date:

5th July 2012

Test sponsor:

Pilkington

Test standard:

BS 476: Part 22: 1987

General description of the assembly:

- Pilkington **Pyroclear**® 60-001 (6 mm)
- Pane sizes – refer to summary of fire test evidence in timber
- Single leaf, single acting timber doorset

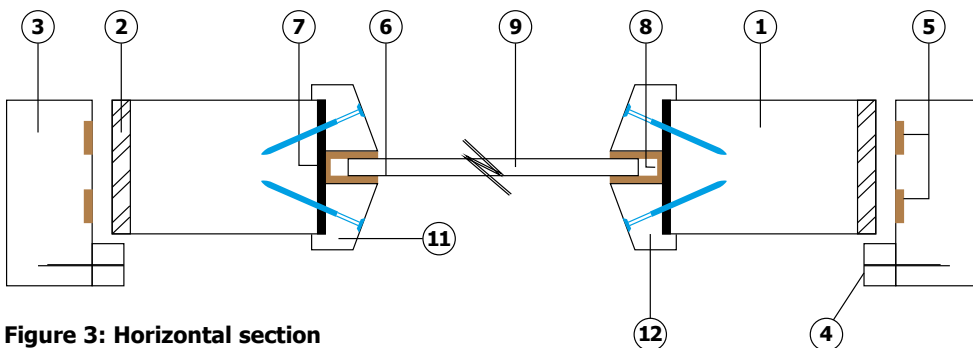


Figure 3: Horizontal section

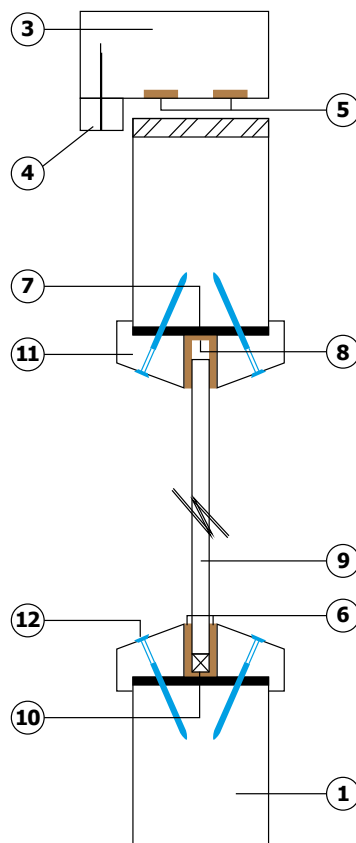


Figure 4: Vertical section

Key to figures 3 and 4

1. Door leaf core – Halspan Prima particleboard FD60 (density 630-635 kg/m³), 54 mm thick
2. Door leaf lippings – Sapele (density 640 kg/m³), 6 mm thick (vertical edges only)
3. Door frame (head and jamb) – Sapele (density 640 kg/m³), 32 mm thick x 70 mm deep
4. Door stop – planted (pinned) – Sapele (density 640 kg/m³), 12 mm thick x 16 mm wide
5. Loriet Polyproducts Ltd LP1504 Type 617, 15 x 4 mm (in frame reveal – head and jambs)
6. Kerafix Flexit, 20 x 5 mm (fitted between the glass and bead on both faces)
7. Mann McGowan Palusol ELSA 1000 glazing liner, 54 x 2 mm (lining glazing aperture)
8. Interdens 10 x 2 mm (lining glazing aperture between beads)
9. Interdens 10 x 2 mm (lining glazing aperture between beads) Pilkington **Pyroclear**® 60-001 (6 mm)
10. Interdens 10 x 2 mm (lining glazing aperture between beads) Setting block – Supalux, 8 mm high x 6 mm wide x 25 mm long (2 per pane, along the bottom edge)
11. Beading – Sapele (density 640 kg/m³), 25 mm high x 25 mm wide including 5 mm x 5 mm bolection return and 20° chamfer
12. 50 mm steel pins, fitted 50 mm from corners at 150 mm centres at 45° to face of glass

Note:

This doorset achieved 72 minutes integrity in testing.

Full details of the test (including hardware) are available upon request.

Summary of fire test evidence in timber

The fire test evidence for Pilkington **Pyroclear**[®] is summarised in Tables 6 and 7.

Table 6: 30 minutes integrity

Product	Test	Class	Application	Pane sizes (mm) ¹	Test reference
Pilkington Pyroclear [®] 30-001 (6 mm)	BS EN 1634-1 and BS EN 1363-1	E30 and EW30	SLD with top and side lights	467 x 2023 (P) 1450 x 605 (L) 710 x 1850 (D)	RF 11150_A
Pilkington Pyroclear [®] 30-001 (6 mm)	BS EN 1634-1 and BS EN 1363-1	E30	SLD with top and side lights	1000 x 2013 (P) 710 x 1750 (D)	RF 11177
Pilkington Pyroclear [®] 30-361 (IGU) ²	BS EN 1634-1 and BS EN 1363-1	E30 and EW30	SLD and SLD with top and side lights	450 x 1000 (P) 910 x 450 (L)	RF 12034 450 x 1000 (D)

Notes:

¹ For pane sizes: P = portrait, L = landscape and D = door

² Pilkington **Pyroclear**[®] 30-361 (IGU) comprises 4 mm Pilkington **Optitherm**[™] S3 (toughened) outer pane, 6 mm airspace and Pilkington **Pyroclear**[®] 30-001 (6 mm) inner pane

Table 7: 60 minutes integrity

Product	Test	Class	Application	Pane sizes (mm)	Test reference
Pilkington Pyroclear [®] 60-001 (6 mm)	BS 476: Part 22	60 minutes integrity	3 single leaf single acting doorsets	200 x 1000 (Door A) 300 x 1200 (Door B) 300 x 1200 (Door C)	RF 12077

For fire test evidence in steel glazing systems, please refer to Fire Test Summary for Pilkington **Pyroclear**[®] in steel frames.

Safety

Pilkington **Pyroclear**[®] is classified as a 1 (C) 1 safety glass according to BS EN 12600 and has been tested in accordance with BS EN 1363-1, BS EN 1364-1 and BS 476 : Part 22: 1987 for fire-resistance.

General

Glazing must be installed fully in accordance with Pilkington tested details and installation requirements, particularly with respect to edge cover and expansion tolerances.

For guidance on installation, please refer to Pilkington **Pyroclear**[®] Glazing and Handling Guidelines for Fire-resistant Glass.

For technical advice on the Pilkington range of fire protection glass, please refer to **www.pilkington.com/specifire** or contact us by telephone on **01744-69-2000** or email at **pilkington@respond.uk.com**

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