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Fire resistance test report

Issuing laboratory: Warringtonfire Testing and Certification Limited

Test standard:	BS EN 1634-1:2014+A1:2018
Test sponsor:	Wood International Agency Limited
Product:	WIAD-FBK44-ITT-684-A30-P1
Report number:	WF535889
Test date:	23 August 2023
Version:	1

Warringtonfire, accredited for compliance with ISO/IEC 17025:2017 – Testing

Approved Body Number 1314

Quality management

Version	Date	Information about the report		
1	25 March 2024	Description	Initial issue	
			Prepared by	Authorised by
		Name	Christopher Mitchell	Dr Vic Kearley
		Signature	DocuSigned by: 81AF8765BF014F4...	DocuSigned by: BD42E1D79327418...

Signed for and on behalf of Warringtonfire Testing and Certification Limited

Executive summary

This report documents the findings of the fire resistance test of a doorset in accordance with BS EN 1634-1:2014+A1:2018 as described in Table 3.

Warringtonfire Testing and Certification Limited (Warringtonfire) performed the test on 23 August 2023 at the request of Wood International Agency Limited.

Table 1 provides a summary of the test specimen, Table 2 gives details of the supporting construction and Table 3 describes the summary of the test results.

Table 1 Test specimen

Item	Detail	Opening direction
Doorset	Two single leaf, single acting timber doorsets with vision panels within a system containing a fanlight and sidelight	Towards the furnace
Latching conditions	Left Leaf - Multi-point latch engaged; Lock disengaged. Right Leaf - Latch disengaged, bottom lock disengaged, top lock disengaged	

Table 2 Supporting construction

Item	Detail		
Supporting construction	140 mm thick low-density concrete wall with a low-density concrete lintel at the head.		
Dimensions	Width	3000 mm	
	Height	3000 mm	
	Thickness	140 mm	
Aperture dimensions		**Width**	**Height**
	Doorset	2560 mm	2790 mm
Restraint conditions	Restrained on all edges		

Table 3 Summary of test results

Item	Criteria		Results
Doorset	Integrity		39 (thirty-nine) minutes
	Insulation I_2	Left Leaf and Frame	39 (thirty-nine) minutes*
		Left Leaf Vision Panel	29 (twenty-nine) minutes
		Right Leaf and Frame	39 (thirty-nine) minutes*
		Right Leaf Vision Panel	11 (eleven) minutes
		Fanlight	10 (ten) minutes
		Sidelight	10 (ten) minutes
	Radiation		Refer to Appendix C.5 Heat flux measurements
Notes:			
The test results for the specimen only apply to the tested orientation. The test was discontinued after 44 minutes. '*' indicates failure due to integrity failure.			

Contents

1. Introduction

This report documents the findings of the fire resistance test of a doorset in accordance with BS EN 1634-1:2014+A1:2018.

Warringtonfire performed the test on 23 August 2023 at the request of the test sponsor listed in Table 4.

Table 4 Test sponsor(s) details

Test sponsor(s)	Address
Wood International Agency Limited	Wood House 16 King Edward Road Brentwood Essex CM14 4HL United Kingdom

2. Test specimen and supporting construction

2.1 Drawings of test assembly

The description of the test specimen and supporting construction are detailed in Section 2.2 and illustrated in Figure 1 to Figure 6. All measurements are in millimetres – unless indicated otherwise.

The drawings were supplied by the test sponsor and verified by Warringtonfire (unless stated otherwise in Section 2.2).

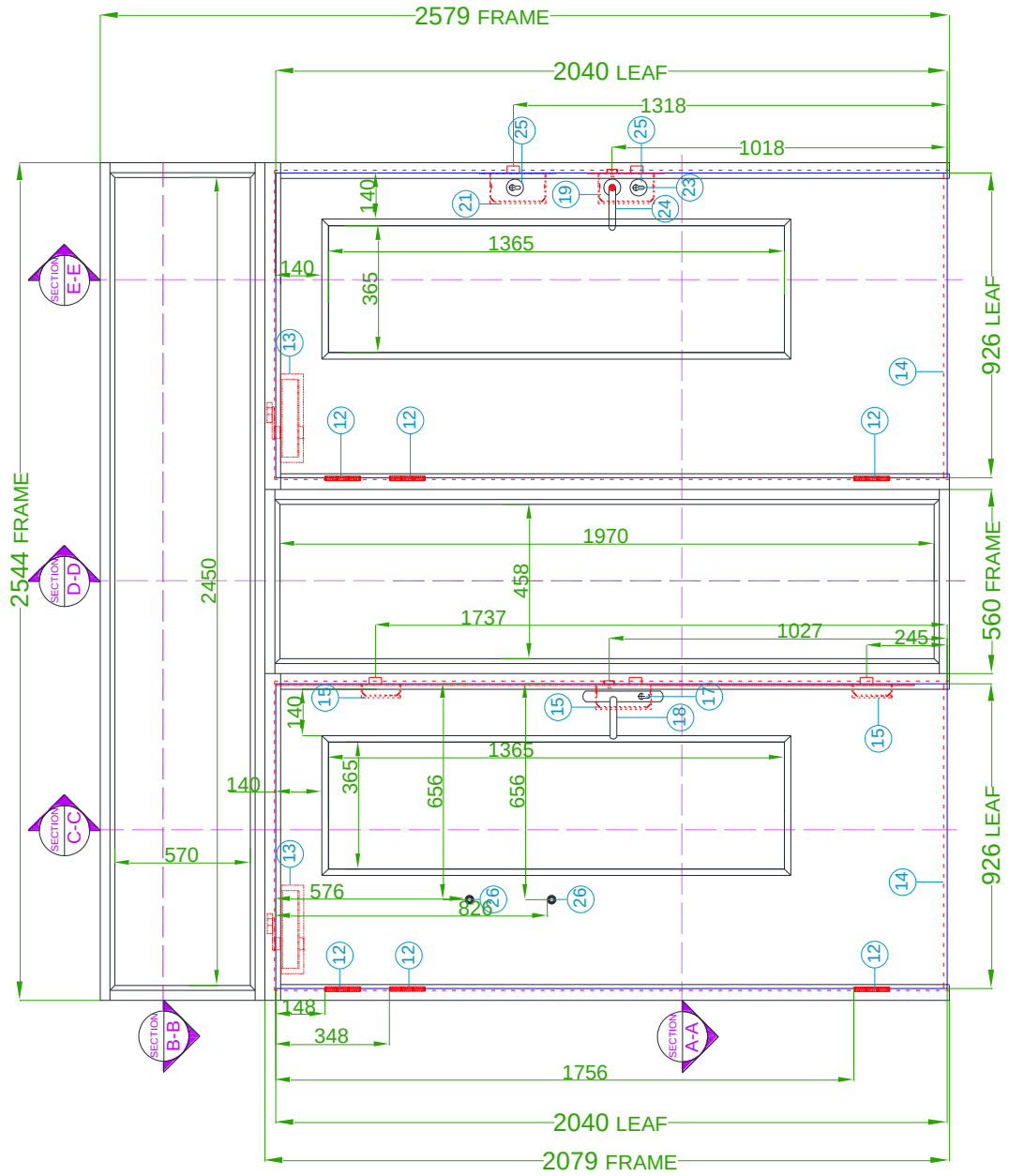

Figure 1 View of test specimen (unexposed side)

Do not scale. All dimensions in mm.

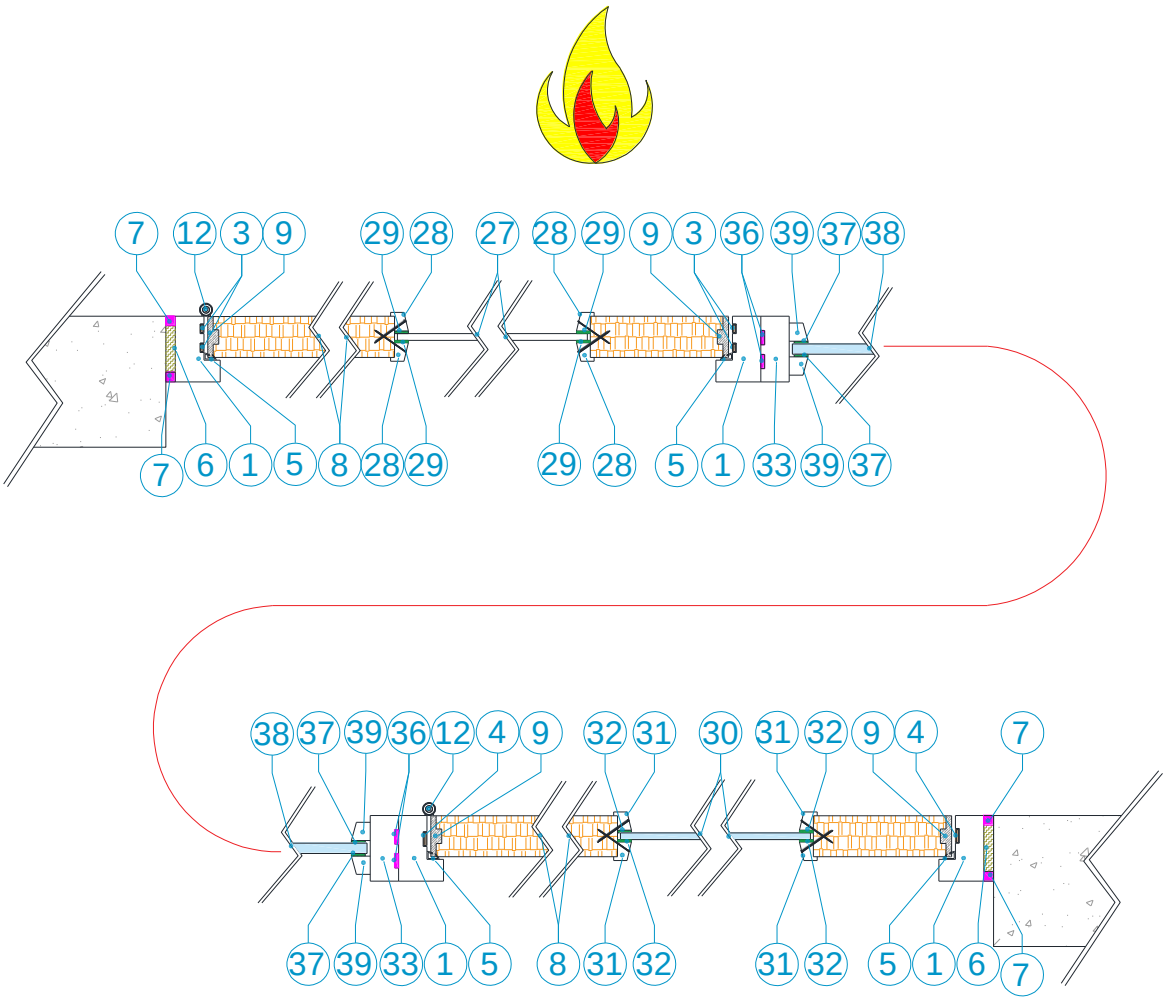

Figure 2 Horizontal Cross-Section A-A

Do not scale.

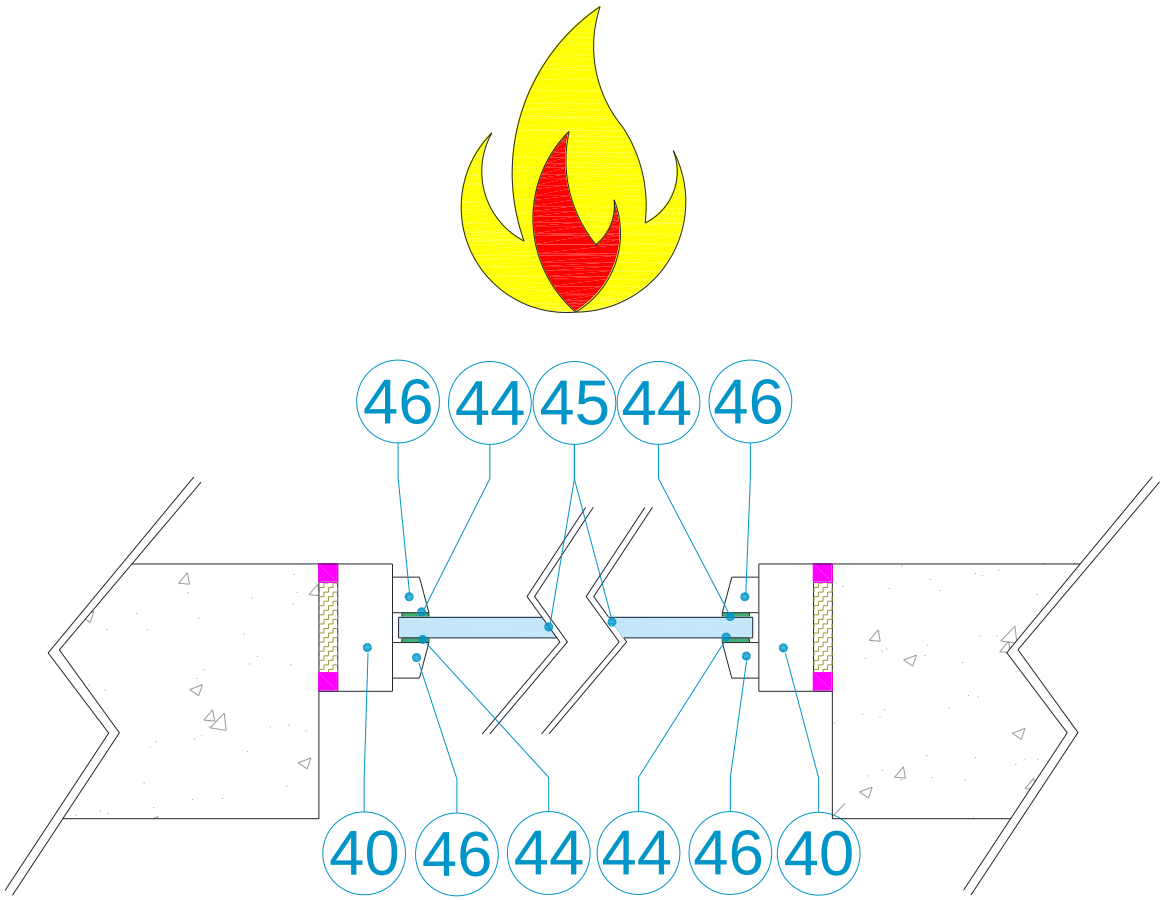

Figure 3 Horizontal Cross-section B-B

Do not scale.

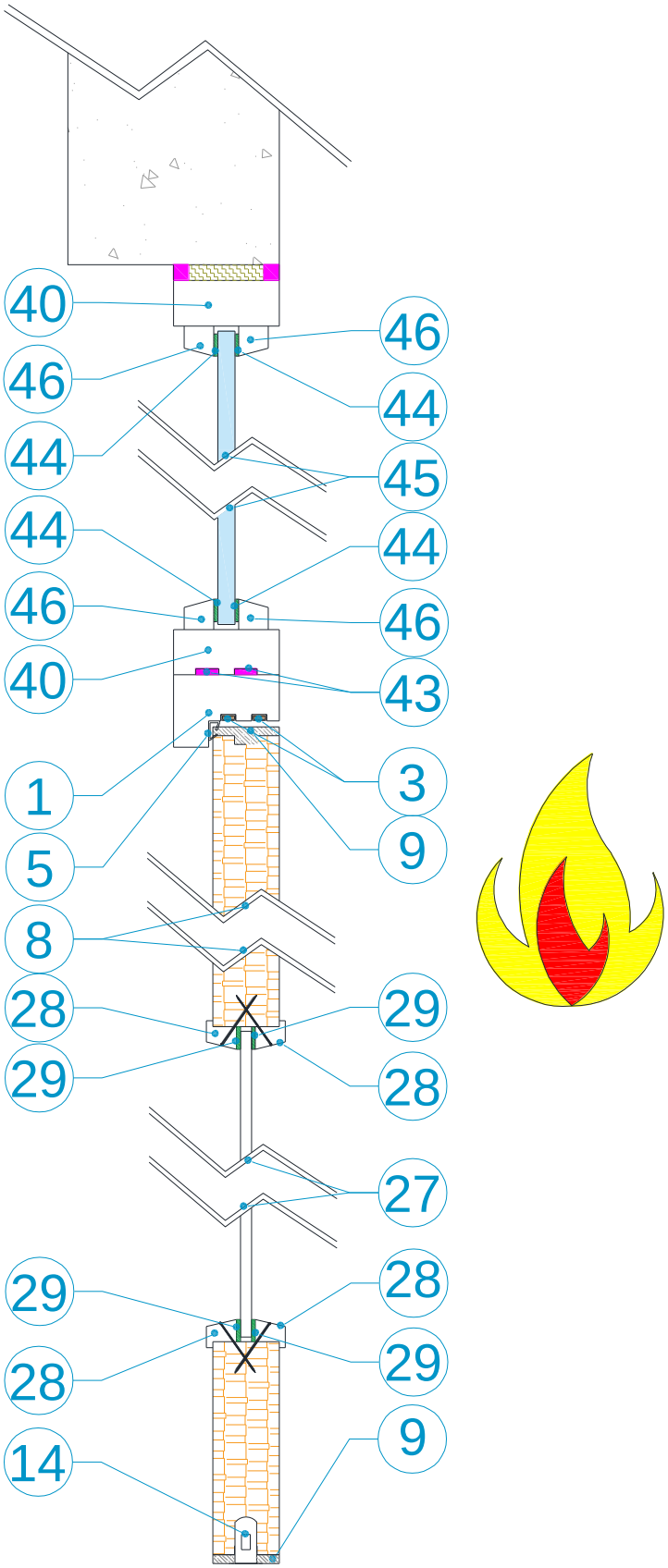

Figure 4 Vertical Cross-section C-C

Do not scale

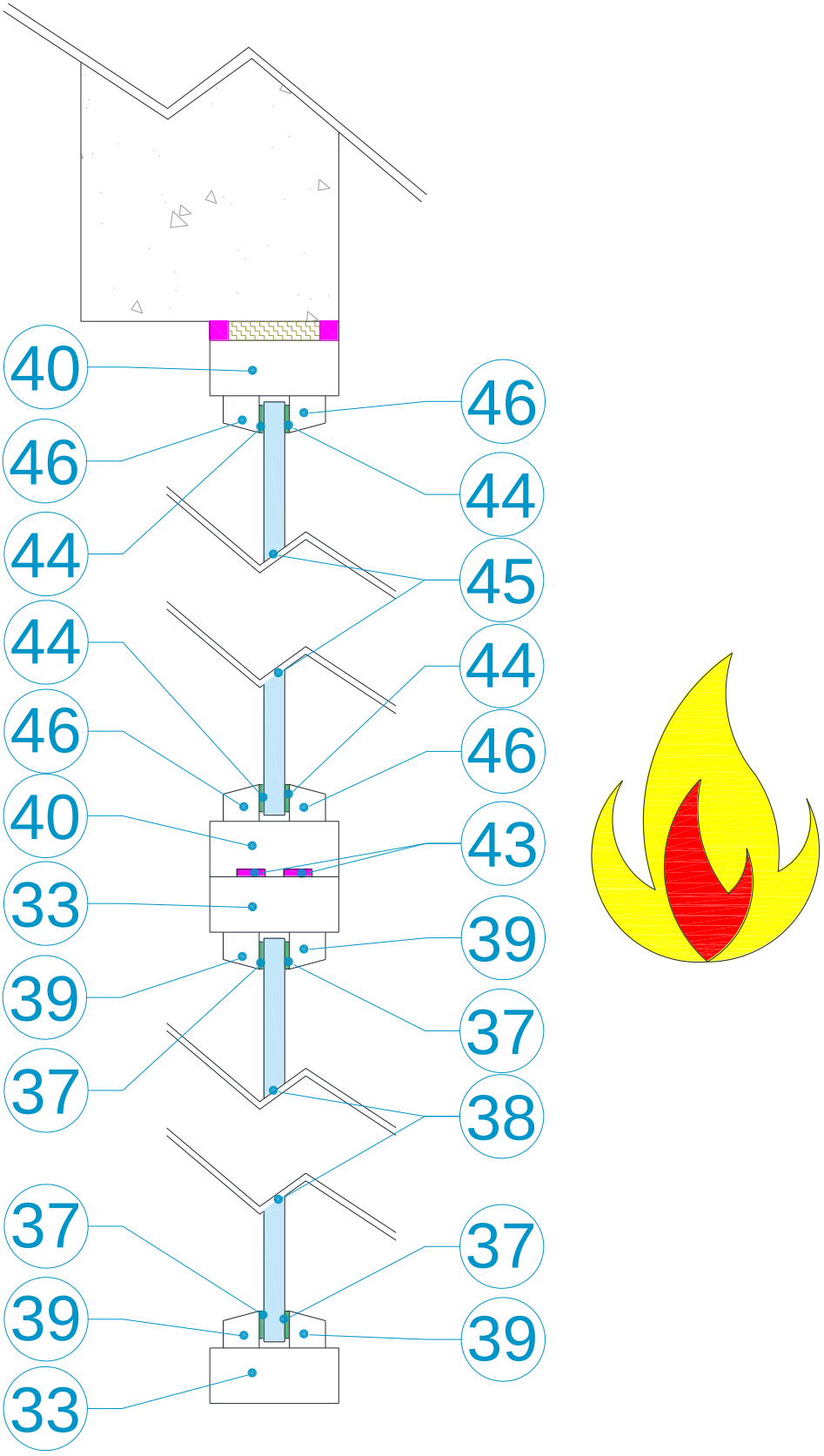

Figure 5 Vertical Cross-section D-D

Do not scale.

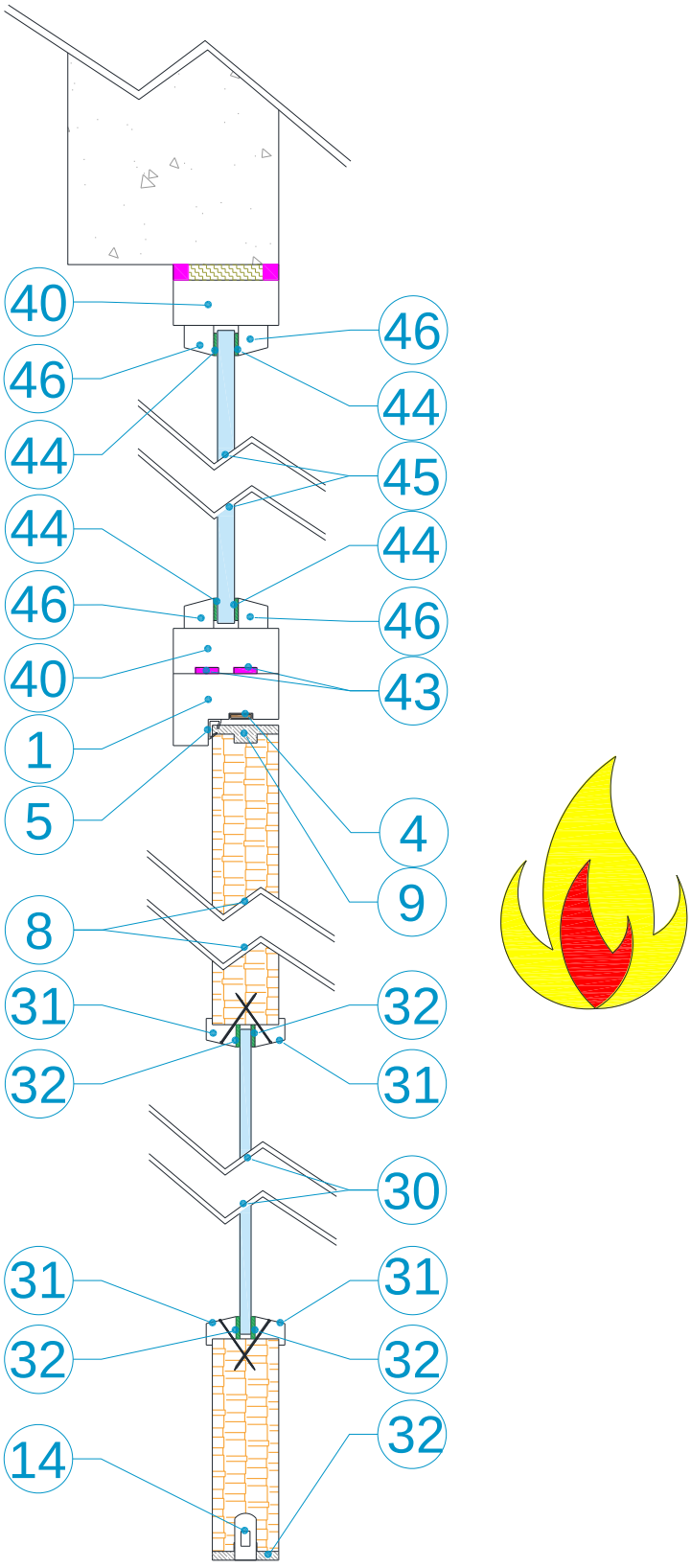

Figure 6 Vertical Cross-section E-E

Do not scale.

