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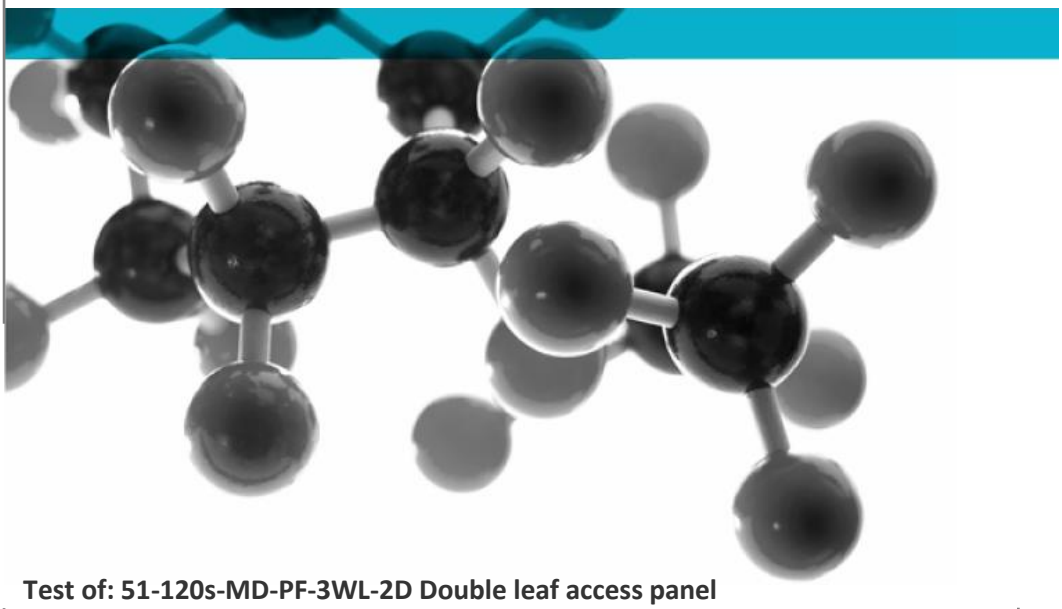
EN 1634-3: 2004

Smoke control test for door and shutter assemblies

To the principles of BS EN 1026: 2016

Windows and Doors – Air Permeability



Test of: 51-120s-MD-PF-3WL-2D Double leaf access panel

Date of Test: 01/09/2023

Copy: 1

Issue No.: 2

Sponsor: Panel Technologies Limited

49-61 Jodrell Street
Nuneaten
Warwickshire
CV11 5EG

Document Reference: WYC536005

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Results of Test: WYC536005/Test1

Panel Technologies Limited

49-61 Jodrell Street

Whitacre Road Industrial Estate

Nuneaton

Warwickshire

CV11 5EG

This document confirms that performance testing was conducted on 1st September 2023. Testing was conducted to BS EN 1634-3: 2004 Incorporating corrigendum no. 1 Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware – Part 3: Smoke control test for door and shutter assemblies.

The following results were achieved:

Product tested	**51-120s-MD-PF-3WL-2D Double leaf access panel**		
Test Detail	**Locked, with threshold not taped**		
Summary of testing procedure			**Result**
BS EN 1634-3: 2004	**Pressure (Pa)**	**Leakage (m³/h)**	**Leakage (m³/m/h)**
Results under positive chamber (door leaf opening away from chamber)	**50**	43.01	3.99
	25	26.64	2.47
	10	16.27	1.51
Results under negative chamber (door leaf opening away from chamber)	**50**	46.31	4.30
	25	31.41	2.92
	10	18.65	1.73

Testing was carried out at ambient temperature only: temperature of the test chamber was measured using a calibrated digital thermometer before and after testing.

The perimeter length of gap was 10.775m

Issued by:
Martin Durham
Laboratory Manager

Authorised by:
Lee Grant-Riach
Advanced Technical Officer
Issued Date: 9th November 2023

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Results of Test: WYC536005/Test2

Panel Technologies Ltd

49-61 Jodrell Street

Whitacre Road Industrial Estate

Nuneaton

Warwickshire, CV11 5EG

This document confirms that performance testing was conducted on 1st September 2023. Testing was conducted to the principles of BS EN 1026: 2016 – Windows and Doors – Air permeability – Test method:- The following results were achieved:

