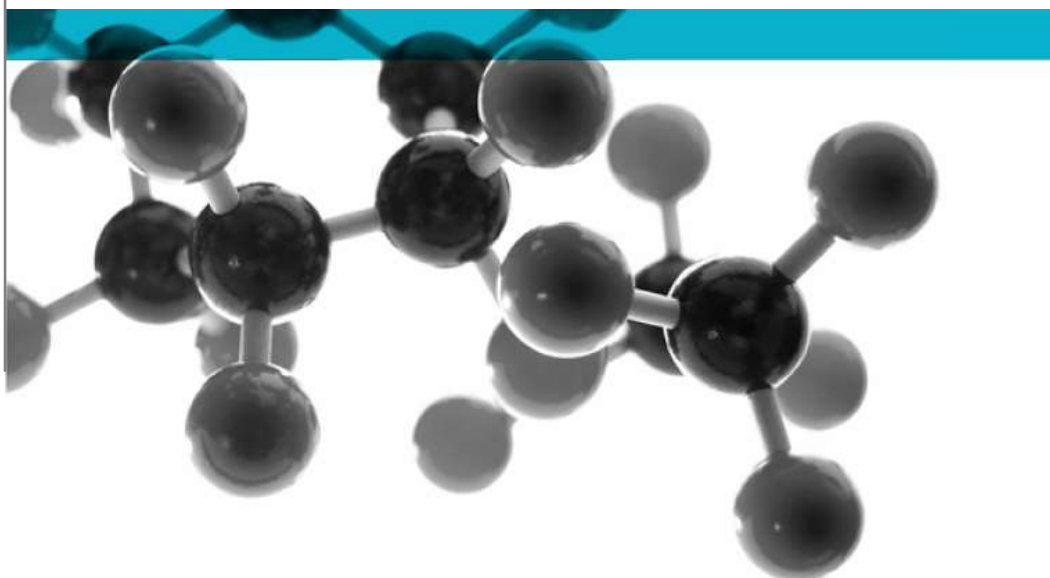


Testing, calibrating, advising.

EN 1634: 2004

Smoke control test for door and shutter assemblies



Test of: Single Leaf, single acting Doorset with perimeter seal

Sponsor: Exitex Ltd

Carrickaneena House,
Mountpleasant,
Dundalk,
Co Louth,
221202,
Ireland

Document Reference: WYC398793

Date of Test: 19/06/18

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Results of Test:

WYC398793/01

Exitex Ltd
Carrickaneena House,
Mountpleasant,
Dundalk,
Co Louth, 221202,
Ireland

This document confirms that performance testing was conducted on 20 June 2018. 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	Single Leaf, Single Acting Doorset with surface mounted Intumescent brush seal		
Test Detail	Latched and unlocked with threshold sealed		
Summary of testing procedure			Result
BS EN 1634-3: 2004	Pressure (Pa)	Leakage (m ³ /h)	Leakage (m ³ /m/h)
Results under positive chamber (door leaf opening away from chamber)	50	19.97	3.99
	25	11.35	2.27
	10	5.57	1.11
Results under negative chamber (door leaf opening away from chamber)	50	14.07	2.81
	25	9.15	1.83
	10	5.19	1.04

Testing was carried out at ambient temperature only: temperature of the test chamber was measured using a calibrated digital thermometer before and after testing. From approved document B Fire Safety, doors should have a leakage rate not exceeding 3m³/m/hour (head and jamb only) when tested at 25Pa.

The perimeter length of gap was 5.01

Issued by:
James Bacchus
Technical Officer

Authorised by:
Lee Grant-Riach
Lead Technical Officer
Issue Date: 20th August 2018

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1762



Results of Test:

WYC398793/02

Exitex Ltd
Carrickaneena House,
Mountpleasant,
Dundalk,
Co Louth, 221202,
Ireland

This document confirms that performance testing was conducted on 20 June 2018. 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	Single Leaf, Single Acting Doorset with surface mounted Intumescent flipper seal		
Test Detail	Latched and unlocked with threshold sealed		
Summary of testing procedure			Result
BS EN 1634-3: 2004	Pressure (Pa)	Leakage (m ³ /h)	Leakage (m ³ /m/h)
Results under positive chamber (door leaf opening away from chamber)	50	2.87	0.57
	25	1.75	0.35
	10	1.18	0.24
Results under negative chamber (door leaf opening away from chamber)	50	2.60	0.52
	25	1.65	0.33
	10	0.98	0.20

Testing was carried out at ambient temperature only: temperature of the test chamber was measured using a calibrated digital thermometer before and after testing. From approved document B Fire Safety, doors should have a leakage rate not exceeding 3m³/m/hour (head and jamb only) when tested at 25Pa.