2.2 Schedule of components

Table 5 details the schedule of components which describes the test specimen and lists the components used in the construction of the test specimen. These were provided by the test sponsor and surveyed by Warringtonfire.

All measurements were verified by Warringtonfire or BMTRADA at sampling unless stated otherwise in the schedule of components. All components marked with an "*" have not been verified by Warringtonfire or BMTRADA.

Table 5 Schedule of components

Door frame for left and right doors

1. Door frame	
Manufacturer	Sentry Doors
Reference	N/A
Material	Engineered European Redwood
Density	Approximately 510 kg/m^3*
Moisture content at test lab	15%
Overall size	
• Frame (Head)	70 mm wide x 48 mm thick with a 47 mm wide x 18 mm deep rebate
• Frame (Jambs)	70 mm wide x 48 mm thick with a 47 mm wide x 18 mm deep rebate
• Stop	Integral 23 mm wide x 18 mm deep
Jamb to Head jointing method, fixing detail and location	30 x 10 Mortice & Tenon to heads, 2 No. 12g (6.0mm) x 4" (100) Woodscrews per joint
Stop to Frame jointing method, fixing detail and location	Integral
Presence of Adhesives	Yes
• Manufacturer	Bondloc
• Type	PVA
• Reference	D4
• Curing method	Air Cured
• Application method	Nozzle applied to tenons & screw holes

2. Frame Fixing Method to Supporting Construction	
Manufacturer	SPIT
Reference	B-Long
Type & material	Type F
Overall size	8 mm Ø x 100 mm long
Spacing from the bottom of the door frame	90 mm, 565 mm, 1035 mm, 1510 mm, and 2015 mm
Does the fixing penetrate intumescent seal within frame reveal	No
Packing Material	Softwood timber
Packing Material Dimension	100 mm long x 43 mm wide x various thicknesses totalling 4 – 20 mm
Packing Material Location	above fixing screws
3. Intumescent to frame reveal for the left door	
Quantity	2 No.
Manufacturer	Lorient Polyproducts
Reference	Type 617 10 x 4
Material	PVC Encased Sodium Silicate
Overall section size	10 mm wide x 4 mm thick
Application method	Self-Adhesive
Location (relative to the opening face of the door leaf)	7 mm and 27 mm
Presence of Adhesives	Yes – integral to the seal
4. Intumescent to frame reveal for the right door	
Quantity	1 No.
Manufacturer	Lorient Polyproducts
Reference	Type 617 15x4
Material	PVC Encased Sodium Silicate
Overall section size	15 mm wide x 4 mm thick
Application method	Self-Adhesive
Location (relative to the opening face of the door leaf)	17 mm
Presence of Adhesives	Yes – integral to the seal
5. Smoke seal to frame reveal	
Manufacturer	Schlegal
Reference	Aquamac 21
Material	Polyurethane foam/Polyethylene film/Polypropylene insert *
Overall section size	10.9 mm wide x 13.3 mm thick (6 mm up the upstand of the stop) *
Application method	Knocked into 5.5 x 3 mm groove - Friction
Location	4 mm up the upstand of the stop, Head full length, jambs butted up
Presence of Adhesives	No

Fire stopping

6. Frame to supporting construction fire stopping detail	
Manufacturer	Rockwool
Reference	Flexi
Material	Mineral wool
Overall dimension	4 – 20 mm wide x full depth of frame allowing for 10 mm mastic cap on each face
Application method	Stuffed
7. Sealant to fire stopping detail	
Manufacturer	Mann McGowan
Reference	Pyromas A
Material	Intumescent acrylic sealant
Overall section size	4 – 20 mm wide x 10 mm deep
Application method	Gun
Location	Around perimeter of frame between supporting construction on both faces

Door leaf for left and right doors

8. Door Leaf	
Manufacturer (blank)	Pacific Rim Wood Ltd
Reference	Flamebreak 430
Quantity of leaves on doorset	1
Glazing location relative to the head and closing edge	150 mm from the head of the leaf and 150 mm from the closing edge of the leaf
Overall leaf size prior to trimming	926 mm wide x 2040 mm high x 44 mm thick
Overall leaf size supplied for testing	926 mm wide x 2040 mm high x 44 mm thick
Location trimming was performed and by how much	None (Pre-lipped blank)

9. Lippings / Edge banding	
Manufacturer	Pacific Rim Wood Ltd
Reference	N/A
Material	Tropical Hardwood*
Density	Nominally 640 kg/m^3*
Moisture content at test lab	Left Door – 10%, Right Door – 11%
Overall size	44 mm wide x 8 mm thick with a T-shape lip of 25 mm wide x 6 mm thick
Fixing method	Glued*
Location	All 4 edges
Presence of Adhesives	Yes*
• Manufacturer	N/A*
• Type	PVA
• Reference	PC3202
• Curing method	Details held on file by Warringtonfire*
• Application method	Details held on file by Warringtonfire*
Presence of Mechanical Fixings	No*
10. Q-Mark Fire Door Plug	
Manufacturer	Supply by BM TRADA
Reference	Q-Mark fire door plug
Material	Plastic
Overall size	9 mm Ø x 20 mm deep
Position	270 mm and 310 mm from head (Between Hinge 1 and 2)
11. Data Tag	
Manufacturer	Door Data Systems*
Reference	Data Tag*
Material	Plastic with integral NFC Tag*
Overall size	38mm long, 6mm Ø shaft with 8mm Ø head (tapered over 3mm)*
Position	700 mm from top of leaf

Hardware for left and right doors

12. Hinges	
Supplier	Arrone
Reference	AR8182
Quantity	3 No. Per Leaf
Primary material	Stainless Steel*
Type	Ball bearing butt hinge
Overall Size	
• knuckle	14 mm Ø x 107 mm high
• blades	30 mm wide x 102 mm high x 3 mm thick
Fixings	
• type	Woodscrews
• material	Stainless Steel*
• sizes	4.5 mm Ø x 32 mm long
• number off per blade	4
Position of each hinge relative to the head of the leaf	148 mm, 348 mm, 1756 mm
Details of intumescent protection	1 mm graphite - Norseal NOR910-100x30R
Interruptions to Intumescent within the frame reveal	Left Door: 1st is partially interrupted leaving 6 mm remaining, 2nd seal is fully interrupted. Right Door: Seal is partially interrupted leaving 2 mm remaining
13. Door Closer	
Manufacturer	Arrone
Reference	AR1500 Overhead Closer
Material	
• Body	Aluminium*
• Closer arm	Stainless Steel*
• Cover	Stainless Steel*
Configuration	Fig 1
Overall size	
• Body	248 mm long x 45 mm deep x 53 mm high
• Cover	68 mm high x 254 mm wide x 57 mm deep
Fixing method	Woodscrews to pull face*

14. Drop Down Seal	
Manufacturer	Norseal
Reference	NOR810
Material	
• Body	Aluminium*
• Seal	Silicone*
• Face plate	Steel*
Overall size	
• Body	35 mm high x 14 mm wide
• Face plate	60 mm high x 22 mm wide x 1 mm thick
Fixing method, type and locations	Rebated, Screw Fixed
Location within leaf	Central to bottom of leaf
Maximum operating drop	20mm*

15. Lockset / Latch for the left door	
Manufacturer	Winkhaus
Reference	AV2
Material	
• Lockcase	Steel*
• Forend plate	Steel*
• Latch bolt	Steel*
• Lock bolt	Steel*
• Top and bottom lock case	Steel*
• Top and bottom lock bolts	Steel*
Overall sizes	
• Central Lockcase	185 mm high x 15 mm wide x 60 mm deep
• Forend plate	1985 mm high x 20 mm wide x 3 mm thick
• Latch bolt	30 mm high x 10 mm wide x 10 mm projection
• Lock bolt	30 mm high x 6 mm wide x 20 mm single projection
• Top and bottom lock case	114 mm high x 15 mm wide x 45 mm deep
• Top and bottom lock bolts	50 mm high x 8 mm wide x 24 mm projection
Fixing method	14 No. Screws 3.8 mm Ø x 32 mm long
Operation of latch bolt	Handle
Operation of lock bolt	Key
Operation of Top and bottom lock bolts	Auto-firing
Details of intumescent protection	
• Central lockcase	Lorient MAP – 1.0 mm on cheeks and edges
• Top and bottom lock case	Lorient MAP – 1.0 mm on cheeks and edges
• Forend plate	None
Location of centre of the bolts relative to the bottom of the leaf	Latch: 1027 mm. Lock: 939 mm. Top: 1737 mm. Bottom: 245 mm.

16. Keeps for the left door	
Manufacturer	Winkhaus
Reference	Centre – T-SB FR F24-908W R12 U R8 MC Bottom & top – T-SB AV2 F24-908 W G R12 SKG MV MC
Material	
• Centre Strike Plate and Keep	Steel*
• Top and Bottom Strike Plate and Keep	Steel*
Overall sizes	
• Centre Strike Plate	55 mm high x 14 mm wide x 3 mm thick
• Centre Keep Plate	236 mm high x 24 mm wide x 3 mm thick
• Top and Bottom Strike Plate	110 mm high x 14 mm wide x 3 mm thick
• Top and Bottom Keep Plate	177 mm high x 24 mm wide x 3 mm thick
Fixing method	
• Centre Strike Plate and Keep	Screw Fixed 3 No. 3.8 mm Ø x 32 mm long
• Top and Bottom Strike Plate and Keep	Screw Fixed 4 No. 3.8 mm Ø x 32 mm long
Details of intumescent protection	
• Centre Strike Plate and Keep	Lorient MAP – 1.0 mm on cheeks and edges of backboxes
• Top and Bottom Strike Plate and Keep	Lorient MAP – 1.0 mm on cheeks and edges of backbox
Interruptions to Intumescent within the frame reveal	
• Centre Strike Plate and Keep	1st seal fully interrupted 2nd seal fully interrupted
• Top and Bottom Strike Plate and Keep	1st seal fully interrupted 2nd seal fully interrupted
17. Cylinder with thumbturn for the left door	
Manufacturer	Ultion
Reference	DCBSW3535DT-R177
Material	Nickel and Brass*
Overall size	33 mm high x 17 mm wide x 70 mm long with a 35 mm high x 11 mm wide x 38 mm projection thumb

18. Lever handles for the left door	
Manufacturer	Hoppe
Reference	Atlanta M1530M/3259N-ZA/384N-1 Security set on narrow backplate (TS007 2*)
Material	Brass – chrome plated*
Overall size	242 mm high x 32 mm wide x 15 mm thick with 127 mm long x 23 mm Ø handle. Total projection of 71 mm
Fixing method, fixing material, sizes, quantity and location	M6 x 65mm long machine screw (top of handle through fixing into external backplate) M10mm x 55mm long sleeve with M6 female end (Leaf through fixing into external backplate) M6 x 31mm long machine screw (Bottom of handle through fixing into sleeve)
Details of intumescent protection	None
19. Centre Lockset for the right door	
Manufacturer	Arrone
Reference	AR8004
Material	
• Lockcase	Steel*
• Forend plate	Steel*
• Latch bolt	Steel*
• Lock bolt	Steel*
Overall sizes	
• Central Lockcase	108 mm high x 17 mm thick x 67 mm deep
• Forend plate	156 mm high x 25 mm wide x 3 mm + 1 mm thick cover plate
• Latch bolt	19 mm high x 14 mm wide x 14 mm projection
• Lock bolt	32 mm high x 11 mm wide x 15 mm projection
Fixing method	2 No. 4.0 mm Ø x 25 mm long Screws
Operation of latch bolt	Handle
Operation of lock bolt	Key
Details of intumescent protection	
• Central lockcase	Lorient MAP 1 mm on cheeks and edges
• Forend plate	None
Location of centre of the bolts relative to the bottom of the leaf	Latch: 1018 mm. Lock: 1318 mm.

20. Central keep for right door	
Manufacturer	Arrone
Reference	AR8004
Material	Steel*
Overall sizes	
• Centre Strike Plate	105 mm high x 10 mm wide x 4 mm thick*
• Centre Keep Plate	155 mm high x 29 mm wide x 4 mm thick*
Fixing method	2No. 4.0 mm Ø x 25 mm long Screws
Details of intumescent protection	None
Interruptions to Intumescent within the frame reveal	Fully interrupted
21. Top Lockset for right door	
Manufacturer	Carlisle Brass
Reference	LFB2SSS
Material	Steel*
• Lockcase	Steel*
• Forend plate	Steel*
• Lock bolt	Steel*
Overall sizes	
• Central Lockcase	81 mm high x 16 mm thick x 106 mm deep
• Forend plate	118 mm high x 23 mm wide x 2 mm thick
• Lock bolt	27 mm high x 11 mm wide x 13 mm projection
Fixing method	2No. 3.1 mm Ø x 23 mm long Screws
Operation of lock bolt	Key
Details of intumescent protection	
• Lock case	Lorient MAP 1 mm on cheeks and edges
• Forend plate	Lorient MAP 1 mm
Location of centre of the bolt relative to the bottom of the leaf	1318 mm
22. Top Keep for right door	
Manufacturer	Carlisle Brass
Reference	LFB2SSS
Material	Steel*
Overall sizes	89 mm high x 25.5 mm wide x 1.5 mm thick
Fixing method	2No. 4.0 mm Ø x 25 mm long screws
Details of intumescent protection	Lorient MAP 1 mm
Interruptions to Intumescent within the frame reveal	Fully interrupted

23. Cylinder with thumbturn for the right door	
Manufacturer	Ultion
Reference	DCBSW3535DT-R177
Material	Nickel and Brass*
Overall size	33 mm high x 17 mm wide x 70 mm long with a 35 mm high x 11 mm wide x 38 mm projection thumb
24. Lever handles for the right door	
Manufacturer	Arrone
Reference	AR961/60-SP-SSS
Material	304 Stainless Steel
Overall size	54 mm Ø x 6 mm Rose, 19 mm Ø x 140 mm long x 57 mm projection handle (RTD)
Fixing method, fixing material, sizes, quantity and location	Steel Bolt through fixings: M6 x 65mm long machine screw (top of handle through fixing into external backplate) M10mm x 55mm long sleeve with M6 female end (Leaf through fixing into external backplate) M6 x 31mm long machine screw (Bottom of handle through fixing into sleeve)
Details of intumescent protection	None
25. Escutcheon for the right door	
Manufacturer	Arrone
Reference	Central lockset (Arrone Din Sashlock): AR961/67-SSS Top Lockset (Carlisle Brass FB2 Lock): AR961/66-SSS
Material	304 Stainless Steel
Overall size	52 mm Ø x 6 mm thick
Location	Around the central cylinder and over the cylinder hole for the top lockset
Fixing method	2No. 3.7 mm Ø x 16 mm long screws Screw fixed backplate with Tension Fit bezel
Details of intumescent protection	None

26. Door viewer for the left door	
Quantity	2 No.
Manufacturer	UAP
Reference	2No. SWALF
Material	PVD Brass*
Overall size	
• Body	14 mm Ø x 55 mm long
• Footprint	23 mm Ø x 4 mm thick to internal face, 27 mm Ø x 8 mm thick to external face
• Cut out	16 mm Ø
Fixing method	Self-thread
Location	576 mm from the top of the leaf and 656 mm from the closing edge of the leaf to the centre of the aperture 826 mm from the top of the leaf and 656 mm from the closing edge of the leaf to the centre of the aperture
Details of intumescent protection	1 mm As supplied

Glazing for the left door

27. Double glazed unit / Glass	
Manufacturer / Supplier	AGC / Fire Glass North
Reference (Declaration of Performance)	Pyrobelite 9EG
Unit overall size	400 mm wide x 1400 mm high
Aperture location relative to the head and closing edge of the leaf	100 mm from the head of the leaf and 150 mm from the closing edge of the leaf
Aperture size (prior to any lining)	406 mm wide x 1406 mm high
Sight size	365 mm wide x 1365 mm high
Expansion allowance	3 mm all round
Presence of Timber aperture lining	No
28. Beading	
Manufacturer	WIAL
Reference	Bolection bead
Material	Sapele*
Density	Nominal 640 kg/m^{3}*
Moisture content at test lab	15%
Overall size	19.5 mm wide (Including bolection) x 15.75 mm high + 3.8 mm wide x 3.65 mm deep bolection and 15-degree chamfer
Fixing method, fixing material and sizes	50 mm x 16g Finish Nails
Fixing distances from corners, centres and angle relative to the face of the glass	50 mm from corners, 200 mm centres and at 35(+/-5) ° to the face of the glass

29. **Sealant applied to glass on both faces of the leaf**	
Manufacturer	Sealed Tight Solutions
Reference	STS 104SG
Material	STS Glazing Graphite & Nitral cap*
Overall size	10x2 graphite plus fin and casing making the overall extrusion 15x7*
Application method	Hand applied, mitred corners. Back of beads between bead and glass Self-adhesive (Integral with seal)

Glazing for the right door

30. Double glazed unit / Glass	
Manufacturer / Supplier	AGC
Reference (Declaration of Performance)	7 mm Pyrobelite
Unit overall size	400 mm wide x 1400 mm high
Aperture location relative to the head and closing edge of the leaf	100 mm from the head of the leaf and 150 mm from the closing edge of the leaf
Aperture size (prior to any lining)	406 mm wide x 1406 mm high
Sight size	360 mm wide x 1360 mm high
Expansion allowance	3 mm all round
Presence of Timber aperture lining	No
31. Beading	
Manufacturer	Sentry Doors
Reference	Hockey stick bead
Material	Sapele*
Density	Nominal 640 kg/m^3*
Moisture content at test lab	14%
Overall size	25 mm wide x 20 mm deep + 4 mm wide* x 7 mm deep bolection* with a 15-degree chamfer*
Fixing method, fixing material and sizes	50 mm x 16g Finish Nails
Fixing distances from corners, centres and angle relative to the face of the glass	50 mm from corners, 200 mm centres and at 35(+/-5) ° to the face of the glass
32. Sealant applied to glass on both faces of the leaf	
Manufacturer	Sealed Tight Solutions
Reference	STS 104SG
Material	STS Glazing Graphite & Nitral cap*
Overall size	10x2 graphite plus fin and casing making the overall extrusion 15x7*
Application method	Hand applied, mitred corners. Back of beads between bead and glass Self-adhesive (Integral with seal)

Sidelight

33. Sidelight frame	
Manufacturer	Sentry (Material Supplied by WIAL)
Reference	70 x 30 PSE
Material	Softwood
Density	510 kg/m^3*
Moisture content	13% *
Overall size	2079 mm high x 560 mm wide
• Sidelight Head	70 mm wide x 30 mm thick
• Sidelight jamb	70 mm wide x 30 mm thick
Sidelight & Side panel Frame jointing method	Butt Joint
Details of fixings to Doorset or coupler	
• Type & material	Bondloc Glue (D4 PVA)
• Overall size	2No. x 5 Ø x 70 mm long Screws
• Spacing	10 mm from edges and counter sunk
• Does the fixing penetrate intumescent seal within frame reveal	No
Presence of sealants	No
34. Sidelight Frame Fixing Method to Supporting Construction	
Manufacturer	SPIT
Reference	B-Long
Type & material	Type F
Overall size	8 mm Ø x 100 mm long
Spacing	Stated as nominally 80 mm from each corner and stated at 472 mm centres
Does the fixing penetrate intumescent seal within frame reveal	No
Fixing location	Frame bottom into substrate.
35. Sidelight Frame Fixing Method to doorset	
Manufacturer	Goldscrew
Reference	PZ Double countersunk
Type & material	Single thread woodscrew
Overall size	4.5 mm Ø x 50 mm long screws under glazing
Spacing	Stated as nominally 50 mm from frame ends and 388 mm centres
Does the fixing penetrate intumescent seal within frame reveal	No
Fixing location	Frame jambs into door 1 and door 2 frames.

36. Intumescent to rear of sidelight frame	
Note	These intumescents were removed and the grooves filled with Mann McGowan Pyromas A Intumescent acrylic mastic
Location	Applied into grooves on the exterior of the frame section, to both Jambs
Location	2No. 15 mm wide x 4 mm deep grooves, 15 mm from Edge and 10 mm Centre
37. Seal to planted bead	
Manufacturer	Sealed Tight Solutions
Reference	STS 104SG
Material	STS Glazing Graphite & Nitral cap*
Overall section size	10x2 graphite plus fin and casing making the overall extrusion 15x7*
Application method	Hand applied, mitred corners
Location	Back of beads between bead and glass
Presence of Adhesives	Self-adhesive
38. Double glazed unit / Glass	
Manufacturer / Supplier	AGC / Fire Glass North Limited
Reference (Declaration of Performance)	7 mm Pyrobelite
Overall size	494 mm wide x 2013 mm high
Aperture size	500 mm wide x 2019 mm high
Sight size	460 mm wide x 1979 mm high
Expansion allowance	3 mm all around
39. Planted bead	
Manufacturer	Supplied by WIAL
Reference	Beading
Material	Sapele*
Density	594 kg/m^3
Moisture Content	9%*
Overall size	20 mm (w) x 15 mm (w) 15-degree chamfer
Fixing method	Cup and screw: 31 mm long x 3.6 mm Ø Screws with 13.5 mm Cups
Fixing distance from corners, centres and angle to face of the glass	70 mm from corners, 200 mm centres and at 15 ° to the face of the glass

Fanlight

40. Fanlight Frame	
Manufacturer	Sentry (Material Supplied by WIAL)
Reference	70 x 30 PSE
Material	Softwood
Density	Min 510 kg/m^3*
Moisture content	13%*
Overall size	2544 mm wide x 680 mm high
Fanlight Frame jointing method	Butt Joint
Details of fixings to Doorset or coupler	
• Type & material	Bondloc Glue (D4 PVA)
• Overall size	2No. x 5 mm Ø x 70 mm long Screws
• Spacing	10 mm from edges and counter sunk
• Does the fixing penetrate intumescent seal within frame reveal	No
Presence of sealants	No
41. Fanlight Frame Fixing Method to Supporting Construction	
Manufacturer	SPIT
Reference	B-Long
Type & material	Type F
Overall size	8 mm Ø x 100 mm long
Spacing from the bottom of the door frame	Stated as nominally 80 mm from each corner and stated at 472mm centres
Does the fixing penetrate intumescent seal within frame reveal	No
Fixing Location	Frame jambs and head into substrate
42. Fanlight Frame Fixing Method to doorset	
Manufacturer	Goldscrew
Reference	PZ Double countersunk
Type & material	Single thread woodscrew
Overall size	4.5 mm Ø x 50 mm long screws under glazing
Spacing	Stated as nominally 50 mm from frame ends and 388 mm centres
Does the fixing penetrate intumescent seal within frame reveal	No
Fixing location	Frame jambs into door 1 and door 2 frames.

