
Title:

Smoke control test for door and shutter assemblies, when tested in accordance with EN 1634-3: 2004

Single leaf, single acting access panel

Product tested: 51-FR120S-MD-PF-3WL-40A Access Panel

Date Of Test:

30/11/2023

Issue Date:

25/04/2024

WYC Report No:

WYC 538749/01

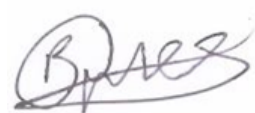
Prepared for:

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Approved Body No: 1314

Quality Management

Version	Date	Information about the report	
1	25 April 2024	Description	Initial issue
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Signed for and on behalf of Warringtonfire Testing and Certification Limited

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Contents

Page No.

Quality Management	2
Contents	3
Results of Test: WYC538749/01	4
1 Introduction	5
2 Specimen verification	5
2.1 Conditioning	5
2.2 Sampling	5
3 Description of supporting construction	5
4 Test Equipment	5
5 Specimen Construction	6
6 Pre-test measurements	8
6.1 Operational check	8
6.2 Retention forces	8
6.3 Leaf/frame gaps - Single Leaf	8
6.4 Frame/supporting construction gaps - Single Leaf	9
7 Limitations	10
8 Field of direct application of test results	10
Appendix 1 – Sponsor’s Drawing	11

Results of Test: WYC538749/01

Panel Technologies

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This document confirms that performance testing was conducted on 30th November 2023. Testing was conducted to BS EN 1634-3: 2004 Incorporating corrigendum № 1: 2007 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-FR120S-MD-PF-3WL-40A Access Panel		
Test Detail	Locked, with threshold *unsealed		
Summary of testing procedure			Results
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	4.17	0.73
	25	2.49	0.44
	10	1.28	0.23
Results under negative chamber (door leaf opening away from chamber)	50	5.15	0.91
	25	3.39	0.60
	10	2.32	0.41

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

*Where referenced as unsealed above, the threshold was not actively taped with an impermeable material by the laboratory, however an active drop seal or similar operational seal was fitted as part of the doorset. On this basis, section 3.1.10 of the test method can not be confirmed, as there may have been some leakage from the seal.

The perimeter length of gap was 5.685m – measured from the fixed and moving components of the doorset but excluding the length of the threshold gap

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1 Introduction

Performance testing to BS EN 1634-3: 2004 incorporating corrigendum № 1: 2007 was conducted on the doorset on 30th November 2023. The specimen was configured as a single leaf, single acting 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 doorset was delivered to the Warringtonfire smoke leakage laboratory on 30th November 2023. 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 hygroscopic/non-hygroscopic materials and was conditioned for at least 2 hours at an average temperature between 10°C and 11°C. Relative humidity was between 40% and 42%.

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 multi-purpose steel screws at 330mm centres on the vertical & 250mm horizontal.

4 Test Equipment

The following test equipment was used during the testing of the specimen(s).

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

5 Specimen Construction

Overall Dimensions:

Frame: 950mm wide x 2450mm high x 74mm thick

Panel Leaf: 895mm wide x 2385mm high x 44mm thick

Panels

	Material/type	Dimensions (mm)	Density (kg/m ³)
Door Tray	Folded Zintec Steel*	1.2 thick*	1.2 thick*
Core	Acoustic matting self-adhered to door tray Custom Audio Designs IsoBase R50 Under Floor Resilient Layer*	5 thick*	32*
	Rockwool RW3 Semi Rigid Slab*	40 thick*	80*
	Siniat GTEC dB board fixed to door tray using 3.5 x 25mm Bright Zinc Plated (BZP) Countersunk Pozi Bugle Head Cross Recess Self Drilling Drywall Screws Fixed into Top hats*	12.5 thick*	880*
Core Retainer	None present	-	-
Joints	Welded	-	-

* As stated by sponsor, not checked by laboratory

Frame

	Material/type	Dimensions (mm)
Stiles and rails	1.5mm folded Zintec steel*	75 x 25*
Rebate	Single type	26 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	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. Envirograph G10/10 grey self-adhesive EPDM seal*	10 x 2*	Rebate platform
	1No. C.R.A International White 'P' Profile Compression Self Adhesive EDPM seal*	9 x 5.5*	Rebate platform
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.

Table with 2 columns: Measurement, Value. Row 1: Minimum angle of opening, 30°. Row 2: Number of operation cycles completed, 10.