Product tested		51-120S-MD-PF-3WL-4D-AT-36db					
Summary of testing procedure		Results		Summary of testing procedure		Results	
Positive Pressure (Pa)	Leakage (m^3/h)	Leakage ($m^3/h/m$)	Leakage ($m^3/h/m^2$)	Negative Pressure (Pa)	Leakage (m^3/h)	Leakage ($m^3/h/m$)	Leakage ($m^3/h/m^2$)
50	43.01	3.99	9.39	50	46.31	4.30	10.11
100	75.12	6.97	16.40	100	73.84	6.85	16.12
150	105.27	9.77	22.98	150	94.64	8.78	20.66
200	127.54	11.84	27.85	200	110.11	10.22	24.04
250	155.82	14.46	34.02	250	124.94	11.60	27.28
300	193.43	17.95	42.23	300	138.69	12.87	30.28
450	**	**	**	450	169.63	15.74	37.04
600	**	**	**	600	**	**	**

Testing was carried out at 19.7°C and 67% RH. The perimeter length of gap was 10.775 m. The overall area was 4.58m^2

**leakage readings at 450Pa and 600Pa could not be measured by the calibrated pressure transducer as the readings were too high. The leakages for these pressures were estimated using the graph plotted against the figures above. These figures are only estimates and could be higher or lower.

*The access panel is not covered under the EN 12207: 2016 classification standard, but based on the dimensions and leakages from EN 1026 test, the panel would 'achieve' **300Pa Class 2'** classification.*
Please note that is for reference only as this product is neither a doorset nor window and cannot be fully classified under EN 12207: 2016

Issued by:
Martin Durham
Laboratory Manager

Authorised by:
Lee Grant-Riach
Advanced Technical Officer
Issued Date: 9th November 2023

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1. Introduction

Performance testing to BS EN 1634-3:2004 incorporating corrigendum no. 1 and to the principles of EN 1026: 2016 was conducted on the access panel on 1st September 2023. The specimen was configured as a double access panel. The specimen was installed opening out of the test chamber. In accordance with BS EN 1634-3: 2004 section 10.1.1, the leaf was pre-cycled before the smoke leakage test (See section 6.1 for further details).

2. Specimen verification

The access panel was delivered to Warringtonfire on the day of testing. The component parts of the specimen were identified based on nominal information provided by the sponsor. These details are outlined in the specimen construction section of this report (section 5).

2.1. Conditioning

The specimen was made from non-hygroscopic materials and was conditioned for 1 hour before the test at an average temperature between 19°C and 21°C. Relative humidity was between 61% and 64%.

2.2 Sampling

Warringtonfire was not involved in factory sampling of the products and materials used for the test specimen described in this report, and as such the results apply to the sample as received.

3 Description of supporting construction

The partition was constructed of nominal 90mm x 45mm timber studs at 600mm centres with one layer of 12.5mm plasterboard on each face. The stud wall is taken to be of a standard wall construction.

The specimen was fixed with 6mm x 120mm self-tapping multipurpose countersunk screws.

The perimeter of the front of the frame was sealed with a bead of fire rated intumescent mastic. The gap between the back of the specimen and supporting construction was nominal 7mm, capped with fire rated intumescent mastic.

4. Test Equipment

Description
Scientific Monitor
Tape Measure
Callipers
Laminar Flow element:
Mass Flow Meter
Pressure Transducer
Force Gauge

5. Description of Specimen Construction

The specimen was identified as a 51-120s-MD-PF-3WL-2D Double leaf access panel. The overall frame dimensions were 2450mm high x 1850mm wide x 75mm deep. The panels dimensions were 895mm wide x 2396mm high x 22.5mm thick.

See Appendix 1 for more information.

Panels

	Material/type	Dimensions (mm)
Door Tray	Folded Zintec Steel*	1.2 thick*
Core	None present	12.5 thick
Core Retainer	None present	-
Astragal	1.2mm thick folded steel fixed to secondary leaf by M5 x 12mm pan head bolts*	1.2 thick
Roofing bolts	M5 x 20mm Bright Zinc Plated (BZP) roofing bolts*	-
Joints	Welded	-

* As stated by sponsor, not checked by laboratory

Frame

	Material/type	Dimensions (mm)
Stiles and rails	1.5mm folded Zintec steel*	68 x 43
Rebate	Single type	29 x 20
Joints	Mitred and welded	-