43. Intumescent to rear of fanlight frame	
Note	These intumescents were removed and the grooves filled with Mann McGowan Pyromas A Intumescent acrylic mastic
Location	Applied into grooves on the exterior of the frame section, to both Jambs
Location	2No. 15 mm wide x 4 mm deep grooves, 15 mm from Edge and 10 mm Centre
44. Seal to planted bead	
Manufacturer	Sealed Tight Solutions
Reference	STS 104SG
Material	STS Glazing Graphite & Nitral cap*
Overall section size	10x2 graphite plus fin and casing making the overall extrusion 15x7*
Application method	Hand applied, mitred corners
Location	Back of beads between bead and glass
Presence of Adhesives	Self-adhesive
45. Double glazed unit / Glass	
Manufacturer / Supplier	AGC / Fire Glass North Limited
Reference (Declaration of Performance)	7 mm Pyrobelite
Overall size	2478 mm (w) x 614 mm (h)
Aperture size	2484 mm (w) x 620 mm (h)
Sight size	2444 mm (w) x 580 mm (h)
Expansion allowance	3 mm all around
46. Planted bead	
Manufacturer	Supplied by WIAL
Reference	Beading
Material	Sapele*
Density	600 kg/m^3*
Moisture content	9%*
Overall size	20 mm deep x 15 mm wide 15-degree chamfer
Fixing method, fixing material and sizes	Cup and screw: 31 mm long x 3.6 mm Ø Screws with 13.5 mm Cups
Fixing distances from corners, centres and angle relative to the face of the glass	70 mm from corners, 200 mm centres and at 15 ° to the face of the glass

2.3 Supporting construction

Table 6 details the supporting construction used for this fire resistance test.

Table 6 Supporting construction

Item	Detail		
Supporting construction	140 mm thick low-density concrete wall with a low-density concrete lintel at the head.		
Dimensions	Width	3000 mm	
	Height	3000 mm	
	Thickness	140 mm	
Aperture dimensions		**Width**	**Height**
	Doorset	2560 mm	2790 mm
Restraint conditions	Restrained on all edges		

3. Test procedure

Table 7 details the test procedure for this fire resistance test.

Table 7 Test procedure

Item	Detail		
Test standard	The test was performed in accordance with BS EN 1634-1:2014+A1:2018.		
Product standard and/or EAD	N/A		
EGOLF agreements and/or recommendations	Certain aspects of some fire test specifications are open to different interpretations. EGOLF have identified a number of these areas and have agreed on resolutions which define a common agreement of interpretations between fire test laboratories that are members of the group. If such resolutions apply to this test, they have been followed.		
Deviations from test method	None		
Instrumentation and equipment	The instrumentation was provided in accordance with BS EN 1634-1:2014+A1:2018, BS EN 1363-1:2020, and where appropriate BS EN 1363-2:1999.		
Pre-test conditioning	The test specimen was subjected to normal laboratory temperatures and conditions between the completion of construction of the test specimen and the start of the test.		
Functionality test	Gap measurements	According to Clause 10.1.2 of BS EN 1634-1:2014+A1:2018, these measurements were completed before the start of the fire test. They are shown in Figure 29, Table 29 and Table 30 in Appendix C.	
	Operability test	According to Clause A.2.2 of BS EN 16034, the door(s) were subjected to a series of 25 opening and closing cycles of at least 90° for side-hung doorset(s).	
	Self-closing	According to Clause A.4 of BS EN 16034, the door(s) were subjected to 1 cycle which was completed.	
	Final setting	According to Clauses 10.1.4 of BS EN 1634-1: 2018 and A.2.2 of BS EN 16034, the door(s) were subjected to 1 cycle which was completed.	
Pre-test measurements		**Doorset A – left**	
	Opening force	45.7 N at the handle	
	Closing force	26.3 N at the handle	
	Closing speed	0.2 m/s	
		Doorset A - right	
	Opening force	54.2 N at the handle	
	Closing force	29.4 N at the handle	
	Closing speed	0.2 m/s	
Installation details	Delivery date of the test specimen		17 August 2023
	Start date for installation of test specimen		21 August 2023
	Completion date for installation of test specimen		22 August 2023
	Supporting construction constructed by		Representatives of Warringtonfire

Item	Detail		
	Doorset installed by	Representatives of the test sponsor	
Symmetry	Asymmetrical: • Left and right doors both opened into the furnace. The direction of exposure was decided by the test sponsor.		
Ambient laboratory temperature	Start of the test Minimum temperature Maximum temperature	19.3 °C 19.3 °C 20.4 °C	
Sampling / specimen selection	Appendix E includes the sampling report. A representative of BM Trada sampled and selected the following components of the tested specimen:		
	Product	**Date**	**Reference**
	WIAD-FBK44-ITT-684-A30-P1	**22/08/2023**	**SCT23230**

4. Test measurements and results

Table 8 summarises the results achieved by the test specimen against the performance criteria listed in BS EN 1634-1:2014+A1:2018 for the following parameters:

- Integrity – The specimen must retain its separating function, without causing either ignition of a cotton pad when applied or permitting the penetration of a gap gauge as specified in BS EN 1634-1: 2014 + A1:2018, or resulting in sustained flaming on the unexposed surface.
- Insulation (I_2) – The mean temperature rise (ΔTm) of the unexposed surface must not be greater than 140°C and the maximum temperature rise (ΔTM) must not be greater than 180°C, with the exception that the limit for temperature rise for any frame member or transom member adjacent to the leaf/leaves of the doorset or openable window must be 360°C. Insulation failure also occurs simultaneously with integrity failure as specified in BS EN 1634-1: 2014 + A1:2018.
- Radiation – Elements for which the radiation criteria is evaluated must be given by the time for the measured radiation to exceed the value of 5, 10, 15, 20, 25 kW/m² as specified in BS EN 1363-2: 1999.

If a temperature measurement device is defective, or has detached from the test specimen, the data is no longer given. From that moment on, the temperature measurements are taken by means of the roving thermocouple.

Appendix A includes observations of any significant behaviour of the specimen and details of the occurrence of the relevant performance criteria.

Appendix B details the location of the instrumentation used during the test.

Appendix C includes details of the measurements taken during the test.

Appendix D includes photographs of the test specimen before, during and after the test.

Appendix E includes the sampling report.

Table 8 Detailed test results

Criteria	Doorset
Integrity	**39 (thirty-nine) minutes**
Sustained flaming	43 (forty-three) minutes
Failure with gap gauge	No integrity failure for this criterion at the termination of the test
Cotton pad failure	39 (thirty-nine) minutes
Insulation area 1 (Left Leaf and Frame) Normal procedure – I_2	**39 (thirty-nine) minutes***
ΔTm = 140°C	No insulation failure for this criterion at the termination of the test
ΔTM = 180°C	No insulation failure for this criterion at the termination of the test
ΔTM = 360°C on the frame	No insulation failure for this criterion at the termination of the test
Insulation area 2 (Left Leaf Vision Panel) Normal procedure – I_2	**29 (twenty-nine) minutes**
ΔTm = 140°C	29 (twenty-nine) minutes
ΔTM = 180°C	36 (thirty-six) minutes
Insulation area 3 (Right Leaf and Frame) Normal procedure – I_2	**39 (thirty-nine) minutes***
ΔTm = 140°C	40 (forty) minutes**
ΔTM = 180°C	40 (forty) minutes**
ΔTM = 360°C on the frame	40 (forty) minutes**
Insulation area 4 (Right Leaf Vision Panel) Normal procedure – I_2	**11 (eleven) minutes**
ΔTm = 140°C	11 (eleven) minutes
ΔTM = 180°C	14 (fourteen) minutes
Insulation area 5 (Fanlight) Normal procedure – I_2	**10 (ten) minutes**
ΔTm = 140°C	10 (ten) minutes
ΔTM = 180°C	12 (twelve) minutes
ΔTM = 180°C on the frame	No insulation failure for this criterion at the termination of the test

Criteria	Doorset
Insulation area 6 (Sidelight) **Normal procedure – I_2**	**10 (ten) minutes**
ΔTm = 140°C	10 (ten) minutes
ΔTM = 180°C	13 (thirteen) minutes
ΔTM = 180°C on the frame	No insulation failure for this criterion at the termination of the test
Radiation	**Refer to Appendix C.5 Heat flux measurements**
Notes:	
The test results for the specimen only apply to the tested orientation. The test was discontinued after 68 minutes. '*' indicates failure due to integrity failure. '**' indicates this criterion no longer evaluated for insulation due to the right leaf being boarded up after 40 minutes.	

5. Application of test results

5.1 Field of direct application

BS EN 1634-1:2014+A1:2018 states that “The field of direct application may only be defined following the identification of classification(s)” and that “The field of (direct and, where applicable, extended) application should be included in the classification report”. For these reasons, the field of direct application in is not covered by this test report.

5.2 Validity

This document is the original version of this test report and is written in English. In case of doubt, the original version prevails over a translation. This document is issued subject to Warringtonfire’s standard terms and conditions, which are available at: *Terms and Conditions | Element*.

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criteria for assessing the potential fire hazard of the product in use, nor can the results be extrapolated and applied to other products.

Reports are statements of fact(s) prepared in accordance with the referenced version of the standard(s) stated in Section 3 of this report. Reports are based upon the information provided to Warringtonfire. Warringtonfire takes no responsibility for the accuracy or completeness of such information.

The results stated in this report apply to the test specimens as received.

This report details the method of construction, the test conditions and the results obtained when the specific element of construction described herein was tested following the procedure outlined in BS EN 1634-1:2014+A1:2018, BS EN 1363-1:2020, and where appropriate BS EN 1363-2:1999.

Any significant deviation with respect to size, constructional details, loads, stresses, edge or end conditions other than those allowed under the field of direct application in the relevant test method is not covered by this report.

Any differences in relation to the aforementioned characteristics may significantly affect the performance and will therefore invalidate the application of the test results to the variant product. It is recommended that any proposed variation to the tested configuration or product should be referred to the test sponsor. The test sponsor should then obtain appropriate documentary evidence of compliance from Warringtonfire or another accredited testing authority. The supplier of the product is responsible for ensuring that the product which is supplied for use is identical to the test specimens that were tested.

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5.3 Uncertainty of measurement

Because of the nature of fire resistance testing and the consequent difficulty in quantifying the uncertainty of measurement of fire resistance, it is not possible to provide a stated degree of accuracy of the result.

Appendix A Test observations

Table 9 shows the observations of any significant behaviour of the specimen during the test.

Table 9 Test observations

Min	Sec	Component	Observation
00	00	Whole specimen	Commencement of test.
00	49	Left and right doors	There is smoke issuing at the hanging edge, the closing edge, and the head. The glass is also reacting.
03	49	Left and right doors	There is smoke issuing at the latch position and from the threshold.
05	00	Whole specimen	All glass appears to have fully reacted.
05	37	Left and right doors	There is smoke issuing at the top hanging corner of the right door and the top closing corner of the left door.
06	30	Right door	There is discolouration at the top hanging corner and the hanging edge.
07	11	Right door	There is smoke issuing at the top closing corner.
08	04	Fanlight and sidelight	There is smoke issuing at the fanlight and the sidelight.
08	39	Right door	There is smoke issuing at the bottom hinge position.
10	00	Right door	There is smoke issuing at the top hanging corner.
11	55	Right door	There is an increase in discolouration at the top hanging corner.
14	17	Left door	There is smoke issuing at the top hanging corner.
16	31	Left and right doors	There is an increase in discolouration at the top hanging corner, the top hinge position, the top closing corner, and the centre of the head.
19	51	Fanlight and sidelight	There is discolouration at the fanlight and the sidelight.
21	50	Left door	There is smoke issuing at the latch position.
23	24	Right door	There is an increase in discolouration and smoke issuing at the top closing corner and the latch position.
26	24	Right door	There is smoke issuing at the vision panel bead.
32	03	Right door	There is an increase in discolouration at the head.
33	01	Left and right doors	Distortion measurements were stopped due to the heat.
33	29	Right door	There is an increase in the smoke issuing from the vision panel.
36	22	Right door	There is glow visible at the vision panel bead.
37	10	Right door	A cotton pad test was performed at the vision panel bead which did not result in the ignition of the cotton pad. No failure.
38	31	Right door	A cotton pad test was performed at the vision panel bead which did not result in the ignition of the cotton pad. No failure.
39	15	Right door	There is intermittent flaming at the bottom hinge position.
39	38	Right door	There is intermittent flaming at the vision panel bead.
40	**01**	**Right door**	**A cotton pad test was performed at the glazing bead which resulted in the ignition of the cotton pad thereby constituting integrity failure.**
40	35	Fanlight	There is intermittent flaming at the bottom edge of the fanlight bead.
40	44	Right door	The right door was boarded up.

Min	Sec	Component	Observation
41	59	Left door	There is an increase in discolouration at the top hanging corner.
43	31	Left door	There is intermittent flaming at the glazing.
43	**53**	**Sidelight**	**There is continuous flaming at the top corner of the middle panel thereby constituting further integrity failure.**
44	32	Whole specimen	End of test.

Appendix B Instrumentation locations

Figure 7 shows the instrumentation locations for this fire resistance test.

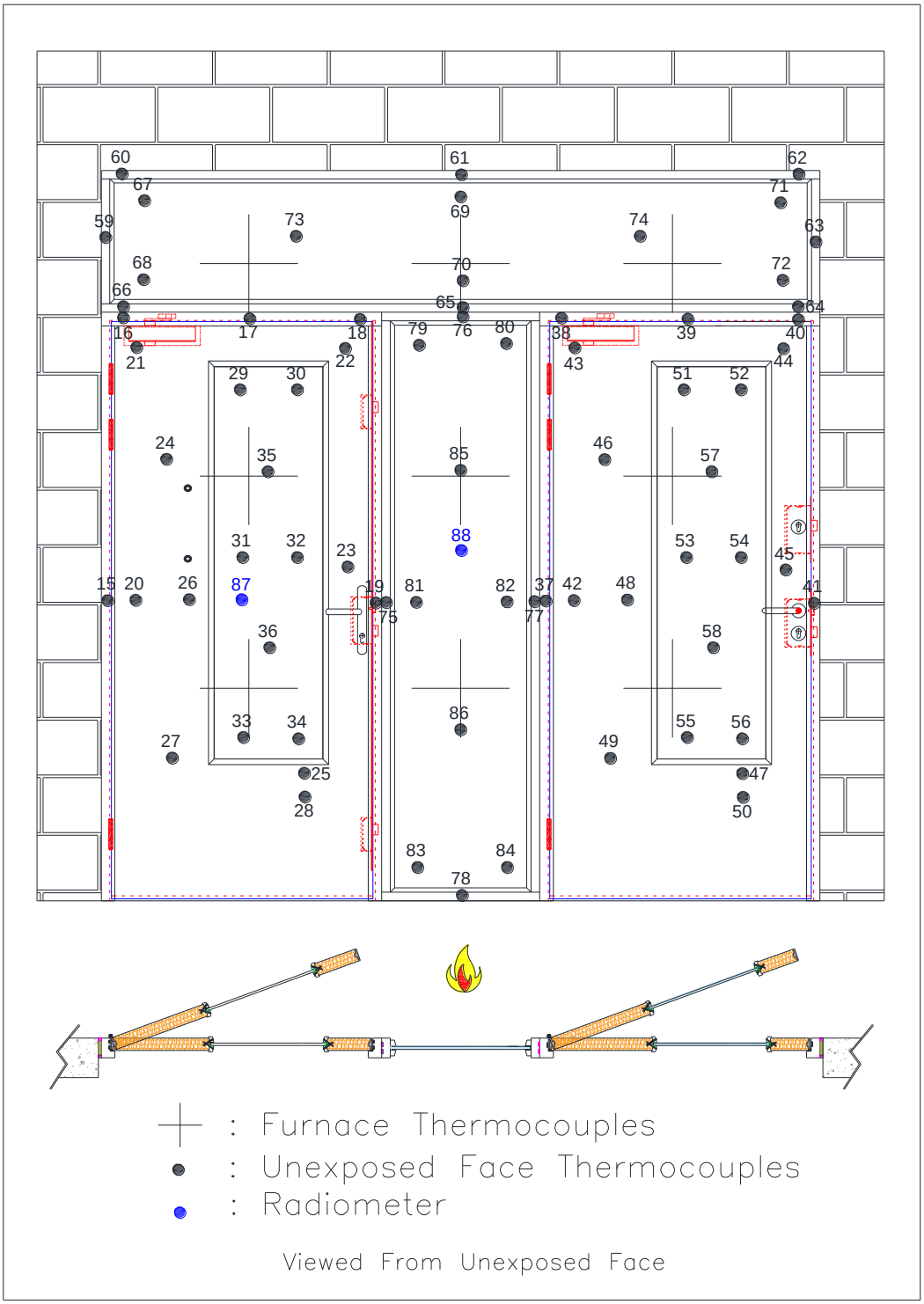


Figure 7 Instrumentation locations

Appendix C Test data

C.1 Furnace temperature and deviation

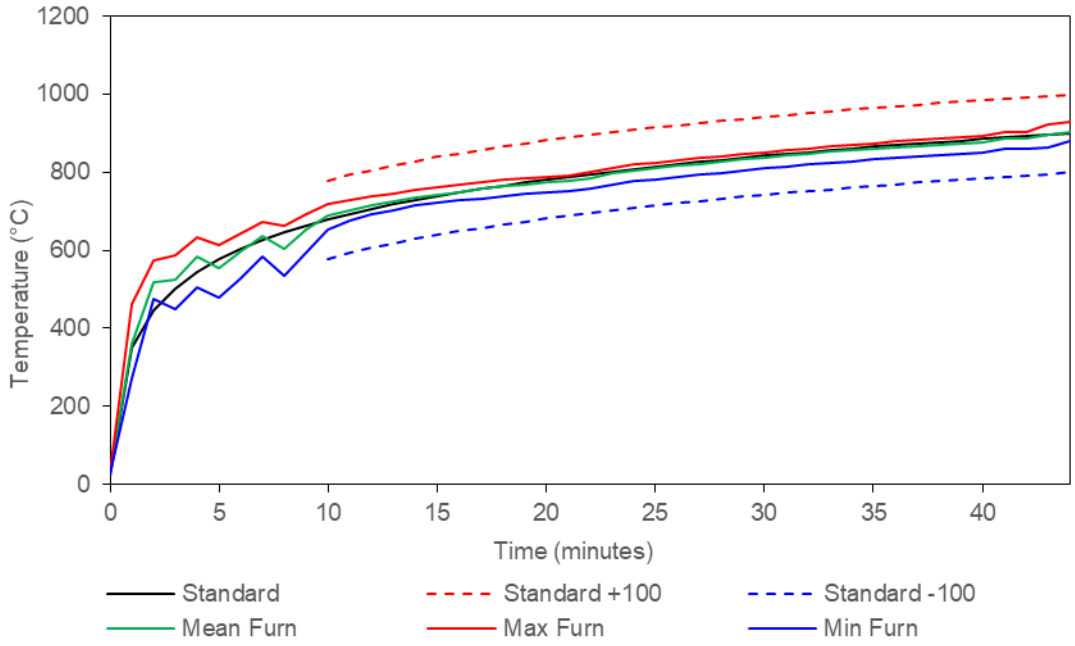


Figure 8 **Furnace thermocouple temperature vs time**

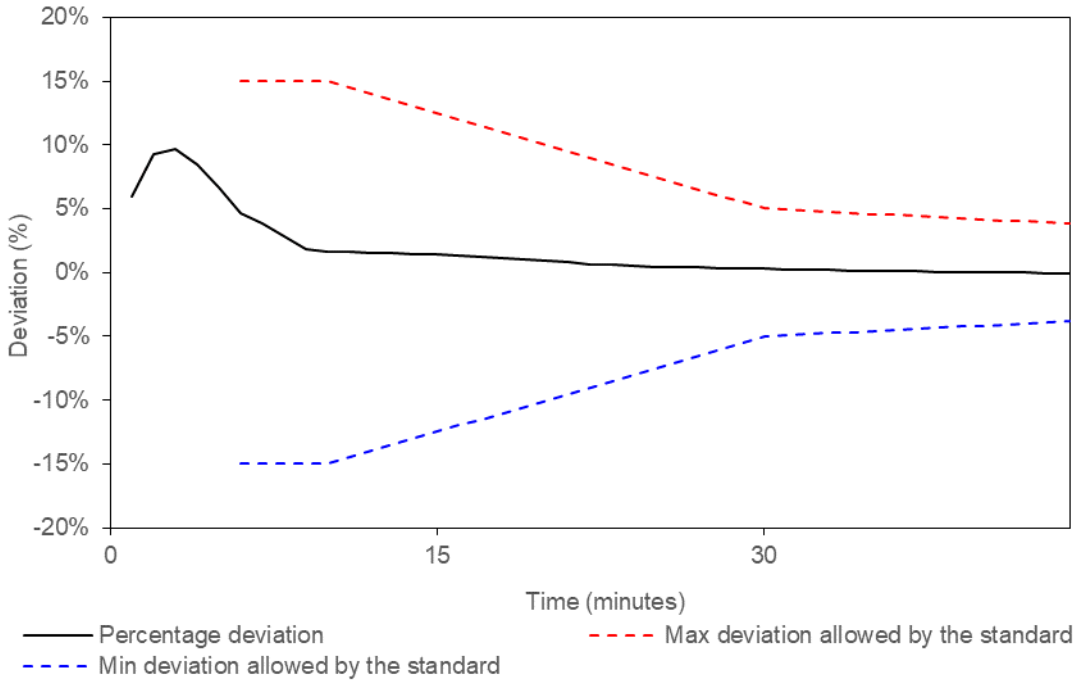


Figure 9 **Percentage deviation of exposure severity vs time**

C.2 Furnace pressure

The furnace pressure was taken at 500 mm above the sill of the test specimen.

The furnace was controlled to a pressure of 0 ± 5 Pa after 5 minutes and then 0 ± 3 Pa after 10 minutes.

