
Title:

Smoke control test for door and shutter assemblies, when tested in accordance with EN 1634-3: 2004 Incorporating corrigendum № 1: 2007

Single Meter Box

Date Of Test:

02/05/2024

Issue Date:

11/07/2024

WYC Report No:

WYC543348

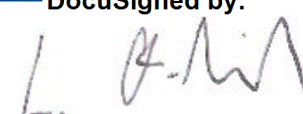
Prepared for:

Panel Technologies

Lauren House,
Aston Road,
Nuneaton,
CV11 5EL

Approved Body No: 1314

Quality Management

Version	Date	Information about the report	
1	11 July 2024	Description	Initial issue
		Prepared by	Authorised by
		Name	Rudy Bell-Bishop
		Signature	Lee Grant Riach
		Signed by:	DocuSigned by:
			
		2DD9566CC45B466...	22A1026D1F524A7...

Signed for and on behalf of Warringtonfire Testing and Certification Limited

This report may only be reproduced in full. Extracts or abridgements of reports shall not be published without permission of Warringtonfire. All work and services carried out by Warringtonfire Testing and Certification Limited are subject to, and conducted in accordance with, the Standard Terms and Conditions of Warringtonfire Testing and Certification Limited, which are available at <https://www.element.com/terms/terms-and-conditions> or upon request.

Contents

Page No.

Quality Management	2
Contents	3
Results of Test: WYC543348	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
6.1 Pre-test Conditioning	8
6.2 Retention forces	8
6.3 Leaf/frame gaps - Single Leaf	9
6.4 Frame/supporting construction gaps - Single Leaf	10
7 Limitations	10
8 Field of direct application of test results	10
Appendix 1 – Sampling Report (1 page)	11

Results of Test: WYC543348

Panel Technologies

Lauren House,
Aston Road,
Nuneaton,
CV11 5EL

This document confirms that performance testing was conducted on 2/05/2024. 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	Single Meter Box		
Test Detail	Latched, 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	3.42	1.10
	25	2.90	0.94
	10	1.03	0.33
Results under negative chamber (door leaf opening away from chamber)	50	2.27	0.73
	25	1.35	0.44
	10	0.40	0.13

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.

The perimeter length of gap was 3.096m – measured from the fixed and moving components of the doorset but excluding the length of the threshold gap

Warringtonfire Testing and Certification Ltd.

Laboratory address: Chiltern House Stocking Lane, Hughenden Valley, High Wycombe, HP14 4ND, UK.

Tel: 01494 569750 Fax: 01494 564895

Web: www.warringtonfire.com

This document is confidential and remains the property of Warringtonfire



1 Introduction

Performance testing to BS EN 1634-3: 2004 incorporating corrigendum № 1: 2007 was conducted on the doorset on 2nd May 2024. The specimen was configured as a single meter box.

The specimen was installed opening out of the test chamber. In accordance with BS EN 16034: 2014 Annex A section A.3.2, 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 02/05/2024. 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 at least 1 hour at an average temperature between 13°C and 24°C. Relative humidity was between 77% and 78%.

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.

Face fixed onto supporting construction using 3.5 x 50 mm Multipurpose screws.

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: 750mm wide x 1250mm high x 70mm thick

Panel Leaf: 700mm wide x 1200mm high x 22mm thick

Panel

	Material/type	Dimensions (mm)
Door Tray	Folded Zintec Steel*	0.9 thick*
Core Joints	None present	12.5 thick
	Welded	-

* As stated by sponsor, not checked by laboratory

Frame

	Material/type	Dimensions (mm)
Stiles and rails	0.9mm folded Zintec steel*	15 x 23 x 48 x 23
Rebate	Single type	27 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	1No. C.R.A International (BL-ZINC-BZP) Standard Budget Lock, Insert chrome triangular 8mm	162 x 16 with 18 stroke	Welded
Bung & Collar	N10. 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	None present	-	-
Frame reveal	1No. Intumescent foam tape (Norseal FS1000) *	10 x 4.5	Internal edges of panel leaf
Seal continuity	Uninterrupted by hardware	-	-

* As stated by sponsor, not checked by laboratory

6 Pre-test measurements

6.1 Pre-test Conditioning

Prior to testing, the doorsets were subjected to appropriate mechanical pre-test conditioning in accordance with the requirement of BS EN 16034. Specifically the pre-cycle requirement within Annex A.2.2:

Operability Pre-cycling

Minimum angle of opening:	30°
Number of operation cycles completed:	10

Specimen Self-Closing

Angle of Measurement	10°±2°
Closing speed	N/A – No closer fitted

6.2 Retention forces

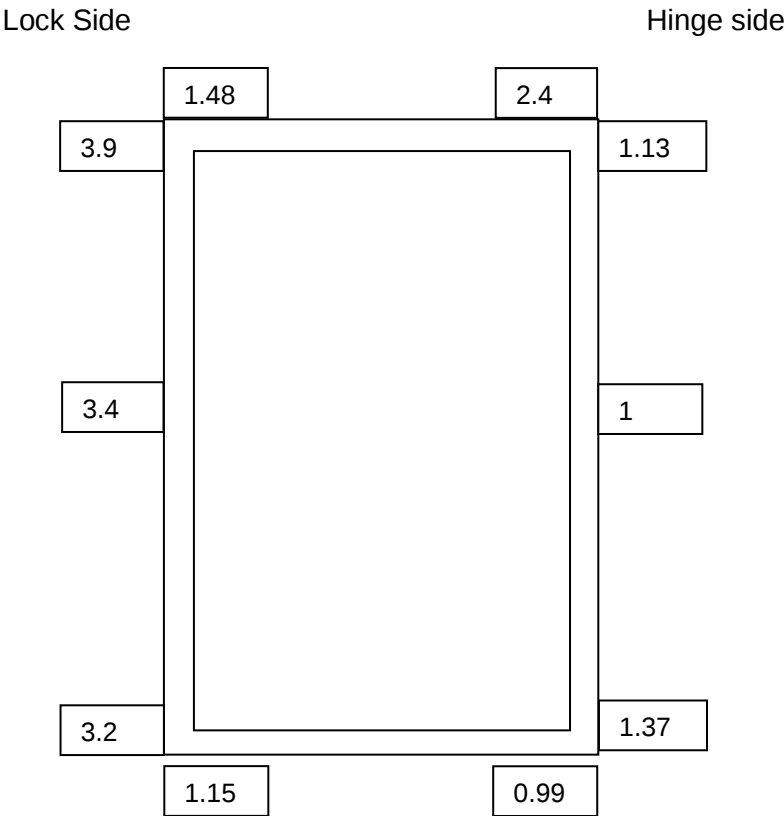
Measured in accordance with BS EN 1634-3: 2004 section 10.1.2.

Opening Forces

N/A – No Closer Fitted

6.3 Leaf/frame gaps - 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

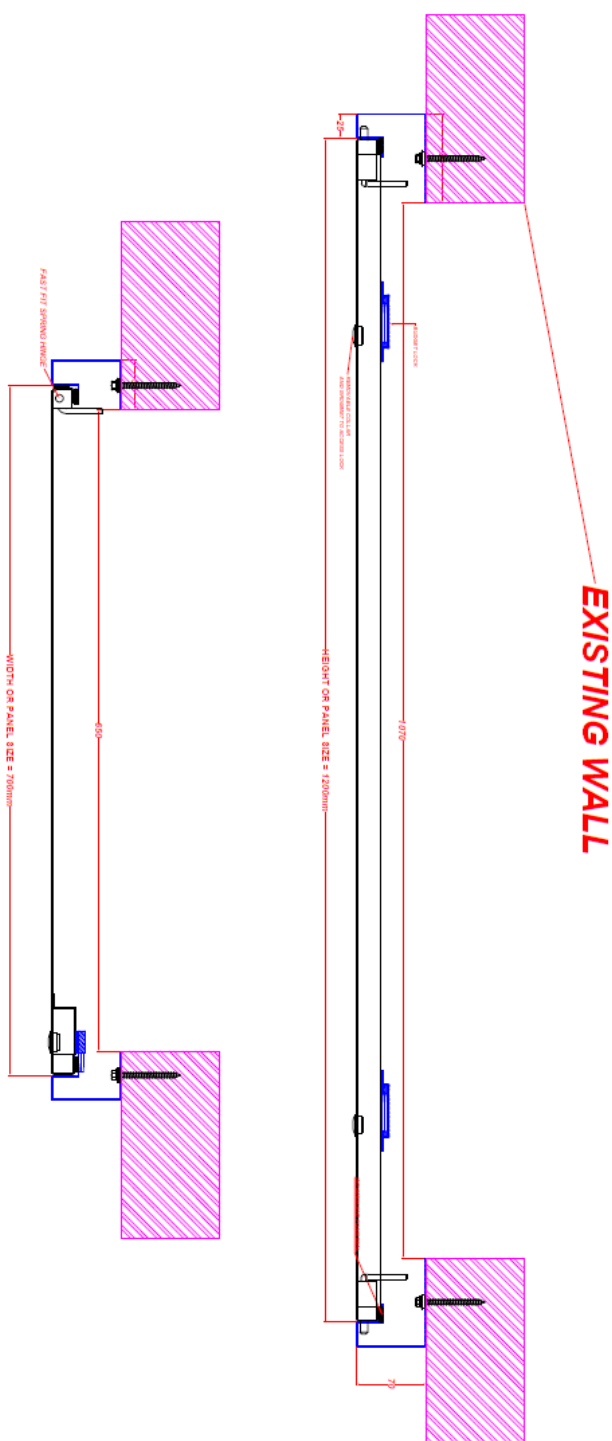
- The results only relate to the behaviour of the specimen submitted for test, as described in the Technical Specification (section 5), and under the particular conditions of test.
- The results are not intended to be the sole criteria for assessing the smoke leakage performance of the element in use 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.
- 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 – Sampling Report (1 page)

ISSUE No:	CHANGE DETAIL'S:



Critical Faces if applicable -----

Order No.		Order Date	Order By	Material	Material Thickness	Sheet Size	OVER METER BOX	OVER METER BOX	OVER METER BOX	
Do Not Scale		23/04/24	RC	ZINTEC	0.9mm	A5 PER ORDER				
DESCRIPTION OF PANEL OR FINISH									OVER METER BOX	OVER METER BOX
OVER METER BOX										
Order No.	Customer No.	Lead Time Weeks		ADDRESS		ORDER BY		OVER METER BOX	OVER METER BOX	
1	16-1208-MD-PF-BL-TRI	+/-0.5 DEGREES		10001 HOUSE 10461 JODRELL STREET, NUNEA TON WARRICKSHIRE CV11 5EG		ASSEMBLY				
DATE OF ORDER OR FINISH									OVER METER BOX	OVER METER BOX
ASSEMBLY										

This drawing is confidential and the copyright therein is owned by Panel Technologies. This Drawing must not be copied, loaned or the information otherwise disclosed without the written permission of Panel Technologies Company Limited.