* As stated by sponsor, not checked by laboratory

Hardware

	Make/type	Size (mm)	Fixing details (dimensions in mm)
Hinges	Bagshaw Engineering (Ref. HINGE-RF-R51) electroplated Rapid Fit Spring Hinge*	19.1 x 19.1 x 40	Welded
Locking mechanism	2No. C.R.A International (Ref. 18732) Bright Zinc Plated Mild Steel 3 Point Locking Mechanism	162 x 16 with 18 stroke	Bolted on by 2No. M5 x 25 Bright Zinc Plated 8.8 High Tensile Steel Hexagon head Bolts
Bung & Collar	C.R.A International (Ref. 18820-WHT)*	19Ø	Push fit
Keeps	All keeps are cut outs in frame/leaf	-	-

* As stated by sponsor, not checked by laboratory

Perimeter Sealing Details

	Make/type	Size (mm)	Location
Door Edges	1No. Norseal FS1000* gasketing foam	10 x 4.5	Rebate upstand
	1No. Norseal FS1000* gasketing foam	10 x 4.5	On astragal (meeting edge)
Frame reveal	None Present	-	-
Seal continuity	Uninterrupted by hardware	-	-

* As stated by sponsor, not checked by laboratory

6. Pre-test measurements

6.1 Operational check

Operability test of 10 manual cycles was completed on the leaf in accordance with BS EN 1634-3: 2004 section 10.1.1.

Minimum angle of opening	30°
Number of operation cycle completed	10

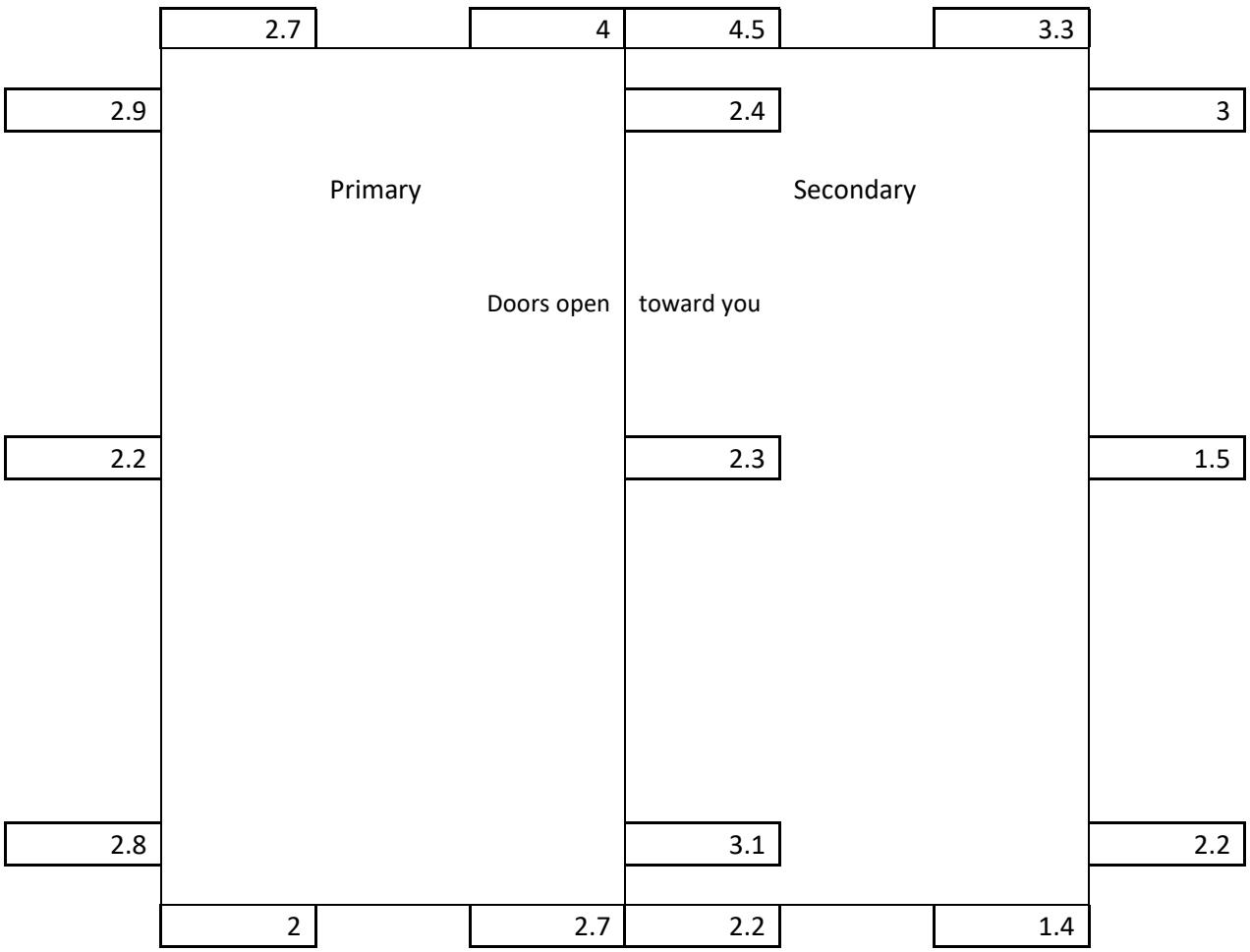
6.2 Retention forces

Measured in accordance with BS EN 1634-3: 2004 section 10.1.2.