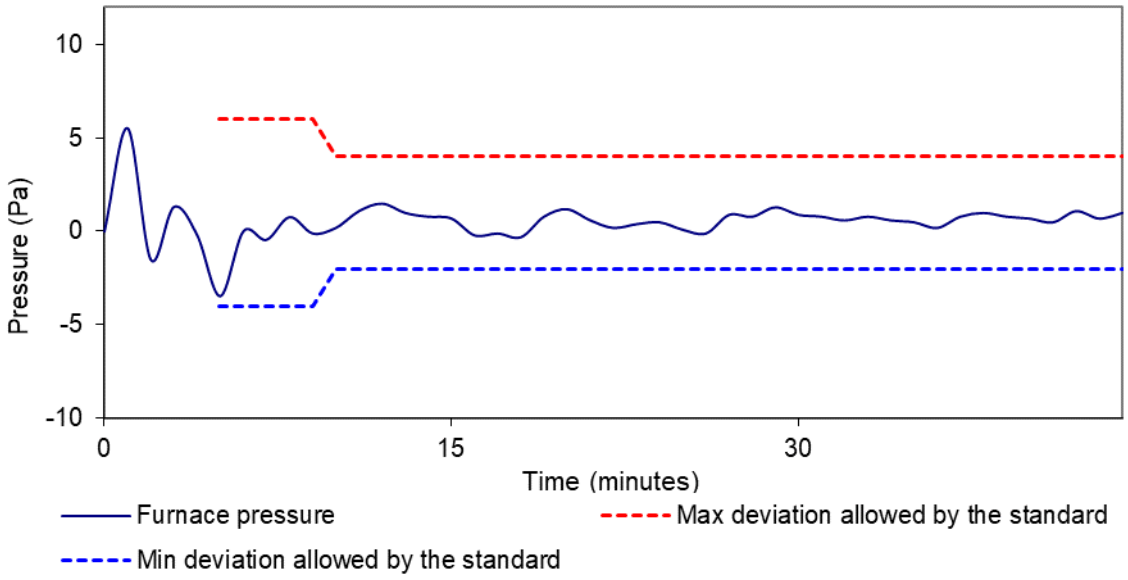


Figure 10 Furnace pressure

C.3 Specimen temperatures

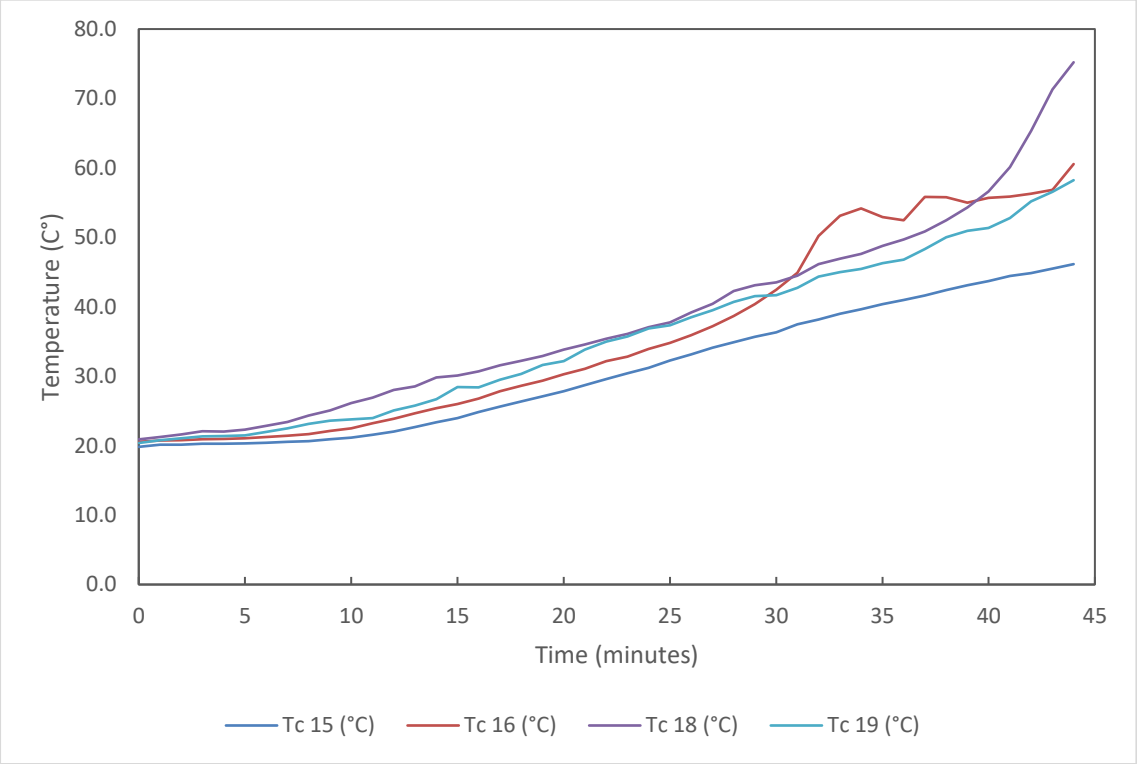


Figure 11 Temperatures recorded on the left door frame

Table 10 Temperatures recorded on the left door frame

Time (mins)	Tc 15 (°C)	Tc 16 (°C)	Tc 17 (°C)	Tc 18 (°C)	Tc 19 (°C)
0	19.8	20.6	*	20.9	20.4
1	20.1	20.7	*	21.3	20.8
2	20.1	20.8	*	21.6	21.1
3	20.3	20.9	*	22.1	21.3
4	20.3	21.0	*	22.0	21.4
5	20.3	21.0	*	22.3	21.5
6	20.4	21.3	*	22.9	22.0
7	20.5	21.4	*	23.4	22.5
8	20.7	21.7	*	24.3	23.2
9	20.9	22.1	*	25.1	23.6
10	21.2	22.5	*	26.2	23.8
11	21.6	23.2	*	26.9	24.0
12	22.0	23.9	*	28.0	25.1
13	22.7	24.7	*	28.5	25.8
14	23.3	25.4	*	29.8	26.7
15	24.0	26.0	*	30.1	28.5
16	24.8	26.8	*	30.7	28.4
17	25.6	27.9	*	31.6	29.5

Time (mins)	Tc 15 (°C)	Tc 16 (°C)	Tc 17 (°C)	Tc 18 (°C)	Tc 19 (°C)
18	26.4	28.6	*	32.2	30.3
19	27.1	29.4	*	32.9	31.6
20	27.9	30.3	*	33.8	32.2
21	28.7	31.1	*	34.6	33.8
22	29.6	32.2	*	35.4	35.0
23	30.4	32.8	*	36.1	35.7
24	31.2	33.9	*	37.1	36.9
25	32.2	34.8	*	37.8	37.3
26	33.2	35.9	*	39.2	38.5
27	34.1	37.2	*	40.4	39.5
28	34.9	38.7	*	42.3	40.7
29	35.7	40.4	*	43.1	41.5
30	36.3	42.4	*	43.5	41.7
31	37.5	44.9	*	44.5	42.7
32	38.2	50.2	*	46.1	44.3
33	39.0	53.1	*	46.9	45.0
34	39.7	54.1	*	47.6	45.4
35	40.4	52.9	*	48.8	46.3
36	41.0	52.5	*	49.7	46.8
37	41.6	55.8	*	50.8	48.3
38	42.4	55.8	*	52.4	50.0
39	43.1	55.0	*	54.3	50.9
40	43.7	55.7	*	56.6	51.4
41	44.4	55.9	*	60.1	52.8
42	44.9	56.3	*	65.3	55.2
43	45.5	56.8	*	71.3	56.6
44	46.1	60.6	*	75.2	58.2

Note: Data for thermocouple 17 has been removed due to malfunction.

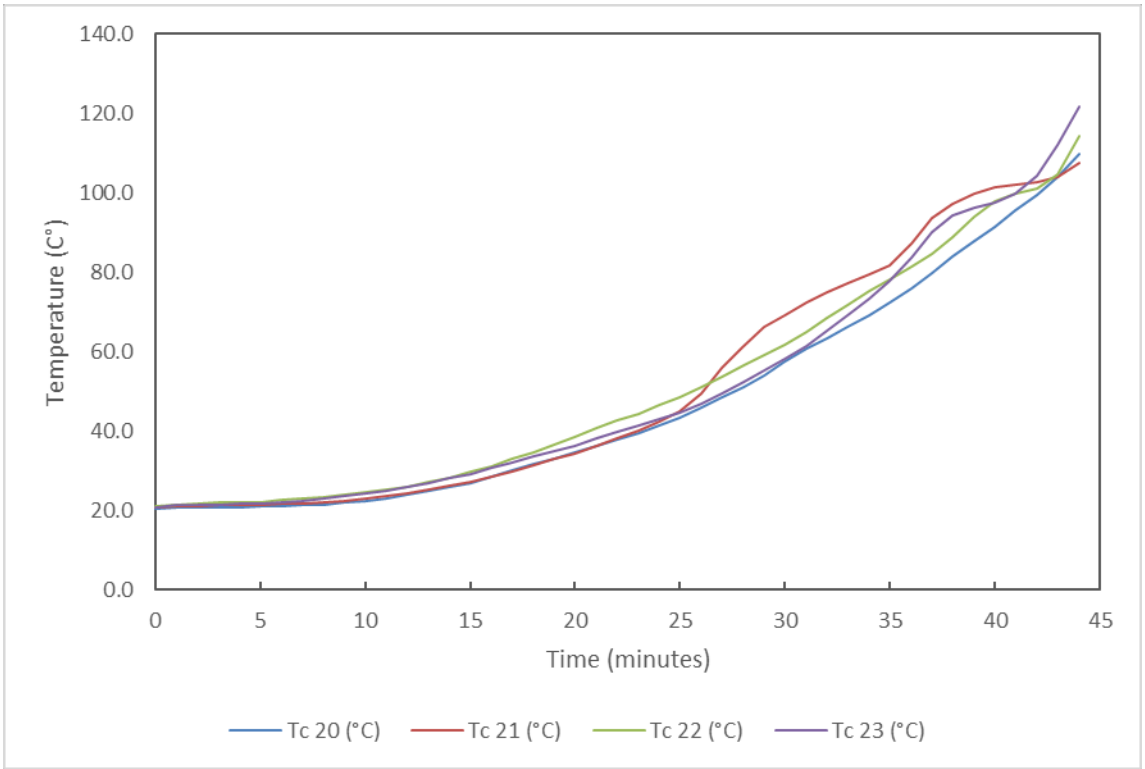


Figure 12 Temperatures recorded at the maximum positions on the left leaf

Table 11 Temperatures recorded at the maximum positions on the left leaf

Time (mins)	Tc 20 (°C)	Tc 21 (°C)	Tc 22 (°C)	Tc 23 (°C)
0	20.3	20.8	21.2	20.9
1	20.8	21.1	21.5	21.2
2	20.8	21.2	21.8	21.4
3	20.9	21.3	22.0	21.5
4	20.9	21.4	22.1	21.6
5	20.9	21.4	22.2	21.7
6	21.2	21.7	22.5	22.1
7	21.3	21.8	22.9	22.4
8	21.5	22.1	23.4	23.0
9	21.9	22.5	24.0	23.8
10	22.4	23.0	24.5	24.3
11	23.1	23.6	25.1	25.1
12	23.9	24.3	26.0	26.0
13	24.8	25.2	27.2	27.0
14	25.9	26.1	28.3	28.1
15	27.0	27.1	29.7	29.2
16	28.6	28.5	31.2	30.6
17	30.1	29.9	32.9	32.2
18	31.6	31.3	34.7	33.6
19	33.0	32.8	36.7	34.9

Time (mins)	Tc 20 (°C)	Tc 21 (°C)	Tc 22 (°C)	Tc 23 (°C)
20	34.6	34.4	38.6	36.3
21	36.1	36.2	40.7	38.3
22	37.7	38.2	42.5	39.8
23	39.4	40.1	44.5	41.4
24	41.3	42.4	46.4	43.0
25	43.3	45.0	48.5	44.8
26	45.8	49.6	51.1	47.0
27	48.4	55.9	53.6	49.6
28	51.0	61.5	56.7	52.3
29	54.1	66.1	59.1	55.1
30	57.5	69.3	61.8	58.0
31	60.8	72.3	64.8	61.5
32	63.4	75.1	68.5	65.4
33	66.3	77.3	71.9	69.2
34	69.2	79.5	75.2	73.3
35	72.3	81.8	78.3	77.9
36	75.8	87.2	81.4	83.6
37	79.8	93.6	84.7	90.3
38	84.0	97.1	88.7	94.3
39	88.0	99.8	94.1	96.3
40	91.5	101.3	97.9	97.7
41	95.5	102.2	99.9	99.9
42	99.4	102.6	101.2	104.2
43	103.9	103.9	104.6	112.0
44	110.0	107.5	114.3	121.7

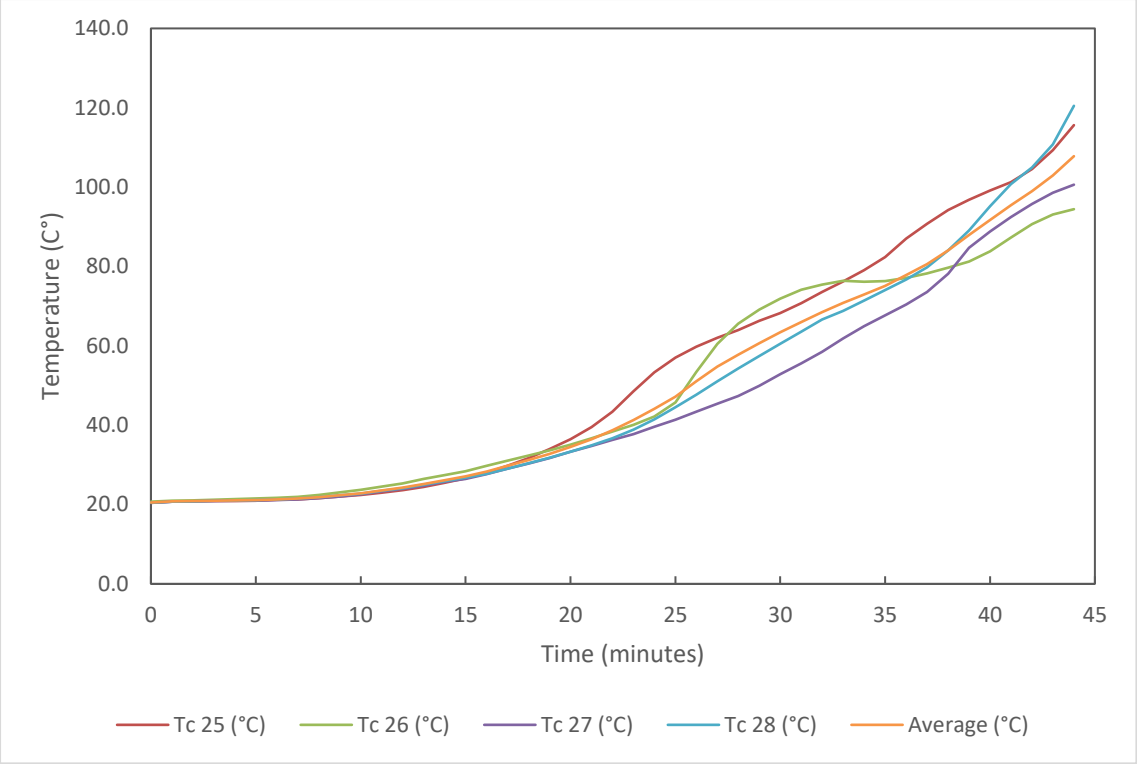


Figure 13 Temperatures recorded at the average positions on the left leaf

Table 12 Temperatures recorded at the average positions on the left leaf

Time (mins)	Tc 24 (°C)	Tc 25 (°C)	Tc 26 (°C)	Tc 27 (°C)	Tc 28 (°C)	Average (°C)
0	*	20.4	20.7	20.4	20.4	20.5
1	*	20.7	21.0	20.7	20.8	20.8
2	*	20.8	21.1	20.8	20.8	20.9
3	*	20.9	21.2	20.9	21.0	21.0
4	*	20.9	21.4	20.9	21.0	21.1
5	*	21.0	21.5	20.9	21.1	21.1
6	*	21.2	21.7	21.1	21.3	21.3
7	*	21.3	22.0	21.3	21.5	21.5
8	*	21.6	22.4	21.6	21.9	21.9
9	*	22.0	23.0	22.0	22.3	22.3
10	*	22.4	23.7	22.5	22.7	22.8
11	*	22.9	24.5	23.3	23.4	23.5
12	*	23.7	25.4	24.0	24.1	24.3
13	*	24.5	26.4	24.8	25.0	25.2
14	*	25.5	27.4	25.7	25.9	26.1
15	*	26.6	28.4	26.5	26.8	27.1
16	*	28.0	29.7	27.7	27.7	28.3
17	*	29.7	31.1	29.0	29.1	29.7
18	*	31.7	32.3	30.3	30.4	31.2
19	*	34.0	33.7	31.7	31.8	32.8

Time (mins)	Tc 24 (°C)	Tc 25 (°C)	Tc 26 (°C)	Tc 27 (°C)	Tc 28 (°C)	Average (°C)
20	*	36.5	35.1	33.3	33.3	34.5
21	*	39.5	36.7	34.8	34.9	36.5
22	*	43.4	38.4	36.3	36.7	38.7
23	*	48.5	40.1	37.8	38.8	41.3
24	*	53.3	42.2	39.6	41.5	44.2
25	*	57.0	45.7	41.4	44.5	47.2
26	*	59.7	53.4	43.4	47.7	51.0
27	*	62.0	60.5	45.4	51.1	54.8
28	*	64.0	65.6	47.3	54.3	57.8
29	*	66.3	69.1	49.9	57.4	60.7
30	*	68.3	71.9	52.9	60.5	63.4
31	*	70.7	74.1	55.6	63.5	66.0
32	*	73.6	75.4	58.5	66.6	68.5
33	*	76.3	76.4	61.8	68.8	70.8
34	*	79.0	76.2	64.9	71.4	72.9
35	*	82.4	76.3	67.7	74.0	75.1
36	*	87.0	77.1	70.4	76.7	77.8
37	*	90.7	78.3	73.6	79.8	80.6
38	*	94.2	79.7	78.2	84.1	84.0
39	*	96.8	81.3	84.7	89.0	87.9
40	*	99.2	83.8	88.8	95.2	91.7
41	*	101.2	87.3	92.5	100.8	95.5
42	*	104.5	90.6	95.8	105.0	99.0
43	*	109.3	93.1	98.6	110.7	102.9
44	*	115.6	94.4	100.6	120.5	107.8

Note: Data for thermocouple 24 has been removed due to malfunction.

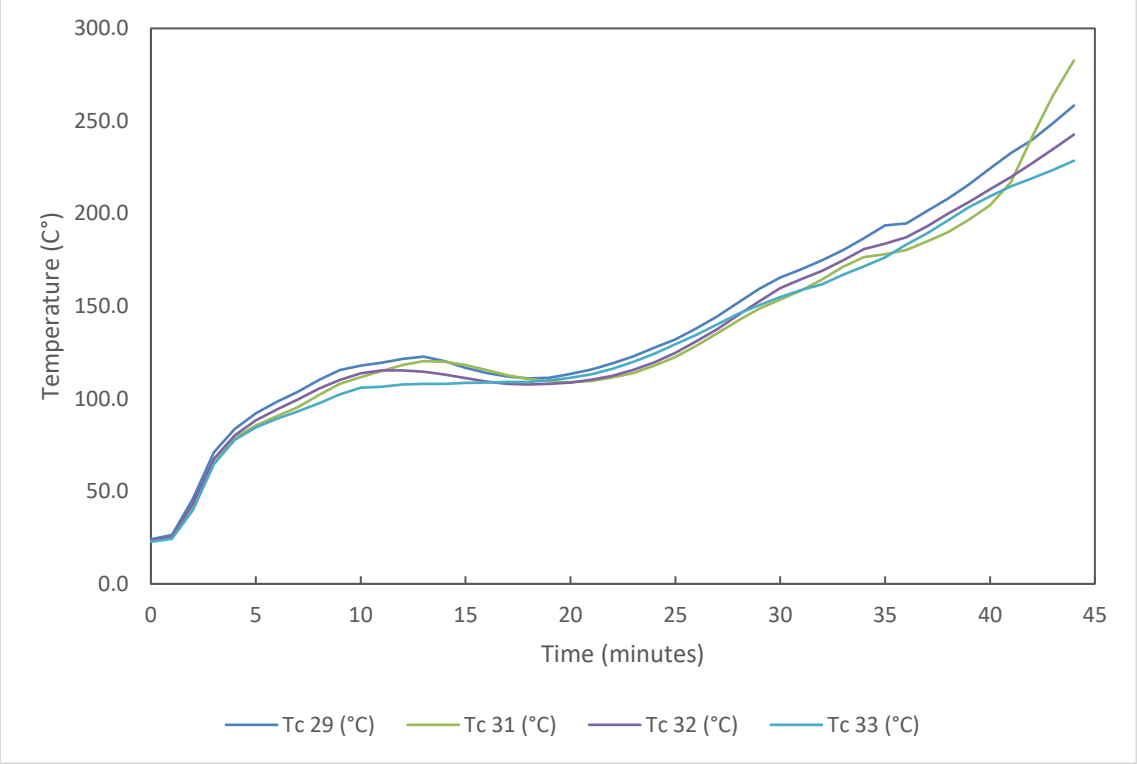


Figure 14 Temperatures recorded at the maximum positions on the glazing in the left leaf

Table 13 Temperatures recorded at the maximum positions on the glazing in the left leaf

Time (mins)	Tc 29 (°C)	Tc 30 (°C)	Tc 31 (°C)	Tc 32 (°C)	Tc 33 (°C)	Tc 34 (°C)
0	24.1	*	23.2	23.5	22.8	*
1	26.4	*	25.1	25.4	24.3	*
2	45.9	*	41.9	43.2	39.7	*
3	71.0	*	66.6	67.6	64.6	*
4	83.6	*	78.9	80.3	77.8	*
5	92.0	*	85.5	88.4	84.4	*
6	98.4	*	90.5	94.1	89.3	*
7	103.7	*	95.5	99.5	93.2	*
8	110.2	*	101.9	105.4	97.6	*
9	115.5	*	108.1	110.1	102.4	*
10	117.9	*	111.7	113.8	105.9	*
11	119.5	*	114.9	115.2	106.5	*
12	121.5	*	118.3	115.4	107.6	*
13	122.7	*	120.3	114.6	108.1	*
14	120.3	*	120.0	113.0	108.0	*
15	116.6	*	118.2	111.1	108.5	*
16	113.9	*	115.5	109.3	108.8	*
17	111.9	*	112.7	108.1	109.1	*
18	110.9	*	110.6	107.7	109.1	*
19	111.3	*	109.3	108.1	109.9	*

Time (mins)	Tc 29 (°C)	Tc 30 (°C)	Tc 31 (°C)	Tc 32 (°C)	Tc 33 (°C)	Tc 34 (°C)
20	113.5	*	108.9	108.7	111.3	*
21	115.8	*	109.6	110.2	113.2	*
22	119.0	*	111.5	112.4	116.2	*
23	122.9	*	113.9	115.7	119.9	*
24	127.6	*	117.9	119.6	124.3	*
25	132.1	*	122.6	124.8	129.4	*
26	138.0	*	128.6	131.0	134.6	*
27	144.6	*	135.3	137.6	140.2	*
28	151.9	*	142.2	145.2	145.9	*
29	159.3	*	148.7	152.7	150.6	*
30	165.4	*	153.5	159.7	154.9	*
31	169.9	*	158.5	164.6	158.6	*
32	174.8	*	164.4	169.0	161.8	*
33	180.2	*	171.3	174.8	166.9	*
34	186.6	*	176.5	180.8	171.5	*
35	193.6	*	178.1	183.8	176.3	*
36	194.6	*	180.4	187.3	183.2	*
37	201.4	*	184.9	193.2	189.3	*
38	208.1	*	189.9	200.1	196.3	*
39	215.7	*	196.8	206.2	203.5	*
40	224.4	*	204.6	213.2	209.4	*
41	232.8	*	216.9	219.8	214.8	*
42	239.7	*	241.4	227.2	219.1	*
43	248.8	*	263.7	234.7	223.5	*
44	258.3	*	282.7	242.7	228.5	*

Note: Data for thermocouples 30 and 34 has been removed due to malfunction.