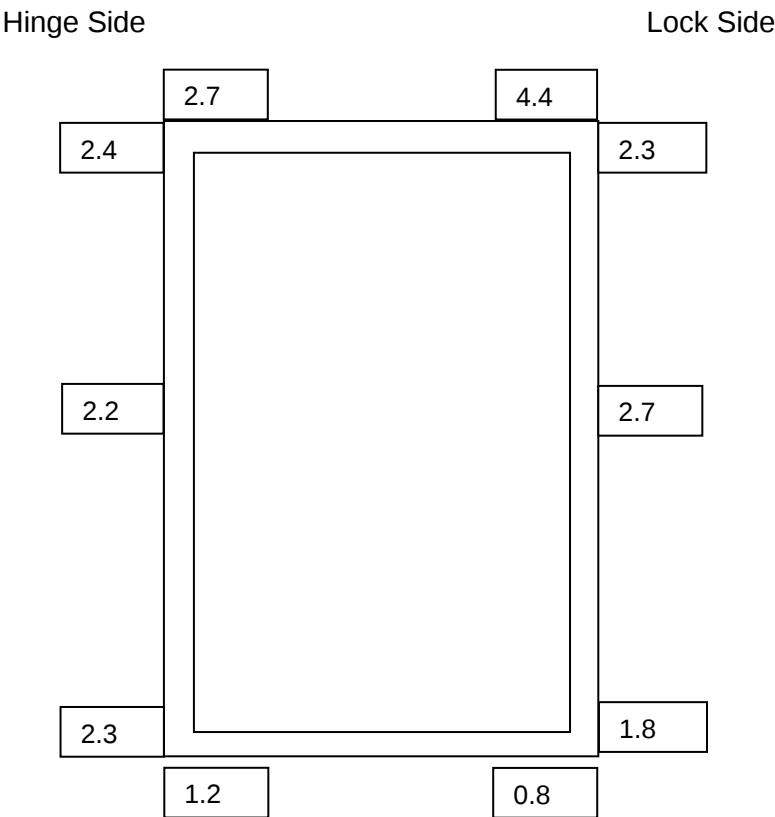
6.2 Retention forces

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

Table with 1 column: Opening Forces. Row 1: N/A – no closer present.

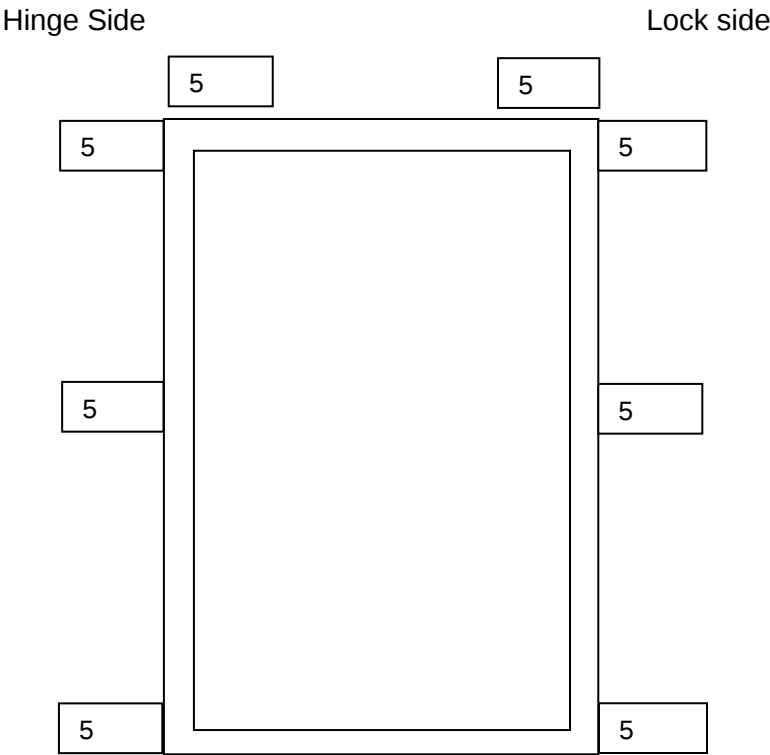
6.3 Leaf/frame gaps - Single Leaf

The gaps were measured before testing commenced - See diagram below. Gaps were measured within 20mm from corners and at the centre of the vertical edges. All measurements given in mm.



6.4 Frame/supporting construction gaps - Single Leaf

The gaps were measured before testing commenced - See diagram below. Gaps were measured within 20mm from corners and at the centre of the vertical edges. All measurements given in mm.



7 Limitations

- The results only relate to the behaviour of the specimen submitted for test, as described in the Technical Specification (section 5), and under the particular conditions of test.
- The results are not intended to be the sole criteria for assessing the smoke leakage performance of the element in use nor do they necessarily reflect the actual behaviour once installed on site.
- The specification and interpretation of test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over 5 years old should be considered by the user. Warringtonfire will be able to offer a review of the procedures adopted for a particular test to ensure that they are consistent with current practices.
- The results are solely for use by the sponsor and the stated purpose.
- The sponsor cannot rely on information provided without consent from Warringtonfire.
- Any recommendations are specific to the assignment and the sponsor.
- Extracts from the report are not permitted.

8 Field of direct application of test results

The results of the test are directly applicable to similar constructions where one or more of the changes listed in BS EN 1634-3: 2004, Clause 13, are made and the construction continues to comply with that appropriate design code for its stiffness and stability. Other changes are not permitted by the document. A copy of the field of direct application is available from Warringtonfire upon request.

Appendix 1 – Sponsor's Drawing

Note, the dimensions in the specification section of this report take precedence over those provided in the drawing.