Opening Forces
N/A – no closer fitted

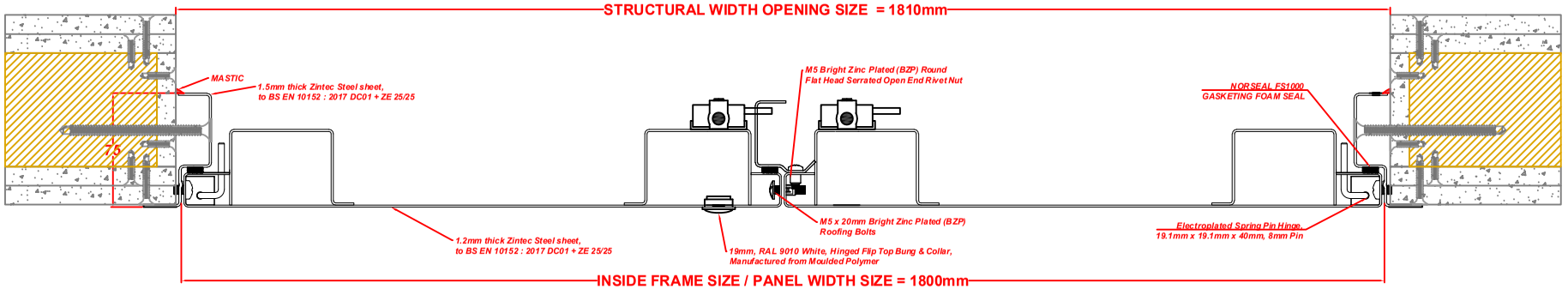
6.3 Leaf/frame gaps

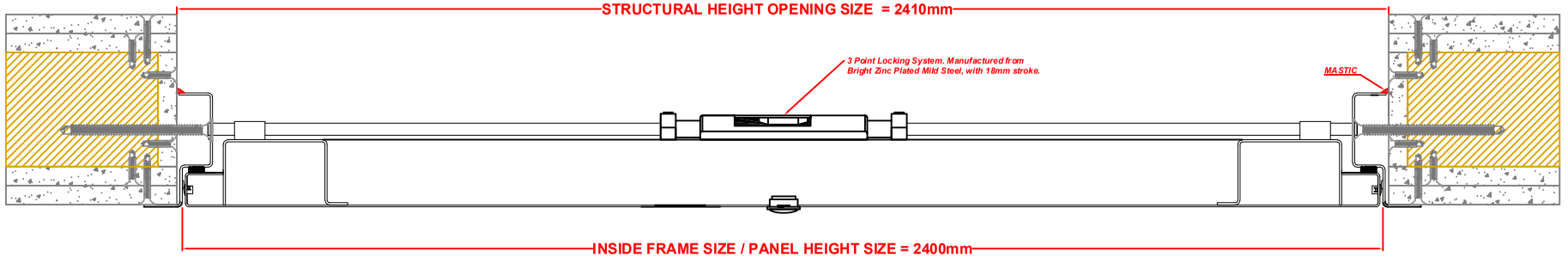
The gaps were measured before testing commenced – See diagram below (Gaps were measured within 20mm from corners and at the centre of stiles) – All measurements given in mm.



Appendix 1 – Sponsor Drawing (1 Page)

ISSUE No:	CHANGE DETAIL'S:





Critical Faces if applicable ----------

Scale	Date drawn	Drawn by	Material	Material Thickness	Paint Spec	Description of Panel or Trim
Do Not Scale	09/11/22	RC	ZINTEC	1.2mm/1.5mm	AS PER ORDER	FIRE TESTED RISER DOOR
Description of Panel or Product: 51-120s-MD-PF-3WL-2D						Item of Panel or Trim: ASSEMBLY
Issue no: 1	Drawing no.: 51-120s-MD-PF-3WL-2D	Linear Tolerances: +/-0.5 DEGREES	ADDRESS : WILLIAM HOUSE, 49-61 JODRELL STREET, NUNEATON WARWICKSHIRE, CV11 5EG			

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