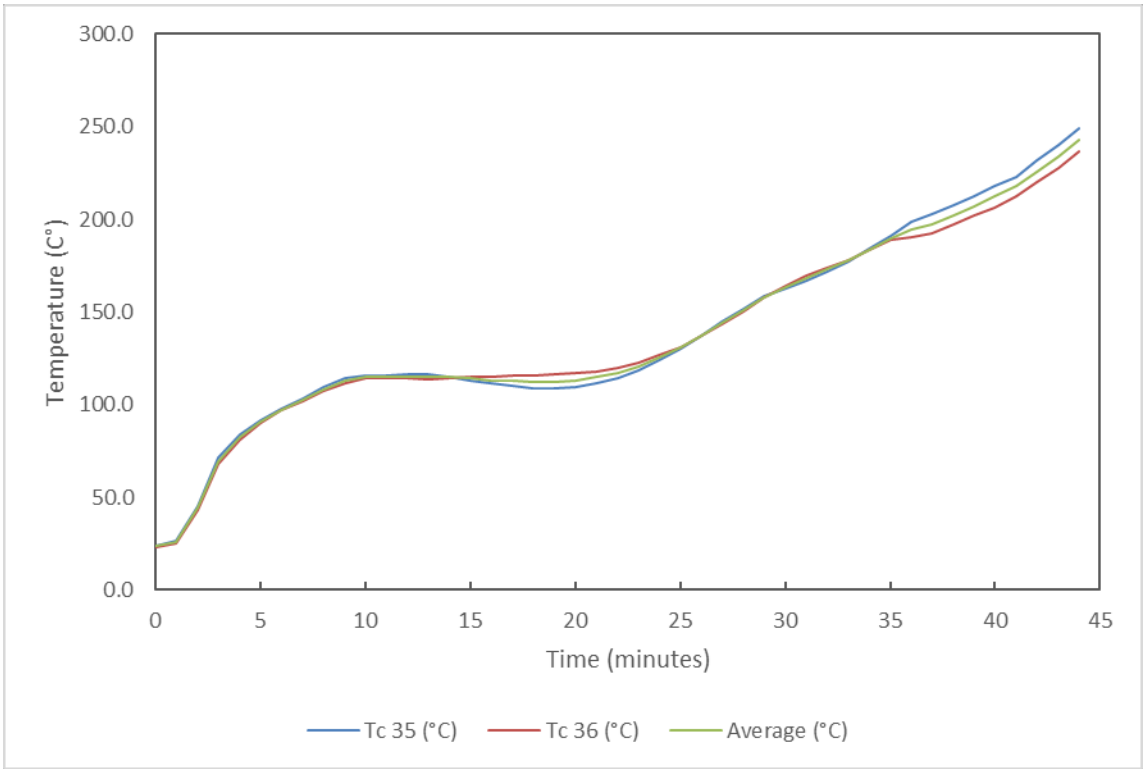


Figure 15 Temperatures recorded at the average positions on the glazing in the left leaf

Table 14 Temperatures recorded at the average positions on the glazing in the left leaf

Time (mins)	Tc 35 (°C)	Tc 36 (°C)	Average (°C)
0	23.9	23.3	23.6
1	26.2	25.3	25.7
2	45.5	43.3	44.4
3	71.1	67.6	69.4
4	83.7	80.8	82.2
5	91.4	89.8	90.6
6	97.4	96.7	97.1
7	103.1	102.2	102.6
8	109.5	107.3	108.4
9	114.4	111.8	113.1
10	115.3	114.0	114.7
11	115.7	114.6	115.1
12	116.2	114.0	115.1
13	116.7	113.9	115.3
14	115.3	114.6	114.9
15	113.2	115.0	114.1
16	111.3	115.1	113.2
17	109.8	115.4	112.6
18	109.0	115.8	112.4

Time (mins)	Tc 35 (°C)	Tc 36 (°C)	Average (°C)
19	108.9	116.2	112.6
20	109.7	116.7	113.2
21	111.6	117.8	114.7
22	114.5	120.0	117.3
23	118.6	122.8	120.7
24	123.8	126.6	125.2
25	129.9	131.2	130.6
26	137.0	137.1	137.0
27	144.6	143.7	144.2
28	151.9	150.3	151.1
29	158.4	157.7	158.1
30	163.0	164.1	163.6
31	167.1	169.6	168.3
32	171.8	174.0	172.9
33	177.5	178.3	177.9
34	183.9	183.6	183.7
35	191.0	188.7	189.9
36	198.6	190.3	194.5
37	202.6	192.3	197.5

Time (mins)	Tc 35 (°C)	Tc 36 (°C)	Average (°C)
38	207.6	197.1	202.4
39	212.4	201.9	207.1
40	217.7	206.6	212.2
41	223.0	212.5	217.8
42	231.6	219.9	225.8

Time (mins)	Tc 35 (°C)	Tc 36 (°C)	Average (°C)
43	239.9	228.0	233.9
44	249.0	236.5	242.7

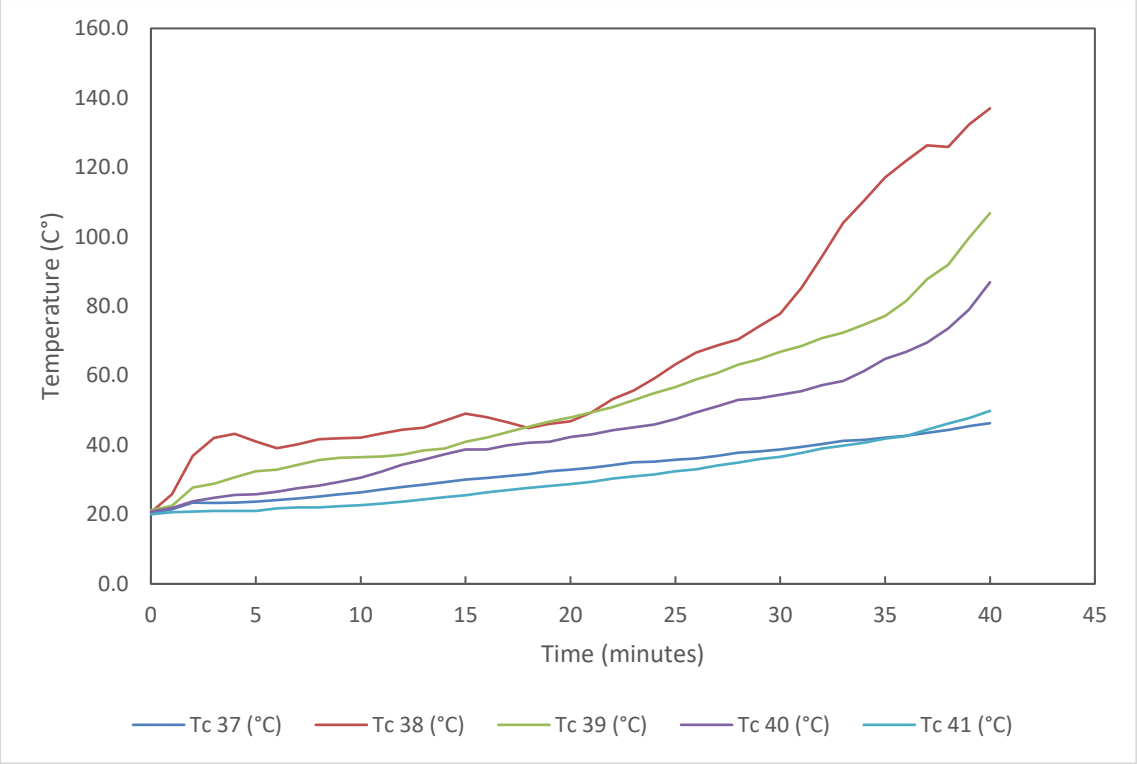


Figure 16 Temperatures recorded on the right door frame

Table 15 Temperatures recorded on the right door frame

Time (mins)	Tc 37 (°C)	Tc 38 (°C)	Tc 39 (°C)	Tc 40 (°C)	Tc 41 (°C)
0	20.5	20.6	21.2	20.8	20.0
1	21.5	25.8	22.5	21.8	20.7
2	23.4	36.9	27.8	23.8	20.8
3	23.3	42.0	28.9	24.8	21.0
4	23.4	43.3	30.7	25.6	21.0
5	23.7	41.0	32.4	25.8	21.0
6	24.2	39.1	32.9	26.5	21.8
7	24.6	40.2	34.3	27.6	22.0
8	25.2	41.6	35.7	28.3	22.1
9	25.8	42.0	36.3	29.4	22.4
10	26.3	42.1	36.5	30.6	22.7
11	27.1	43.3	36.7	32.3	23.1
12	28.0	44.5	37.3	34.4	23.7
13	28.6	45.0	38.5	35.8	24.4
14	29.3	47.0	39.0	37.4	25.0
15	30.1	49.0	41.0	38.7	25.5
16	30.5	48.1	42.1	38.7	26.3
17	31.1	46.5	43.7	39.9	27.0
18	31.6	44.9	45.3	40.6	27.6
19	32.4	46.1	46.7	40.9	28.2

Time (mins)	Tc 37 (°C)	Tc 38 (°C)	Tc 39 (°C)	Tc 40 (°C)	Tc 41 (°C)
20	32.9	46.8	48.0	42.3	28.8
21	33.5	49.4	49.4	43.1	29.4
22	34.2	53.2	50.9	44.2	30.3
23	35.1	55.7	52.9	45.1	30.9
24	35.2	59.2	54.9	45.9	31.6
25	35.7	63.3	56.7	47.5	32.5
26	36.1	66.7	58.9	49.4	33.0
27	36.9	68.6	60.8	51.2	34.1
28	37.8	70.4	63.2	53.0	34.9
29	38.2	74.2	64.7	53.4	36.0
30	38.7	77.8	66.8	54.5	36.6
31	39.4	85.2	68.5	55.5	37.7
32	40.3	94.3	70.8	57.3	39.0
33	41.2	104.0	72.3	58.4	39.8
34	41.5	110.3	74.7	61.3	40.6
35	42.1	117.1	77.1	64.8	41.8
36	42.7	121.9	81.5	66.8	42.6
37	43.5	126.3	87.8	69.5	44.4
38	44.4	125.8	91.9	73.6	46.2
39	45.4	132.3	99.7	79.0	47.8
40	46.3	137.0	106.8	86.9	49.8
41	*	*	*	*	*
42	*	*	*	*	*
43	*	*	*	*	*
44	*	*	*	*	*

Note: Data for all thermocouples has been removed after 40 minutes due to the necessity to safely board up the door.

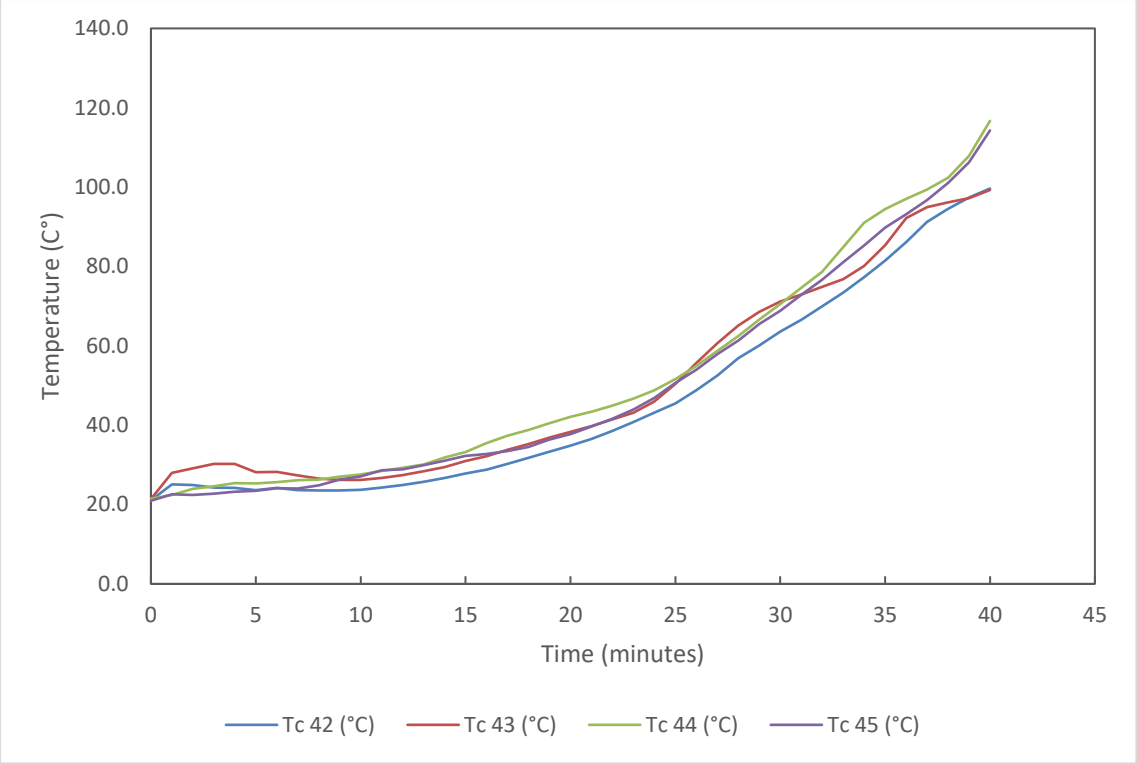


Figure 17 Temperatures recorded at the maximum positions on the right leaf

Table 16 Temperatures recorded at the maximum positions on the right leaf

Time (mins)	Tc 42 (°C)	Tc 43 (°C)	Tc 44 (°C)	Tc 45 (°C)
0	21.1	21.4	21.5	21.0
1	25.1	28.0	22.4	22.6
2	24.9	29.1	23.9	22.4
3	24.3	30.3	24.6	22.7
4	24.2	30.3	25.4	23.2
5	23.7	28.1	25.3	23.4
6	24.2	28.2	25.7	24.1
7	23.7	27.4	26.1	24.0
8	23.5	26.6	26.3	24.8
9	23.5	26.2	27.0	26.3
10	23.7	26.2	27.6	27.1
11	24.2	26.7	28.5	28.7
12	24.9	27.4	29.3	28.9
13	25.7	28.4	30.1	29.9
14	26.7	29.4	31.9	31.0
15	27.8	31.0	33.2	32.3
16	28.8	32.2	35.5	32.8
17	30.3	33.8	37.3	33.5
18	31.8	35.2	38.8	34.5
19	33.3	36.8	40.5	36.4

Time (mins)	Tc 42 (°C)	Tc 43 (°C)	Tc 44 (°C)	Tc 45 (°C)
20	34.9	38.3	42.1	37.7
21	36.5	39.8	43.4	39.7
22	38.5	41.5	45.0	41.6
23	40.8	43.2	46.7	44.0
24	43.1	45.9	48.8	46.8
25	45.5	50.4	51.6	50.6
26	48.8	55.6	54.9	54.0
27	52.6	60.7	58.7	57.9
28	56.8	65.1	62.4	61.3
29	60.1	68.5	66.6	65.5
30	63.6	71.1	70.5	68.8
31	66.6	72.9	74.6	72.9
32	70.0	74.8	78.7	76.7
33	73.4	76.8	84.9	81.1
34	77.3	80.1	91.0	85.3
35	81.5	85.4	94.5	89.8
36	86.1	92.2	97.0	93.2
37	91.2	95.0	99.4	96.7
38	94.6	96.1	102.4	101.1
39	97.4	97.2	107.8	106.2
40	99.6	99.3	116.7	114.3
41	*	*	*	*
42	*	*	*	*
43	*	*	*	*
44	*	*	*	*

Note: Data for all thermocouples has been removed after 40 minutes due to the necessity to safely board up the door.

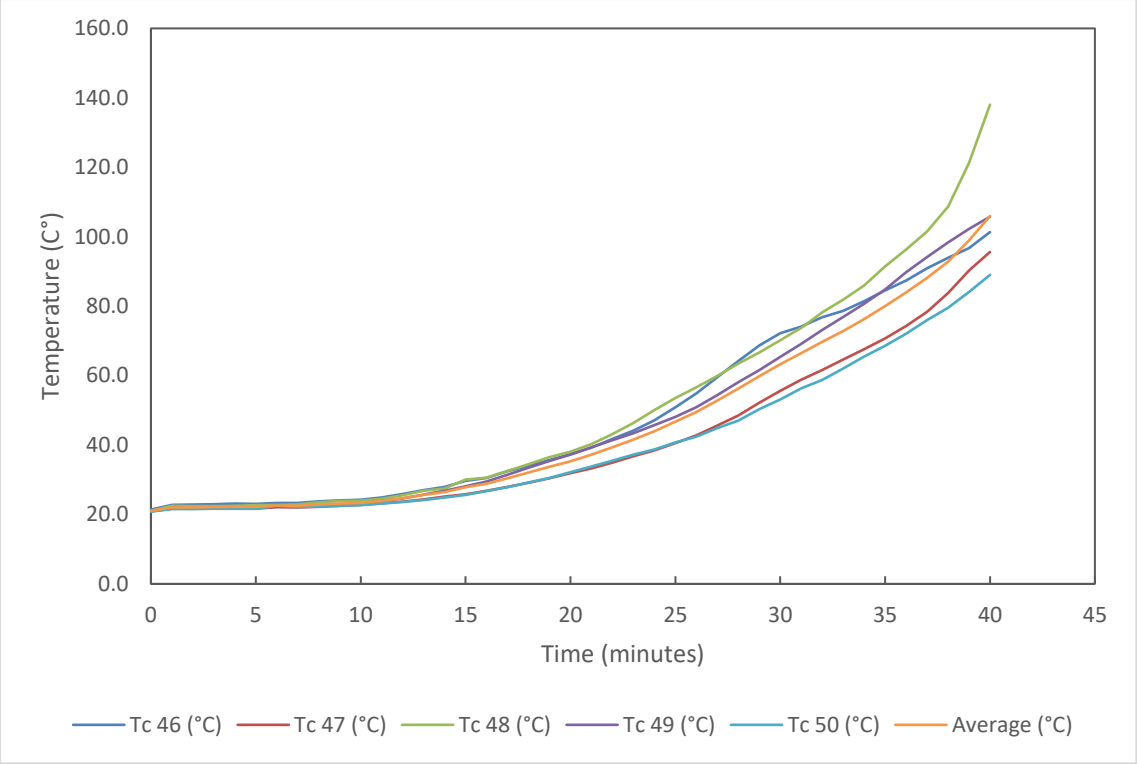


Figure 18 Temperatures recorded at the average positions on the right leaf

Table 17 Temperatures recorded at the average positions on the right leaf

Time (mins)	Tc 46 (°C)	Tc 47 (°C)	Tc 48 (°C)	Tc 49 (°C)	Tc 50 (°C)	Average (°C)
0	21.4	20.9	21.0	20.9	20.8	21.0
1	22.7	21.7	22.5	21.7	21.5	22.0
2	22.9	21.6	22.4	21.7	21.6	22.0
3	23.0	21.7	22.4	21.8	21.7	22.1
4	23.1	21.7	22.5	21.9	21.7	22.2
5	23.1	21.7	22.7	21.9	21.6	22.2
6	23.3	22.1	22.7	22.2	22.5	22.6
7	23.3	22.1	22.9	22.2	22.2	22.5
8	23.8	22.2	23.5	22.4	22.3	22.8
9	24.0	22.5	23.8	22.8	22.5	23.1
10	24.2	22.7	24.0	23.1	22.7	23.4
11	24.9	23.2	24.5	23.8	23.1	23.9
12	25.9	23.7	25.6	24.6	23.5	24.7
13	27.0	24.4	26.8	25.7	24.1	25.6
14	27.9	25.1	27.5	26.8	24.9	26.4
15	29.7	25.8	30.0	28.1	25.7	27.9
16	30.5	26.8	30.6	29.5	26.7	28.9
17	32.4	27.9	32.5	31.4	27.9	30.4
18	34.0	29.1	34.5	33.5	29.2	32.1
19	35.7	30.4	36.5	35.4	30.5	33.7

Time (mins)	Tc 46 (°C)	Tc 47 (°C)	Tc 48 (°C)	Tc 49 (°C)	Tc 50 (°C)	Average (°C)
20	37.3	31.9	38.0	37.2	32.1	35.3
21	39.3	33.3	40.3	39.3	33.9	37.2
22	41.8	35.0	43.1	41.4	35.5	39.3
23	44.1	36.8	46.4	43.4	37.2	41.6
24	47.1	38.4	50.0	45.7	38.8	44.0
25	50.9	40.6	53.5	48.1	40.7	46.8
26	54.8	42.7	56.6	50.9	42.4	49.5
27	59.5	45.6	59.9	54.4	44.9	52.9
28	64.1	48.5	63.4	58.1	47.0	56.2
29	68.6	52.2	66.6	61.6	50.3	59.9
30	72.2	55.6	70.2	65.3	53.1	63.3
31	74.2	58.8	73.7	69.1	56.3	66.4
32	76.8	61.6	78.1	73.1	58.7	69.7
33	78.6	64.6	81.9	76.9	62.0	72.8
34	81.4	67.6	85.9	80.7	65.4	76.2
35	84.6	70.7	91.5	84.8	68.6	80.0
36	87.4	74.3	96.3	89.8	72.1	84.0
37	90.9	78.3	101.6	94.1	76.0	88.2
38	93.9	83.8	108.7	98.3	79.5	92.9
39	96.7	90.2	121.2	102.2	84.0	98.9
40	101.3	95.6	138.0	105.8	89.0	106.0
41	*	*	*	*	*	*
42	*	*	*	*	*	*
43	*	*	*	*	*	*
44	*	*	*	*	*	*

Note: Data for all thermocouples has been removed after 40 minutes due to the necessity to safely board up the door.

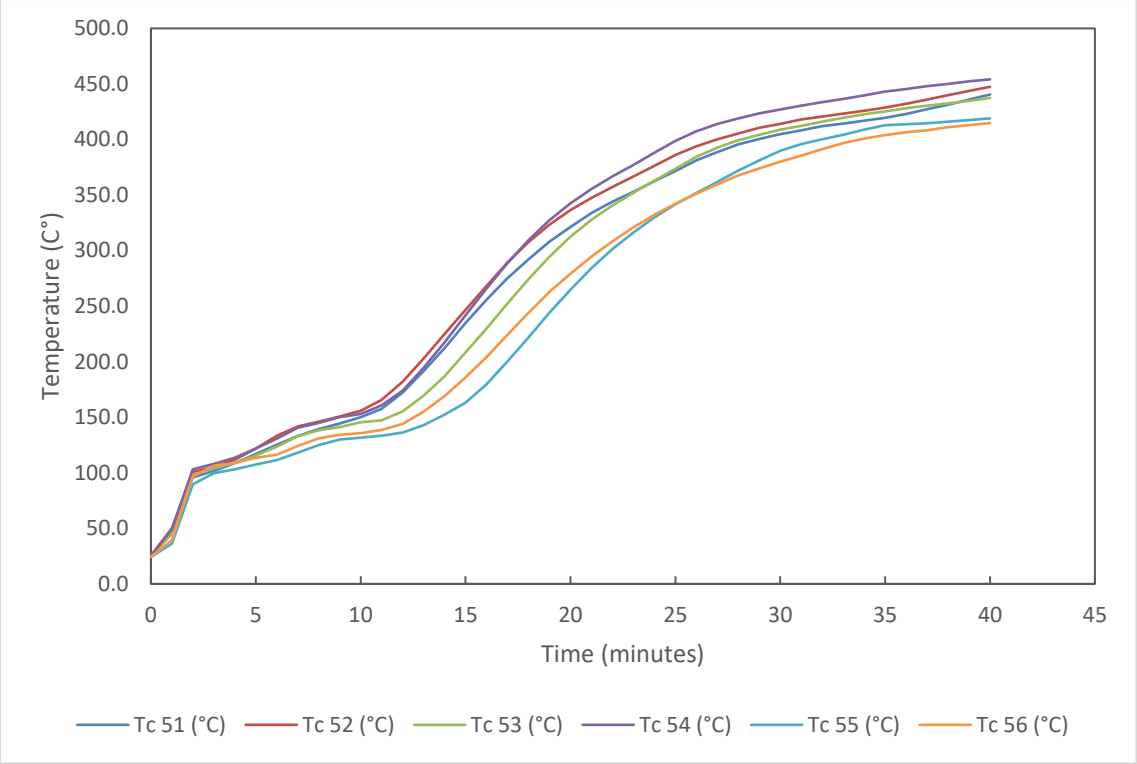


Figure 19 Temperatures recorded at the maximum positions on the glazing in the right leaf

Table 18 Temperatures recorded at the maximum positions on the glazing in the right leaf

Time (mins)	Tc 51 (°C)	Tc 52 (°C)	Tc 53 (°C)	Tc 54 (°C)	Tc 55 (°C)	Tc 56 (°C)
0	25.4	25.4	25.0	25.2	24.2	24.3
1	47.9	50.1	45.2	49.3	36.3	39.5
2	96.0	100.7	97.9	103.0	89.6	96.7
3	101.7	105.2	103.9	108.0	99.6	106.3
4	108.7	111.7	108.8	113.6	103.2	108.8
5	116.9	121.8	115.6	121.9	107.4	113.4
6	125.2	133.5	123.6	130.6	111.3	116.5
7	133.1	141.6	132.7	140.5	118.0	124.1
8	139.5	146.0	138.3	144.8	125.1	131.0
9	144.4	150.6	141.1	150.2	129.8	134.3
10	150.0	155.9	145.5	152.9	131.6	135.7
11	157.6	165.6	147.1	160.6	133.4	138.5
12	172.3	181.9	155.2	174.1	136.4	143.9
13	191.6	202.7	169.3	194.5	143.0	154.9
14	212.3	224.9	187.0	217.6	152.3	169.0
15	234.9	246.5	208.3	241.6	163.0	185.9
16	255.7	268.3	229.8	266.0	179.8	204.3
17	275.2	289.2	252.5	288.7	200.2	224.1
18	292.3	307.7	274.3	309.3	221.7	244.1
19	307.9	323.1	294.5	327.4	243.9	262.7

Time (mins)	Tc 51 (°C)	Tc 52 (°C)	Tc 53 (°C)	Tc 54 (°C)	Tc 55 (°C)	Tc 56 (°C)
20	321.4	336.5	312.5	342.7	264.9	279.2
21	333.9	347.6	328.0	355.5	284.3	294.7
22	343.9	357.4	340.6	366.8	301.3	308.4
23	353.1	366.8	352.1	377.3	316.5	320.8
24	362.4	376.3	362.9	388.0	330.0	332.1
25	371.7	386.1	373.8	398.7	341.7	342.3
26	381.0	393.9	384.4	407.4	351.8	351.2
27	388.7	400.3	392.7	414.2	361.9	359.6
28	395.5	405.3	399.3	418.9	371.9	367.7
29	400.4	410.6	404.2	423.4	381.3	374.1
30	404.7	414.1	408.9	427.1	389.8	380.1
31	408.2	417.9	412.4	430.6	395.8	385.5
32	411.9	420.8	416.1	433.5	400.2	391.3
33	414.3	423.3	419.4	436.5	404.3	396.7
34	417.0	426.0	422.7	439.8	409.0	400.9
35	419.6	428.9	425.3	443.1	412.7	404.0
36	423.1	432.3	428.2	445.5	413.7	406.4
37	427.4	435.9	430.3	448.1	414.7	408.4
38	431.3	440.0	432.4	450.1	416.1	411.1
39	436.0	443.8	434.8	452.3	417.6	412.8
40	440.5	447.4	437.4	454.1	419.0	414.8
41	*	*	*	*	*	*
42	*	*	*	*	*	*
43	*	*	*	*	*	*
44	*	*	*	*	*	*

Note: Data for all thermocouples has been removed after 40 minutes due to the necessity to safely board up the door.

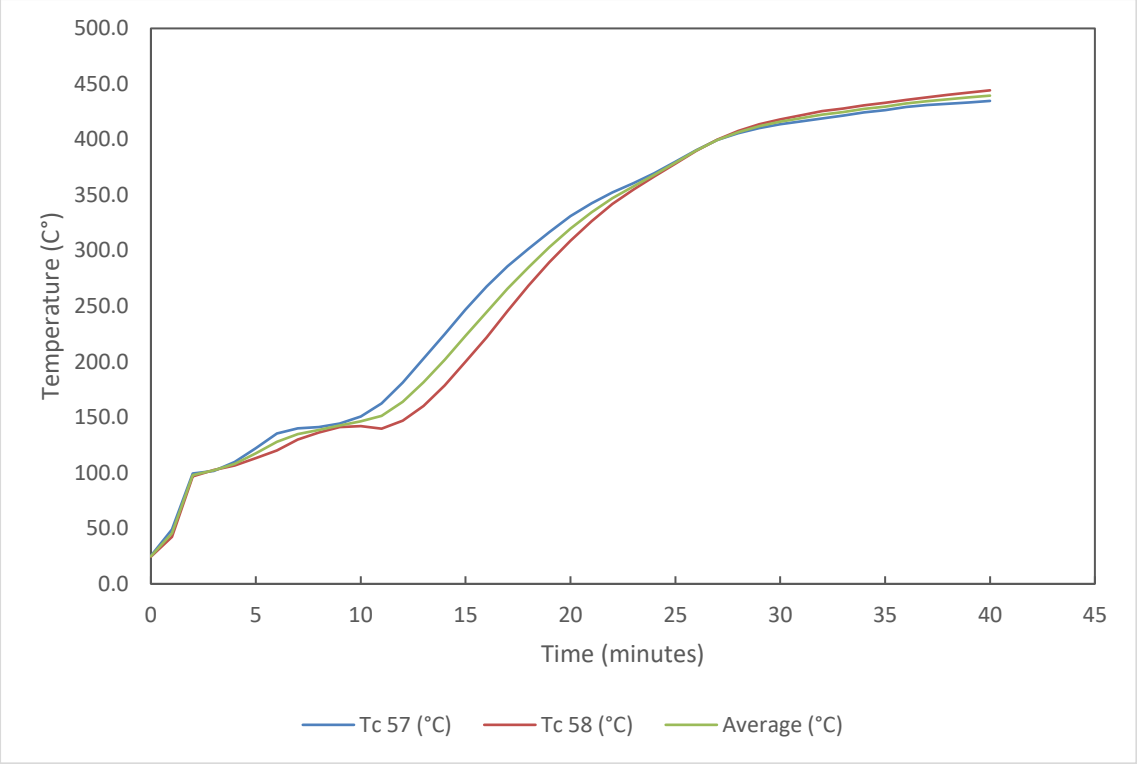


Figure 20 **Temperatures recorded at the average positions on the glazing in the right leaf**

Table 19 **Temperatures recorded at the average positions on the glazing in the right leaf**

Time (mins)	Tc 57 (°C)	Tc 58 (°C)	Average (°C)
0	25.3	24.5	24.9
1	48.9	42.3	45.6
2	99.3	96.8	98.0
3	101.7	102.6	102.1
4	109.6	106.6	108.1
5	122.1	113.1	117.6
6	135.4	120.1	127.8
7	140.0	129.9	135.0
8	141.0	136.4	138.7
9	144.4	141.1	142.7
10	150.7	141.9	146.3
11	162.4	139.8	151.1
12	181.1	146.9	164.0
13	202.7	160.2	181.4
14	224.6	178.7	201.6
15	246.9	199.9	223.4
16	267.5	221.8	244.7
17	285.9	245.4	265.7
18	301.7	268.4	285.0

Time (mins)	Tc 57 (°C)	Tc 58 (°C)	Average (°C)
19	316.6	289.5	303.1
20	330.9	308.9	319.9
21	342.5	326.5	334.5
22	352.3	341.9	347.1
23	360.9	354.9	357.9
24	369.6	366.7	368.1
25	380.1	378.3	379.2
26	390.5	389.9	390.2
27	399.7	399.8	399.8
28	405.6	407.6	406.6
29	410.4	413.6	412.0
30	413.6	418.2	415.9
31	416.3	421.9	419.1
32	419.0	425.6	422.3
33	421.5	428.0	424.8
34	424.5	430.7	427.6
35	426.4	433.1	429.7
36	429.4	435.7	432.5
37	430.9	438.0	434.5

Time (mins)	Tc 57 (°C)	Tc 58 (°C)	Average (°C)
38	432.1	440.2	436.1
39	433.5	442.3	437.9
40	434.7	444.3	439.5
41	*	*	*
42	*	*	*

Time (mins)	Tc 57 (°C)	Tc 58 (°C)	Average (°C)
43	*	*	*
44	*	*	*

Note: Data for all thermocouples has been removed after 40 minutes due to the necessity to safely board up the door.

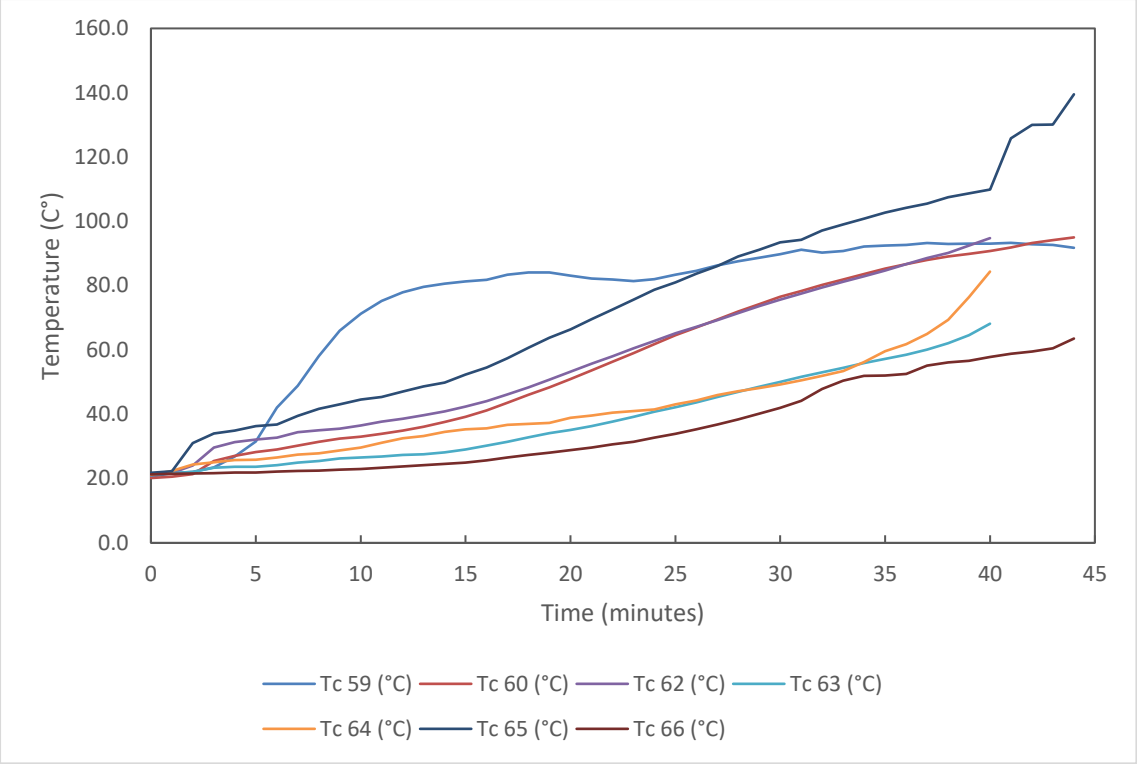


Figure 21 Temperatures recorded on the fanlight frame

Table 20 Temperatures recorded on the fanlight frame

Time (mins)	Tc 59 (°C)	Tc 60 (°C)	Tc 61 (°C)	Tc 62 (°C)	Tc 63 (°C)	Tc 64 (°C)	Tc 65 (°C)	Tc 66 (°C)
0	20.6	20.2	*	21.1	21.1	21.2	21.8	21.3
1	21.7	20.6	*	21.8	21.6	22.4	22.3	21.5
2	22.1	21.4	*	24.1	22.1	24.4	31.0	21.6
3	23.5	25.4	*	29.7	23.4	25.1	34.0	21.7
4	26.8	27.1	*	31.3	23.7	25.8	34.9	21.9
5	31.5	28.3	*	32.2	23.7	25.8	36.3	21.9
6	42.1	29.0	*	32.7	24.2	26.6	36.8	22.2
7	48.8	30.3	*	34.4	25.0	27.5	39.5	22.4
8	58.1	31.4	*	35.0	25.5	27.8	41.7	22.5
9	66.0	32.4	*	35.5	26.3	28.7	43.1	22.8
10	71.3	33.0	*	36.5	26.6	29.6	44.5	23.0
11	75.3	33.9	*	37.7	26.8	31.1	45.4	23.3
12	77.9	35.0	*	38.6	27.3	32.5	47.0	23.8
13	79.6	36.1	*	39.7	27.6	33.2	48.6	24.2
14	80.6	37.6	*	40.9	28.2	34.5	49.9	24.6
15	81.3	39.2	*	42.4	29.0	35.3	52.4	25.0
16	81.8	41.2	*	44.1	30.2	35.6	54.5	25.6
17	83.4	43.5	*	46.1	31.4	36.7	57.4	26.5
18	84.1	46.1	*	48.4	32.8	37.0	60.7	27.3

Time (mins)	Tc 59 (°C)	Tc 60 (°C)	Tc 61 (°C)	Tc 62 (°C)	Tc 63 (°C)	Tc 64 (°C)	Tc 65 (°C)	Tc 66 (°C)
19	84.1	48.4	*	50.8	34.1	37.3	63.7	28.0
20	83.1	50.9	*	53.2	35.1	38.9	66.4	28.8
21	82.2	53.6	*	55.7	36.3	39.6	69.5	29.6
22	81.9	56.3	*	58.0	37.7	40.5	72.6	30.7
23	81.4	59.0	*	60.5	39.2	41.0	75.6	31.4
24	82.0	61.8	*	62.8	40.8	41.5	78.7	32.7
25	83.4	64.5	*	65.2	42.2	43.1	81.0	33.9
26	84.6	66.9	*	67.2	43.7	44.3	83.7	35.3
27	86.3	69.4	*	69.3	45.4	46.0	86.0	36.9
28	87.6	72.0	*	71.4	46.9	47.2	89.1	38.4
29	88.7	74.3	*	73.6	48.6	48.1	91.2	40.2
30	89.8	76.6	*	75.6	50.1	49.2	93.4	42.0
31	91.2	78.4	*	77.5	51.6	50.5	94.2	44.2
32	90.3	80.2	*	79.4	53.0	51.9	97.2	47.9
33	90.8	81.9	*	81.2	54.5	53.4	99.1	50.4
34	92.1	83.6	*	82.9	55.9	56.2	100.8	51.9
35	92.5	85.2	*	84.7	57.2	59.6	102.8	52.1
36	92.7	86.7	*	86.6	58.5	61.8	104.2	52.5
37	93.3	87.9	*	88.5	60.1	65.0	105.5	55.1
38	93.0	89.0	*	90.2	62.1	69.3	107.5	56.1
39	93.1	89.9	*	92.4	64.6	76.4	108.7	56.7
40	93.1	90.8	*	94.8	68.2	84.4	109.9	57.8
41	93.3	91.8	*	*	*	*	125.8	58.9
42	92.8	93.2	*	*	*	*	130.0	59.5
43	92.7	94.1	*	*	*	*	130.1	60.5
44	91.8	95.0	*	*	*	*	139.5	63.5

Note: Data for thermocouple 61 has been removed due to malfunction. Data for thermocouples 62, 63 and 64 after 40 minutes has been removed due to the necessity to safely board up the right door which damaged the thermocouples.

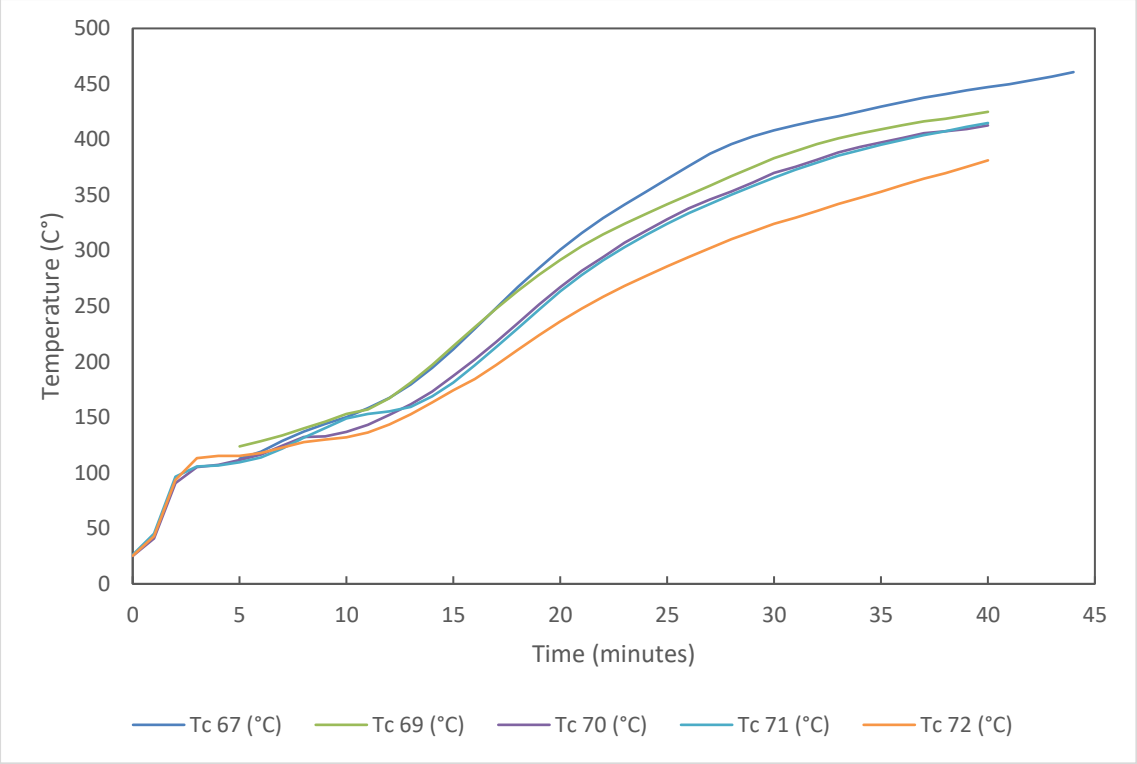


Figure 22 Temperatures recorded at the maximum positions on the fanlight glazing

Table 21 Temperatures recorded at the maximum positions on the fanlight glazing

Time (mins)	Tc 67 (°C)	Tc 68 (°C)	Tc 69 (°C)	Tc 70 (°C)	Tc 71 (°C)	Tc 72 (°C)
0	*	*	*	25.1	26.2	25.3
1	*	*	*	40.9	45.2	42.9
2	*	*	*	90.7	96.4	93.7
3	*	*	*	105.1	105.8	113.3
4	*	*	*	107.1	106.5	115.1
5	112.7	*	123.8	111.3	109.4	115.2
6	119.1	*	128.5	116.4	113.8	117.9
7	128.7	*	133.6	124.4	121.9	122.7
8	137.2	*	140.0	132.1	131.7	127.6
9	144.0	*	146.1	132.7	140.3	129.9
10	150.0	*	153.0	136.7	148.9	132.0
11	158.2	*	157.1	143.1	153.1	136.2
12	167.5	*	167.1	152.0	155.4	143.5
13	179.4	*	181.3	161.6	159.4	152.6
14	194.4	*	196.9	173.2	168.8	163.3
15	211.1	*	214.1	187.4	181.3	174.2
16	229.7	*	230.9	202.0	196.7	184.4
17	248.4	*	247.8	217.9	213.1	197.1
18	267.1	*	263.6	234.5	230.0	210.6
19	284.3	*	278.3	251.4	246.9	223.9

Time (mins)	Tc 67 (°C)	Tc 68 (°C)	Tc 69 (°C)	Tc 70 (°C)	Tc 71 (°C)	Tc 72 (°C)
20	300.7	*	291.5	267.0	263.2	236.3
21	315.8	*	303.8	281.6	278.0	247.9
22	329.3	*	314.5	294.3	291.2	258.3
23	341.3	*	324.1	307.0	303.1	268.1
24	353.0	*	333.0	317.7	314.1	277.1
25	364.4	*	341.6	328.3	324.1	285.7
26	376.1	*	350.0	337.9	333.5	294.0
27	387.2	*	358.5	346.2	342.0	302.3
28	395.9	*	367.1	353.3	350.3	310.2
29	402.8	*	375.0	361.4	358.2	317.3
30	408.1	*	383.3	369.9	365.7	324.0
31	412.8	*	389.6	375.3	372.9	329.6
32	417.1	*	395.8	381.9	379.1	335.7
33	421.0	*	401.1	388.4	385.6	342.0
34	425.3	*	405.5	393.3	390.4	347.5
35	429.6	*	409.1	397.3	395.2	353.0
36	433.7	*	412.9	401.5	399.6	358.9
37	437.6	*	416.3	405.5	404.0	364.7
38	440.9	*	418.7	407.3	407.3	369.7
39	444.1	*	421.8	409.3	411.3	375.4
40	447.1	*	424.9	412.7	414.8	381.2
41	449.8	*	*	*	*	*
42	453.2	*	*	*	*	*
43	456.6	*	*	*	*	*
44	460.7	*	*	*	*	*

Note: Data for thermocouples 67 and 69 before 5 minutes has been removed due to malfunction. Data for thermocouple 68 has been removed due to malfunction. Data for thermocouples 69, 70 ,71 and 72 after 40 minutes has been removed due to the necessity to safely board up the right door which damaged the thermocouples.

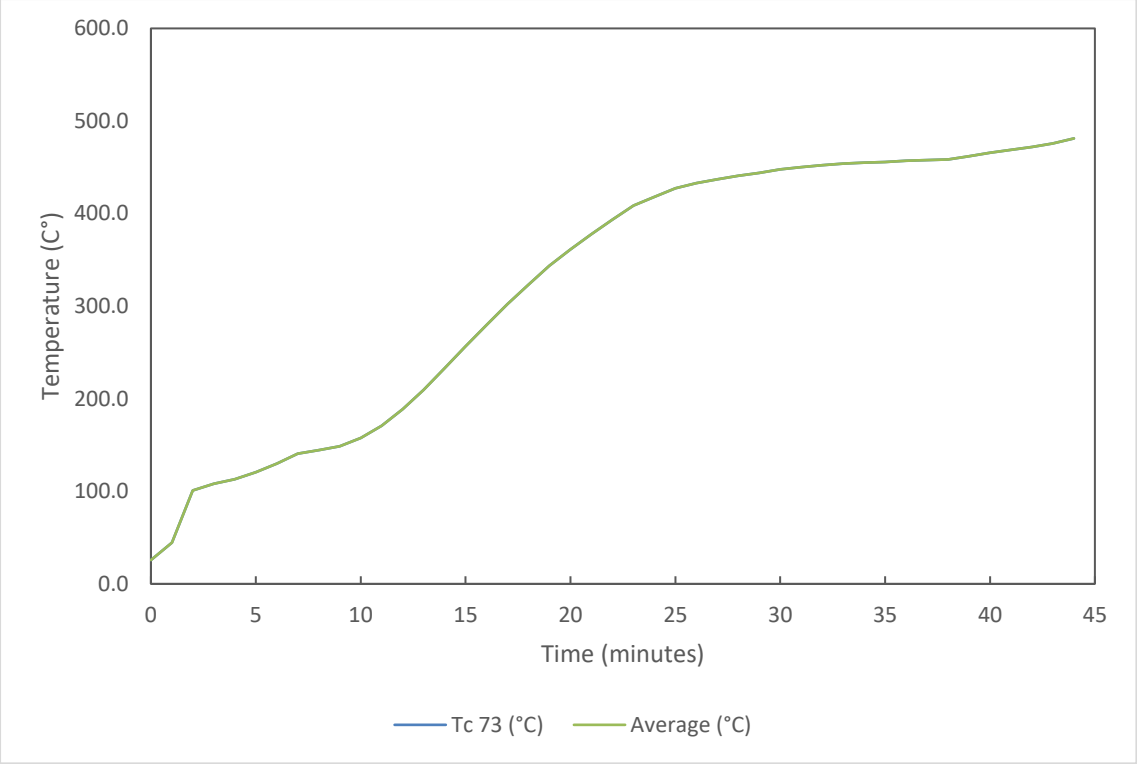


Figure 23 Temperatures recorded at the average positions on the fanlight glazing

Table 22 Temperatures recorded at the average positions on the fanlight glazing

Time (mins)	Tc 73 (°C)	Tc 74 (°C)	Average (°C)
0	25.7	*	25.7
1	44.6	*	44.6
2	100.8	*	100.8
3	108.2	*	108.2
4	113.0	*	113.0
5	120.6	*	120.6
6	129.9	*	129.9
7	140.7	*	140.7
8	144.3	*	144.3
9	148.5	*	148.5
10	157.7	*	157.7
11	170.9	*	170.9
12	188.7	*	188.7
13	209.3	*	209.3
14	233.1	*	233.1
15	256.6	*	256.6
16	279.8	*	279.8
17	302.3	*	302.3
18	323.2	*	323.2

Time (mins)	Tc 73 (°C)	Tc 74 (°C)	Average (°C)
19	343.6	*	343.6
20	361.4	*	361.4
21	377.7	*	377.7
22	393.3	*	393.3
23	408.7	*	408.7
24	418.1	*	418.1
25	427.5	*	427.5
26	433.0	*	433.0
27	436.9	*	436.9
28	440.8	*	440.8
29	443.9	*	443.9
30	447.9	*	447.9
31	450.0	*	450.0
32	452.4	*	452.4
33	453.8	*	453.8
34	455.1	*	455.1
35	455.8	*	455.8
36	456.9	*	456.9
37	457.8	*	457.8

Time (mins)	Tc 73 (°C)	Tc 74 (°C)	Average (°C)
38	458.5	*	458.5
39	462.0	*	462.0
40	465.7	*	465.7
41	469.0	*	469.0
42	471.9	*	471.9

Time (mins)	Tc 73 (°C)	Tc 74 (°C)	Average (°C)
43	475.6	*	475.6
44	481.2	*	481.2

Note: Data for thermocouple 74 has been removed due to malfunction.

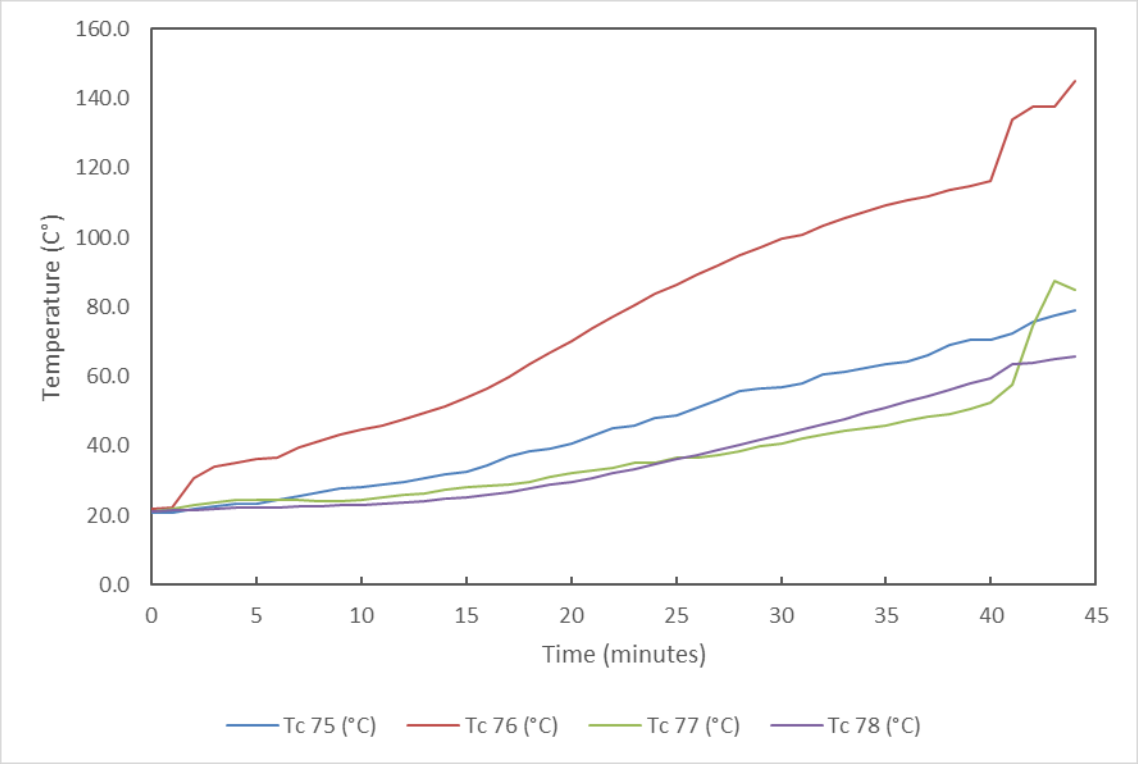


Figure 24 Temperatures recorded on the sidelight frame

Table 23 Temperatures recorded on the sidelight frame

Time (mins)	Tc 75 (°C)	Tc 76 (°C)	Tc 77 (°C)	Tc 78 (°C)
0	20.6	21.9	21.0	21.2
1	20.9	22.4	21.7	21.5
2	21.8	30.6	22.9	21.5
3	22.7	34.2	23.6	21.8
4	23.2	35.2	24.4	22.1
5	23.5	36.2	24.3	22.1
6	24.5	36.7	24.4	22.2
7	25.5	39.4	24.3	22.5
8	26.8	41.5	24.2	22.7
9	27.6	43.1	24.2	22.9
10	28.2	44.6	24.4	23.1
11	28.8	45.9	25.3	23.4
12	29.6	47.8	26.0	23.8
13	30.7	49.6	26.2	24.2
14	31.9	51.2	27.3	24.7
15	32.5	54.0	28.1	25.3
16	34.3	56.7	28.5	25.9
17	36.9	59.9	29.1	26.8
18	38.6	63.4	29.5	27.8
19	39.2	67.0	31.0	28.7

Time (mins)	Tc 75 (°C)	Tc 76 (°C)	Tc 77 (°C)	Tc 78 (°C)
20	40.6	70.2	32.1	29.7
21	42.8	73.8	32.8	30.8
22	45.2	77.1	33.8	32.1
23	46.0	80.5	35.1	33.4
24	47.9	83.8	35.2	34.6
25	48.9	86.6	36.5	36.1
26	51.2	89.5	36.8	37.3
27	53.4	92.1	37.5	38.9
28	55.8	94.8	38.4	40.2
29	56.4	97.1	39.8	41.7
30	56.8	99.6	40.7	43.1
31	58.1	100.9	42.3	44.7
32	60.6	103.4	43.1	46.1
33	61.3	105.5	44.4	47.6
34	62.4	107.3	45.0	49.4
35	63.5	109.2	45.8	51.0
36	64.2	110.8	47.3	52.8
37	66.3	112.0	48.6	54.5
38	69.1	113.6	49.2	56.1
39	70.7	114.9	50.7	57.8
40	70.7	116.2	52.5	59.3
41	72.5	134.1	57.8	63.5
42	75.7	137.7	74.5	64.1
43	77.4	137.8	87.5	65.1
44	79.0	144.9	84.8	65.9

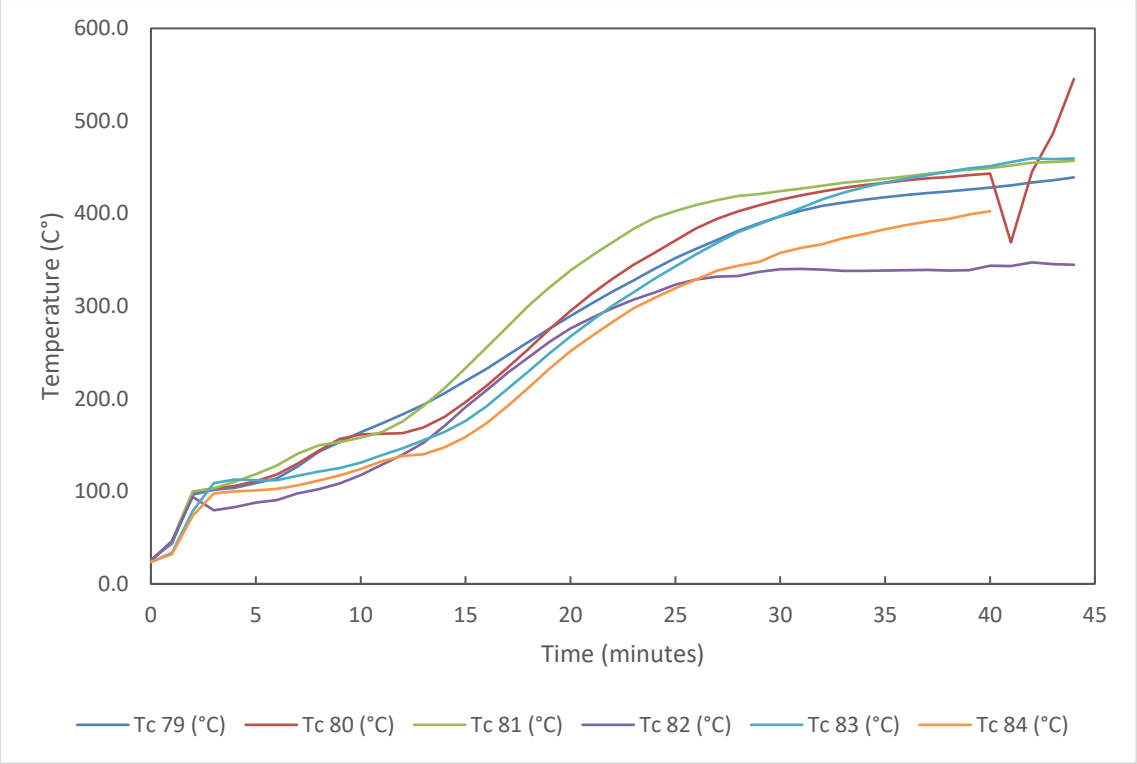


Figure 25 Temperatures recorded at the maximum positions on the sidelight glazing

Table 24 Temperatures recorded at the maximum positions on the sidelight glazing

Time (mins)	Tc 79 (°C)	Tc 80 (°C)	Tc 81 (°C)	Tc 82 (°C)	Tc 83 (°C)	Tc 84 (°C)
0	26.1	25.6	24.8	25.0	23.6	23.8
1	43.5	45.5	45.9	46.4	33.5	32.1
2	96.6	99.1	99.8	93.9	78.6	73.6
3	101.7	102.9	103.5	79.3	108.7	97.7
4	103.7	105.9	110.2	83.1	112.6	99.9
5	109.0	111.1	118.5	87.9	112.1	101.1
6	114.0	118.2	127.9	90.4	112.0	102.7
7	127.0	130.1	140.7	97.9	116.8	106.3
8	142.7	143.9	149.8	102.3	121.4	111.6
9	153.2	156.7	153.0	108.6	125.1	117.2
10	163.7	161.5	157.9	117.5	131.1	124.0
11	173.1	162.1	164.0	128.5	138.8	132.2
12	183.2	162.9	175.5	139.8	146.6	138.2
13	193.7	169.2	192.2	152.5	155.1	140.0
14	206.2	180.5	211.7	170.9	164.2	147.5
15	219.1	196.4	233.1	191.0	175.8	158.7
16	232.3	214.0	255.6	209.2	192.0	173.5
17	246.8	233.4	277.7	227.9	210.5	192.0
18	261.4	253.9	300.4	244.8	229.5	211.8
19	275.7	274.8	320.2	261.3	248.9	232.2

Time (mins)	Tc 79 (°C)	Tc 80 (°C)	Tc 81 (°C)	Tc 82 (°C)	Tc 83 (°C)	Tc 84 (°C)
20	289.5	294.9	338.4	275.7	267.2	251.3
21	302.7	313.2	354.4	287.2	284.2	267.4
22	315.5	329.5	368.9	297.6	300.4	282.8
23	327.9	344.6	383.4	307.0	315.0	297.6
24	340.2	357.6	395.2	314.6	329.5	308.8
25	351.8	370.8	402.9	323.4	343.0	319.3
26	362.1	383.9	409.3	328.8	356.0	328.7
27	371.7	394.6	414.7	331.8	368.6	338.4
28	381.3	402.5	418.9	332.6	380.1	343.6
29	389.7	409.0	421.0	337.0	388.8	347.9
30	397.0	415.0	424.1	339.8	397.3	357.3
31	403.1	419.9	426.9	340.2	406.3	362.9
32	408.4	423.7	430.2	339.3	415.2	366.9
33	411.8	427.6	433.3	338.0	422.4	373.2
34	414.8	430.7	435.4	338.1	428.3	377.9
35	417.6	433.3	437.7	338.6	433.4	383.0
36	420.2	436.0	440.0	338.9	437.7	387.5
37	422.2	438.0	442.7	339.3	441.4	391.3
38	423.8	439.5	445.4	338.6	445.5	394.0
39	425.9	441.6	447.4	338.7	448.9	399.0
40	428.1	443.3	449.0	343.7	451.3	402.5
41	430.5	369.0	451.9	343.4	455.6	*
42	433.5	445.3	455.0	347.2	459.7	*
43	436.0	486.0	455.5	345.6	458.6	*
44	439.1	545.3	457.0	344.7	459.5	*

Note: Data for thermocouple 84 after 40 minutes has been removed due to the necessity to safely board up the right door which damaged the thermocouple.

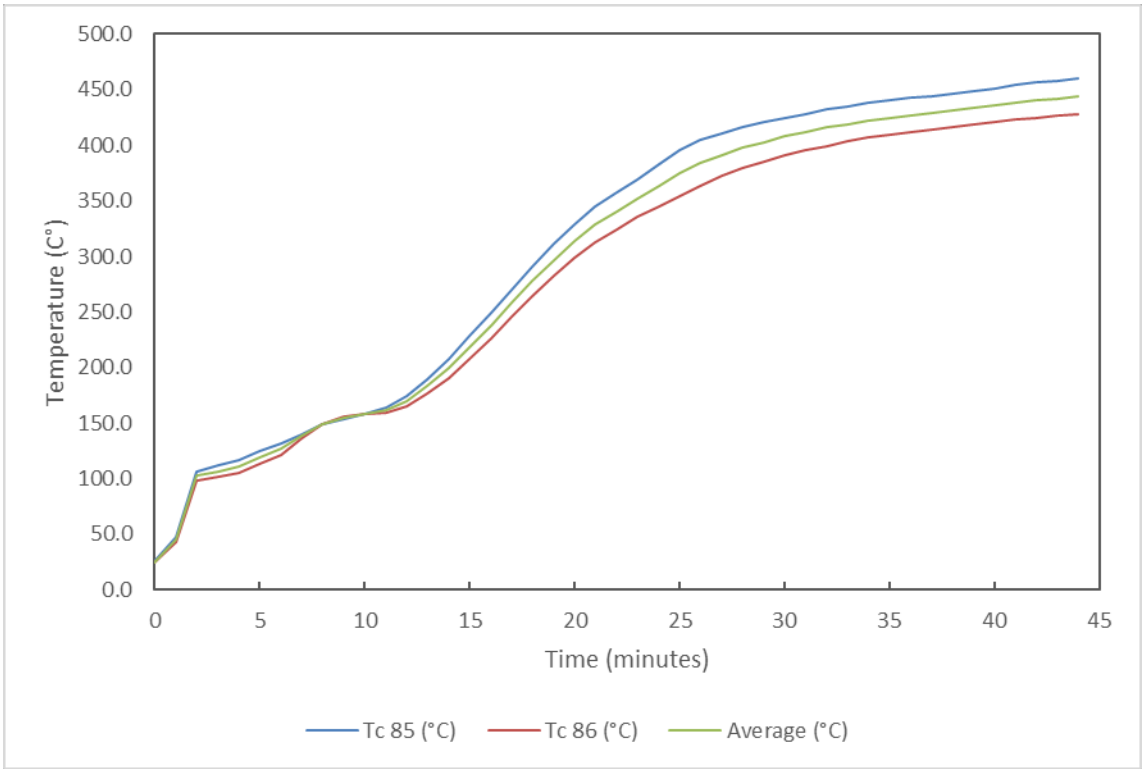


Figure 26 **Temperatures recorded at the average positions on the sidelight glazing**

Table 25 **Temperatures recorded at the average positions on the sidelight glazing**

Time (mins)	Tc 85 (°C)	Tc 86 (°C)	Average (°C)
0	25.4	24.7	25.0
1	47.3	42.8	45.0
2	106.9	98.0	102.4
3	111.9	101.5	106.7
4	117.3	105.6	111.5
5	124.9	113.5	119.2
6	131.7	121.7	126.7
7	140.2	136.0	138.1
8	148.5	149.3	148.9
9	153.3	155.7	154.5
10	158.7	157.9	158.3
11	163.8	159.5	161.7
12	174.9	165.1	170.0
13	189.8	176.5	183.1
14	207.7	190.9	199.3
15	228.2	208.0	218.1
16	249.2	226.5	237.8
17	270.4	245.8	258.1
18	291.2	264.8	278.0

Time (mins)	Tc 85 (°C)	Tc 86 (°C)	Average (°C)
19	311.1	282.4	296.8
20	329.1	298.6	313.9
21	344.4	312.7	328.6
22	357.1	324.4	340.8
23	369.5	335.2	352.4
24	382.9	345.0	364.0
25	395.4	354.4	374.9
26	404.5	363.5	384.0
27	410.7	372.1	391.4
28	416.1	379.6	397.9
29	420.5	385.6	403.1
30	424.9	390.9	407.9
31	428.4	395.7	412.0
32	432.1	399.6	415.9
33	435.3	403.2	419.2
34	437.8	406.7	422.2
35	440.1	409.3	424.7
36	442.3	412.3	427.3
37	444.6	414.5	429.5

Time (mins)	Tc 85 (°C)	Tc 86 (°C)	Average (°C)
38	446.5	416.9	431.7
39	449.0	419.1	434.0
40	451.2	421.4	436.3
41	453.9	423.8	438.8
42	456.4	424.2	440.3

Time (mins)	Tc 85 (°C)	Tc 86 (°C)	Average (°C)
43	457.6	426.3	442.0
44	460.6	428.1	444.4

C.4 Specimen deflections

Table 26 details the deflection measurements of the test specimen at locations given in Figure 27.

Negative measurements show movement of the test specimen away from the furnace. Positive measurements show movement of the test specimen towards the furnace.

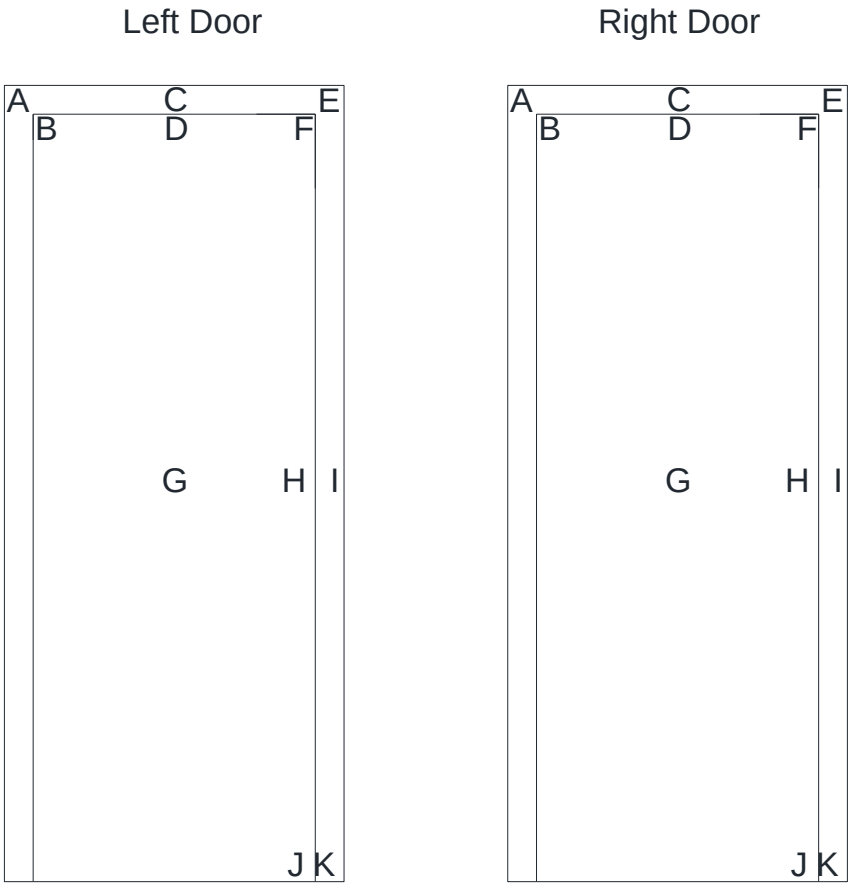


Figure 27 Position of deflection measurements

Table 26 Deflections

	Deflections – Left Door (mm)										
Time (mins)	A	B	C	D	E	F	G	H	I	J	K
5	0	0	0	0	0	0	0	-2	-1	0	-1
10	0	1	-1	1	-1	1	0	-3	-3	0	-1
15	0	2	-1	1	-3	0	-1	-2	-3	0	-1
20	0	3	-2	0	-5	-2	-2	-2	-1	-1	-1
25	0	2	-4	-3	-3	-6	-4	-3	-3	-2	-1
30	0	3	-7	-6	-12	-12	-10	-5	-6	-3	-1
Max	0	3	-7	-6	-12	-12	-10	-5	-6	-3	-1

Deflections - Right Door (mm)											
Time (Mins)	L	M	N	O	P	Q	R	S	T	U	V
5	-1	-1	0	1	0	0	0	-2	-1	2	-1
10	-2	-2	-1	0	0	1	-2	-3	-1	3	-1
15	-3	-4	-2	-3	0	1	-2	-3	-1	2	-1
20	-6	-6	-4	-5	-1	1	-7	-4	-2	1	-2
25	-10	-9	-7	-7	-1	3	-16	-5	-2	1	-2
30	-15	-14	-10	-9	-2	3	-29	-6	-3	1	-3
Max	-15	-14	-10	-9	-2	3	-29	-6	-3	3	-3

C.5 Heat flux measurements

The heat flux was measured 1000 mm away from the specimen and is based on the maximum levels.

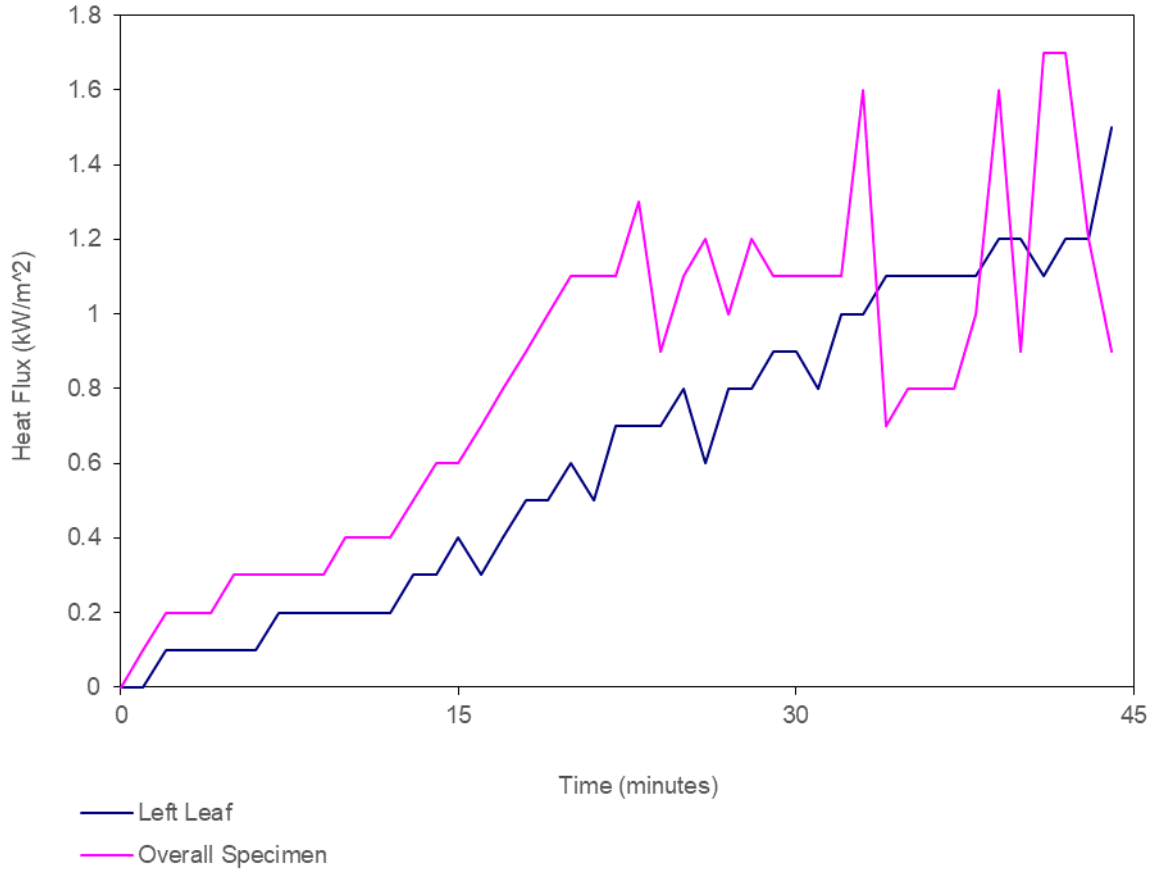


Figure 28 Heat flux measurements of the test specimen vs time

Table 27 Heat flux measurements of the test specimen vs time

Time (mins)	Left Leaf (kW/m²)	Overall Specimen (kW/m²)
0	0	0
1	0	0.1
2	0.1	0.2
3	0.1	0.2
4	0.1	0.2
5	0.1	0.3
6	0.1	0.3
7	0.2	0.3
8	0.2	0.3
9	0.2	0.3
10	0.2	0.4
11	0.2	0.4
12	0.2	0.4

Time (mins)	Left Leaf (kW/m²)	Overall Specimen (kW/m²)
13	0.3	0.5
14	0.3	0.6
15	0.4	0.6
16	0.3	0.7
17	0.4	0.8
18	0.5	0.9
19	0.5	1
20	0.6	1.1
21	0.5	1.1
22	0.7	1.1
23	0.7	1.3
24	0.7	0.9
25	0.8	1.1

Time (mins)	Left Leaf (kW/m²)	Overall Specimen (kW/m²)
26	0.6	1.2
27	0.8	1
28	0.8	1.2
29	0.9	1.1
30	0.9	1.1
31	0.8	1.1
32	1	1.1
33	1	1.6
34	1.1	0.7
35	1.1	0.8

Time (mins)	Left Leaf (kW/m²)	Overall Specimen (kW/m²)
36	1.1	0.8
37	1.1	0.8
38	1.1	1
39	1.2	1.6
40	1.2	0.9
41	1.1	1.7
42	1.2	1.7
43	1.2	1.2
44	1.5	0.9

Table 28 Heat flux thresholds vs time

Radiation intensity	Doorset
5 kW/m²	Radiation intensity not reached
10 kW/m²	Radiation intensity not reached
15 kW/m²	Radiation intensity not reached
20 kW/m²	Radiation intensity not reached
25 kW/m²	Radiation intensity not reached

C.6 Gap measurements

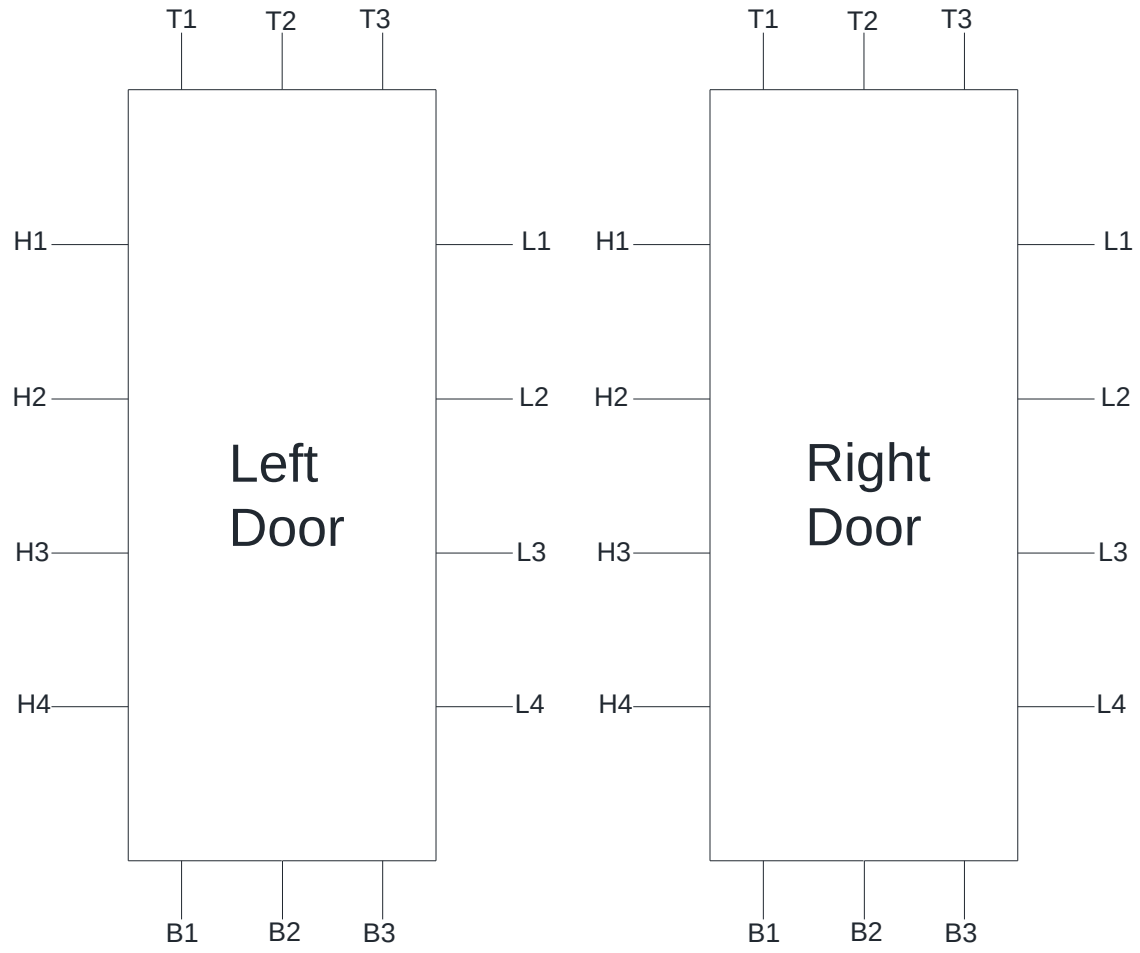


Figure 29 Gap measurements, (unexposed side shown)

Table 29 Measured and calculated gap sizes for the left door

Left Door (mm)					
Hinge side	**Primary**	**Leaf to stop**	**Leading edge**	**Primary**	**Leaf to stop**
H1	3.6	4.6	L1	2.6	6.8
H2	3.5	4.6	L2	2.6	6.8
H3	2.2	4.6	L3	2.7	6.8
H4	2.3	4.5	L4	2.6	6.7
Mean	2.9		**Mean**	2.6	
Max	3.6		**Max**	2.7	
Min	2.2		**Min**	2.6	
Max permitted	5.3		**Max permitted**	4.7	
Top edge	**Primary**	**Leaf to stop**	**Threshold**	**Primary**	
T1	2.5	4.9	B1	4.9	
T2	2.5	5.1	B2	5.1	
T3	2.5	5.2	B3	5.1	
Mean	2.5		**Mean**	5.0	
Max	2.5		**Max**	5.1	
Min	2.5		**Min**	4.9	
Max permitted	4.5		**Max permitted**	7.1	

Table 30 Measured and calculated gap sizes for the right door

Right Door (mm)					
Hinge side	**Primary**	**Leaf to stop**	**Leading edge**	**Primary**	**Leaf to stop**
H1	2.6	5.2	L1	2.8	4.8
H2	2.5	5.1	L2	2.5	5.1
H3	2.5	5.2	L3	2.8	4.2
H4	2.4	5.3	L4	2.5	4.1
Mean	2.5		**Mean**	2.7	
Max	2.6		**Max**	2.8	
Min	2.4		**Min**	2.5	
Max permitted	4.6		**Max permitted**	4.7	
Top edge	**Primary**	**Leaf to stop**	**Threshold**	**Primary**	
T1	3.7	4.8	B1	4.3	
T2	3.7	5.6	B2	4.4	
T3	3.8	4.3	B3	4.4	
Mean	3.7		**Mean**	4.4	
Max	3.8		**Max**	4.4	
Min	3.7		**Min**	4.3	
Max permitted	5.8		**Max permitted**	6.4	

Appendix D Photographs

Figure 30 Unexposed face of the specimen before the start of the test

Figure 31 Unexposed face of the specimen after 5:07 minutes of testing

Figure 32 Unexposed face of the specimen after 10 minutes of testing

Figure 33 Unexposed face of the specimen after 15 minutes of testing

Figure 34 Unexposed face of the specimen after 20 minutes of testing

Figure 35 Unexposed face of the specimen after 25 minutes of testing

Figure 36 Unexposed face of the specimen after 30 minutes of testing

Figure 37 Unexposed face of the specimen at the end of the test

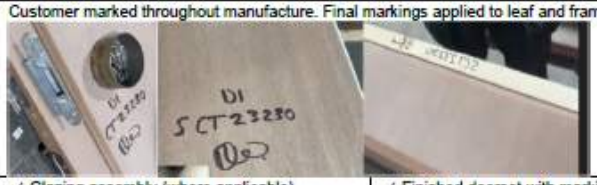
Figure 38 Exposed face of the specimen at the end of the test

Appendix E Sampling report

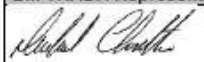
bmtrada Proud to be part of element	SAMPLING VISIT REPORT	Company Name	Wood International Agency Ltd
		Establishment No.	047/21200. CO
		BM TRADA Notified Body ID: 1224	

Company Head Office Address	Wood International Agency Ltd Woods House 16 King Edward Road Brentwood Essex CM5 0RQ	Contact Name	Neil Harrison
		Telephone	+44 (0) 1277 232991
		Email Address	doors@woodia.co.uk

Location where sampling was conducted if different from Head Office Address	Visit Date	BMT Representative
Sentry Doors Ltd, Brooklands Road, Carcroft, Doncaster DN6 7BA	22/08/2023	Michael Chorlton

Requirement	Evidence / Comments
Opening Meeting (names of those present)	Donna Webster (Sentry) / Neil Harrison (WIAL Oversight only) – Remote video sampling with customer submitted additional images and evidence.
Contract Reference	SC23230-1 (Door 1) – Linked with reports 2, 3 & 4 as part of coupled assembly
Technical Specification document / FoA reference Photographs to be taken of all critical areas highlighted in the Technical Specification	Technical Drawing: WIAD-FBK44-ITT-684-A30-P1. Technical Specification: WIA-FBK44-ITT-684-A30 Door 1. Marked up technical specification made by the sampler and must be read in conjunction with this sampling report.
Description of product(s) sampled	Single leaf glazed doorset incorporating Pacific Rim Wood Flamebreak 430 pre-lipped blank, hung in softwood frame on 3No. Butt hinges. Operated by surface mounted overhead closer and secured with Winkhaus AV2 MPL operated by handle and Eurocylinder and incorporating twin door veiwers and drop down seal.
Product identification / reference numbers / codes	N/A
Batch number(s)	N/A
Date of manufacture	In stages between: 10/08/2023 and 16/08/2023 with final assembly 22/08/2023
Quantity of stock and size of sample(s) taken	1No. doorset at 992mm wide x 2079mmm high for incorporation with sidelight, doorset 2 and fanlight as per reports SC23230-2, 3 & 4.
Traceability of material records ie Purchase Orders and delivery notes	Areas with traceability: Door blank factory markings. Frame intumescent strips. Smoke/weatherseal in frame. Hinges. Closer. Drop seal. Lockset, handleset and cylinder. Door viewers. Security chain. Glass. Glazing intumescent seals. Areas with limited or no traceability: Frame engineered timber + density & MC. Firestopping and sealing. Data tag. Glazing bead timber + density and MC.
Example of sampler's markings applied to the product(s) (contract reference, signature of client, date of manufacture)	Customer marked throughout manufacture. Final markings applied to leaf and frame. 
Confirmation of minimum mandatory video/live checks undertaken	✓ Glazing assembly (where applicable) / ✓ Finished doorset with markings ✓ Hardware prep and fitting (where applicable) / ✓ Sampling pack discussion
Details of any further FPC processes witnessed during the visit.	Sentry Doors Ltd are Q-Mark certified by BM TRADA 006/879 & 050/097. Dimensional checks made throughout manufacture.
Determine the essential characteristics of the product and confirm the details of in-process checks conducted on the sample to ensure conformity.	Door blank selection. Hardware selection, preparation, intumescent protection and fixings. Glazing selection, preparation, intumescent protection and bead fixings. Coupling with other frame elements.
State any items from the Technical Specification / FoA that were not witnessed and require further lab sampling	✓ Side screen / overpanel / ☐ Handles / ✓ Other (see tech spec marked with 'not seen') ✓ Door closer / ☐ Frame re-assembly
Confirm any clauses within the Technical Specification that were found to be different on the sampled product/s. ***Non-conformances may be raised for pre-cert and audit test sampling***	Refer to marked up technical specification. Areas in Green = verified during sampling Areas in Blue = Additional sampler notes Areas in Yellow = Areas without verification or where additional evidence may be required.
Closing Meeting (names of those present)	Telephone closing meting conducted with Donna Webster. Marked up TST and draft sampling report sent for approval and signing.

Declaration	I declare that the product/s witnessed during this sampling visit are representative of normal production.

Company Representative Name (Print)	Company Representative Position
Sent to WIAL & Sentry for approval. Not received, issued as final	Director
BM TRADA Representative Signature	**Company Representative Signature**
	

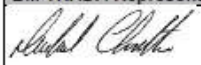
bmtrada Proud to be part of element	SAMPLING VISIT REPORT	Company Name	Wood International Agency Ltd
		Establishment No.	047/21200. CO
		BM TRADA Notified Body ID: 1224	

Company Head Office Address	Wood International Agency Ltd Woods House 16 King Edward Road Brentwood Essex CM5 0RQ	Contact Name	Neil Harrison
		Telephone	+44 (0) 1277 232991
		Email Address	doors@woodia.co.uk

Location where sampling was conducted if different from Head Office Address	Visit Date	BMT Representative
Sentry Doors Ltd, Brooklands Road, Carcroft, Doncaster DN6 7BA	22/08/2023	Michael Chorlton

Requirement	Evidence / Comments
Opening Meeting (names of those present)	Donna Webster / Neil Harrison (Oversight only) – Remote video sampling with customer submitted additional images and evidence.
Contract Reference	SC23230-2 (Door 2) – Linked with reports 1, 3 & 4 as part of coupled assembly
Technical Specification document / FoA reference Photographs to be taken of all critical areas highlighted in the Technical Specification	Technical Drawing: WIAD-FBK44-ITT-684-A30-P1. Technical Specification: WIA-FBK44-ITT-684-A30 Door 2. Marked up technical specification made by the sampler and must be read in conjunction with this sampling report.
Description of product(s) sampled	Single leaf glazed doorset incorporating Pacific Rim Wood Flamebreak 430 pre-lipped blank, hung in softwood frame on 3No. Butt hinges. Operated by surface mounted overhead closer and secured with Arrone DIN sashlock operated by handle and Eurocylinder and Carlisle Brass Firebrigade lock and incorporating drop down seal.
Product identification / reference numbers / codes	N/A
Batch number(s)	N/A
Date of manufacture	In stages between: 10/08/2023 and 16/08/2023 with final assembly 22/08/2023
Quantity of stock and size of sample(s) taken	1No. doorset at 992mm wide x 2079mmm high for incorporation with sidelight, doorset 1 and fanlight as per reports SC23230-2, 3 & 4.
Traceability of material records ie Purchase Orders and delivery notes	Areas with traceability: Door blank factory markings. Frame intumescent strips. Smoke/weatherseal in frame. Hinges. Closer. Drop seal. Centre lockset, handleset and cylinder. Top lockset. Security chain. Glass. Glazing intumescent seals. Areas with limited or no traceability: Frame timber + density & MC. Firestopping and sealing. Data tag. Glazing bead timber + density and MC.
Example of sampler's markings applied to the product(s) (contract reference, signature of client, date of manufacture)	Customer marked throughout manufacture. Final markings applied to leaf and frame. 
Confirmation of minimum mandatory video/live checks undertaken	✓ Glazing assembly (where applicable) ✓ Finished doorset with markings ✓ Hardware prep and fitting (where applicable) ✓ Sampling pack discussion
Details of any further FPC processes witnessed during the visit.	Sentry Doors Ltd are Q-Mark certified by BM TRADA 006/879 & 050/097. Dimensional checks made throughout manufacture.
Determine the essential characteristics of the product and confirm the details of in-process checks conducted on the sample to ensure conformity.	Door blank selection. Hardware selection, preparation, intumescent protection and fixings. Glazing selection, preparation, intumescent protection and bead fixings. Coupling with other frame elements.
State any items from the Technical Specification / FoA that were not witnessed and require further lab sampling	✓ Side screen / overpanel ☐ Handles ✓ Other (see tech spec marked with 'not seen') ✓ Door closer ☐ Frame re-assembly
Confirm any clauses within the Technical Specification that were found to be different on the sampled product/s. ***Non-conformances may be raised for pre-cert and audit test sampling***	Refer to marked up technical specification. Areas in Green = verified during sampling Areas in Blue = Additional sampler notes Areas in Yellow = Areas without verification or where additional evidence may be required.
Closing Meeting (names of those present)	Telephone closing meting conducted with Donna Webster. Marked up TST and draft sampling report sent for approval and signing.

Declaration I declare that the product/s witnessed during this sampling visit are representative of normal production.

Company Representative Name (Print)	Company Representative Position
Sent to WIAL & Sentry for approval. Not received, issued as final	Director
BM TRADA Representative Signature	**Company Representative Signature**
	

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		Establishment No.	047/21200. CO
		BM TRADA Notified Body ID: 1224	

Company Head Office Address	Wood International Agency Ltd Woods House 16 King Edward Road Brentwood Essex CM5 0RQ	Contact Name	Neil Harrison
		Telephone	+44 (0) 1277 232991
		Email Address	doors@woodia.co.uk

Location where sampling was conducted if different from Head Office Address	Visit Date	BMT Representative
Sentry Doors Ltd, Brooklands Road, Carcroft, Doncaster DN6 7BA	22/08/2023	Michael Chorlton

Requirement	Evidence / Comments
Opening Meeting (names of those present)	Donna Webster / Neil Harrison (Oversight only) – Remote video sampling with customer submitted additional images and evidence.
Contract Reference	SC23230-3 (Sidelight) – Linked with reports 1, 2 & 4 as part of coupled assembly
Technical Specification document / FoA reference Photographs to be taken of all critical areas highlighted in the Technical Specification	Technical Drawing: WIAD-FBK44-ITT-684-A30-P1. Technical Specification: WIA-FBK44-ITT-684-A30 Sidelight. Marked up technical specification made by the sampler and must be read in conjunction with this sampling report.
Description of product(s) sampled	Corner jointed softwood frame with glazing retained by screw/cup fixed hardwood beads on each side and glazing gaskets applied to both beads. Final glazing and bead re-fixing at lab after coupling to other frames and fixing into substrate.
Product identification / reference numbers / codes	N/A
Batch number(s)	N/A
Date of manufacture	In stages between: 10/08/2023 and 16/08/2023 with final assembly 22/08/2023
Quantity of stock and size of sample(s) taken	1No. glazed sidelight at 560mm wide x 2079mmm high for incorporation between doorset 1 and doorset 2 and below fanlight as per reports SC23230-1, 2 & 4.
Traceability of material records ie Purchase Orders and delivery notes	Areas with traceability: Glass labels and marks. Glazing intumescent system. Frame adhesive. Frame sealant. Gazing fixings. Areas with limited or not traceability: Frame timber species, density and MC. Bead species, density & MC.
Example of sampler's markings applied to the product(s) (contract reference, signature of client, date of manufacture)	Customer marked throughout manufacture. Final markings applied to leaf and frame. 
Confirmation of minimum mandatory video/live checks undertaken	✓ Glazing assembly (where applicable) ☐ Finished doorset with markings ☐ Hardware prep and fitting (where applicable) ✓ Sampling pack discussion
Details of any further FPC processes witnessed during the visit.	Sentry Doors Ltd are Q-Mark certified by BM TRADA 006/879 & 050/097. Dimensional checks made throughout manufacture.
Determine the essential characteristics of the product and confirm the details of in-process checks conducted on the sample to ensure conformity.	Frame specification, dimensions and corner jointing. Glazing selection, preparation, intumescent protection and bead fixings. Coupling with other frame elements including intumescent mastic in frame coupling edge grooves.
State any items from the Technical Specification / FoA that were not witnessed and require further lab sampling	✓ Side screen / overpanel ☐ Handles ✓ Other (see tech spec marked with 'not seen') ☐ Door closer ☐ Frame re-assembly
Confirm any clauses within the Technical Specification that were found to be different on the sampled product/s. ***Non-conformances may be raised for pre-cert and audit test sampling***	Refer to marked up technical specification. Areas in Green = verified during sampling Areas in Blue = Additional sampler notes Areas in Yellow = Areas without verification or where additional evidence may be required.
Closing Meeting (names of those present)	Telephone closing meting conducted with Donna Webster. Marked up TST and draft sampling report sent for approval and signing.

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BM TRADA Representative Signature	**Company Representative Signature**

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		Establishment No.	047/21200. CO
		BM TRADA Notified Body ID: 1224	

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		Telephone	+44 (0) 1277 232991
		Email Address	doors@woodia.co.uk

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Sentry Doors Ltd, Brooklands Road, Carcroft, Doncaster DN6 7BA	22/08/2023	Michael Chorlton

Requirement	Evidence / Comments
Opening Meeting (names of those present)	Donna Webster / Neil Harrison (Oversight only) – Remote video sampling with customer submitted additional images and evidence.
Contract Reference	SC23230-4 (Fanlight) – Linked with reports 1, 2 & 3 as part of coupled assembly
Technical Specification document / FoA reference Photographs to be taken of all critical areas highlighted in the Technical Specification	Technical Drawing: WIAD-FBK44-ITT-684-A30-P1. Technical Specification: WIA-FBK44-ITT-684-A30 Fanlight. Marked up technical specification made by the sampler and must be read in conjunction with this sampling report.
Description of product(s) sampled	Corner jointed softwood frame with glazing retained by screw/cup fixed hardwood beads on each side and glazing gaskets applied to both beads. Final glazing and bead re-fixing at lab after coupling to other frames and fixing into substrate.
Product identification / reference numbers / codes	N/A
Batch number(s)	N/A
Date of manufacture	In stages between: 10/08/2023 and 16/08/2023 with final assembly 22/08/2023
Quantity of stock and size of sample(s) taken	1No. glazed fanlight at 2544mm wide x 680mmm high for incorporation above doorset 1, doorset 2 and sidelight as per reports SC23230-1, 2 & 3.
Traceability of material records ie Purchase Orders and delivery notes	Areas with traceability: Glass labels and marks. Glazing intumescent system. Frame adhesive. Frame sealant. Gazing fixings. Areas with limited or not traceability: Frame timber species, density and MC. Bead species, density & MC.
Example of sampler's markings applied to the product(s) (contract reference, signature of client, date of manufacture)	Customer marked throughout manufacture. Final markings applied to leaf and frame. 
Confirmation of minimum mandatory video/live checks undertaken	✓ Glazing assembly (where applicable) / ✓ Finished doorset with markings ✓ Hardware prep and fitting (where applicable) / ✓ Sampling pack discussion
Details of any further FPC processes witnessed during the visit.	Sentry Doors Ltd are Q-Mark certified by BM TRADA 006/879 & 050/097. Dimensional checks made throughout manufacture.
Determine the essential characteristics of the product and confirm the details of in-process checks conducted on the sample to ensure conformity.	Frame specification, dimensions and corner jointing. Glazing selection, preparation, intumescent protection and bead fixings. Coupling with other frame elements including intumescent mastic in frame coupling edge grooves.
State any items from the Technical Specification / FoA that were not witnessed and require further lab sampling	✓ Side screen / overpanel / ☐ Handles / ✓ Other (see tech spec marked with 'not seen') ☐ Door closer / ☐ Frame re-assembly
Confirm any clauses within the Technical Specification that were found to be different on the sampled product/s. ***Non-conformances may be raised for pre-cert and audit test sampling***	Refer to marked up technical specification. Areas in Green = verified during sampling Areas in Blue = Additional sampler notes Areas in Yellow = Areas without verification or where additional evidence may be required.
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Company Representative Name (Print)	Company Representative Position
Sent to WIAL & Sentry for approval. Not received, issued as final	Director
BM TRADA Representative Signature	**Company Representative Signature**

warringtonfire
Proud to be part of element

Registered office:

Warringtonfire Testing and Certification Limited
3rd Floor, Davidson Building, 5 Southampton Street, London, WC2E 7HA, United Kingdom
Registered Company No. 11371436

Name & address of issuing laboratory:

Warringtonfire Testing and Certification Limited
Chiltern House, Stocking Lane, Hughenden Valley, High Wycombe, Buckinghamshire, HP14 4ND, United Kingdom

Location of performance of laboratory activities:

Warringtonfire Testing and Certification Limited
Chiltern House, Stocking Lane, Hughenden Valley, High Wycombe, Buckinghamshire, HP14 4ND, United Kingdom

Fire resistance laboratory locations:

High Wycombe, United Kingdom
UKAS accredited laboratory 1762
T - +44 (0) 1494 840 780

Warrington, United Kingdom
UKAS accredited laboratory 0249
T: +44 (0) 1925 655 116

Melbourne, Australia
NATA accredited laboratory 3277
T: +61 3 9767 1000

Ghent, Belgium
BELAC accredited laboratory 196-TEST
T: +32 9 243 77 50

Tisselt, Belgium
BELAC accredited laboratory 196-TEST
T: +32 9 243 77 50

Heywood, United Kingdom
UKAS accredited laboratory 0249
T - +44 (0) 1925 655 116

General conditions of use