The perimeter length of gap was 5.01

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1. Introduction

Performance testing to BS EN 1634-3:2004 incorporating corrigendum no. 1 was conducted on the doorset on 19 June 2018. The specimen was configured as a single leaf, single acting doorset. 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 5.1 for further details).

2. Specimen verification

The specimen was delivered to Exova on 14 June 2018. The component parts of the specimen was identified based on nominal information provided by the sponsor. These details are outlined in the specimen construction section of this report (section 4).

2.1. Conditioning

The specimen was made from hygroscopic materials and was conditioned for a minimum of 72 hours at an average temperature between 10°C - 20°C and 40% - 60% relative humidity.

2.2 Sampling

Sampling was not carried out on the product detailed in this report.

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 cavities were filled with 100mm thick Rockwool insulation and is taken to be of a standard wall construction.

The specimen was fixed to the supporting construction using 5 x 100mm woodscrews. The gap between the specimen and supporting construction was nominal 10mm, filled with mineral wool and was capped with Intumescent mastic on both sides

4. Test Equipment

Description
Scientific monitor
Callipers
Laminar Flow element:
Mass Flow Meter
Force Gauge

5. Description of Specimen Construction

The specimens were identified as a FireDoors Unicore - single leaf, single acting doorset . The overall frame dimensions were 997mm wide by 2110mm high x 100mm deep. The leaf dimensions were 927mm wide by 2040mm high x 44mm thick. The specimen was latched with locks disengaged.

Door frame

	Manufacturer/Material/type/reference	Dimensions (mm)	Density (kg/m ³)
Head and jambs	MDF*	100 x 30	700*
Stops	Sapele* fixed with steel pins	21 x 12	640*
Threshold	MDF*	100 x 30	700*
Joints	Mortice and Tenon with 2No. (no.10) x 80 screws per joint*	-	-
Adhesive	PVA-C*	-	-

* Stated by sponsor, not verified by laboratory

Door Leaf

		Manufacturer/Material/type/reference	Dimensions (mm)	Density (kg/m ³)
Core		Firedoors Unicore*	44 thick	590*
Facings	Outer	Crown cut Ash*	0.6 thick	-
	Inner	Crown cut Ash*	0.6 thick	-
Adhesive	Facings	PVA-C*	-	-
	Core	None present*	-	-
	Lippings	Henkel Dorus PU PURMELT (Ref. RS270/7)*	-	-
Lippings		Ash* to all edges - concealed	8 x 44	640*
Joints		Butt jointed with long edges running through*	-	-

* Stated by sponsor, not verified by laboratory

Perimeter sealing details

		Manufacturer/Material/type/reference	Dimensions (mm)	Locations
Door Leaf Edges		None fitted	-	-
Frame reveal	Head & jambs	Test 1 – Exitex Surface mounted intumescent brush seal*	26 x 5	On rebate platform
		Test 2 – Exitex Surface mounted intumescent flipper seal*	4 blade length	On rebate platform
	Threshold	None present - Sealed throughout test	-	-
Seal continuity		Uninterrupted by hardware	-	-

* Stated by sponsor, not verified by laboratory

Hardware

	Manufacturer/Material/type/reference	Size (mm)	Fixing details (dimensions in mm)
Hinges	3No. Royde and Tucker (Ref. Hi-Load 102)*	100 x 35 blade length	5No. 5 x 30 screws into frame 5No. 5 x 30 screws into leaf
Latch	SAR (Ref. DL1852)*	57 x 25	2No. 3.5 x 22 screws
Latch keep	SAR (Ref. DL1852)*	75 x 38	2No. 3.5 x 22 screws
Handles	None fitted – Exposed hole was sealed throughout test	-	-

* Stated by sponsor, not verified 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.

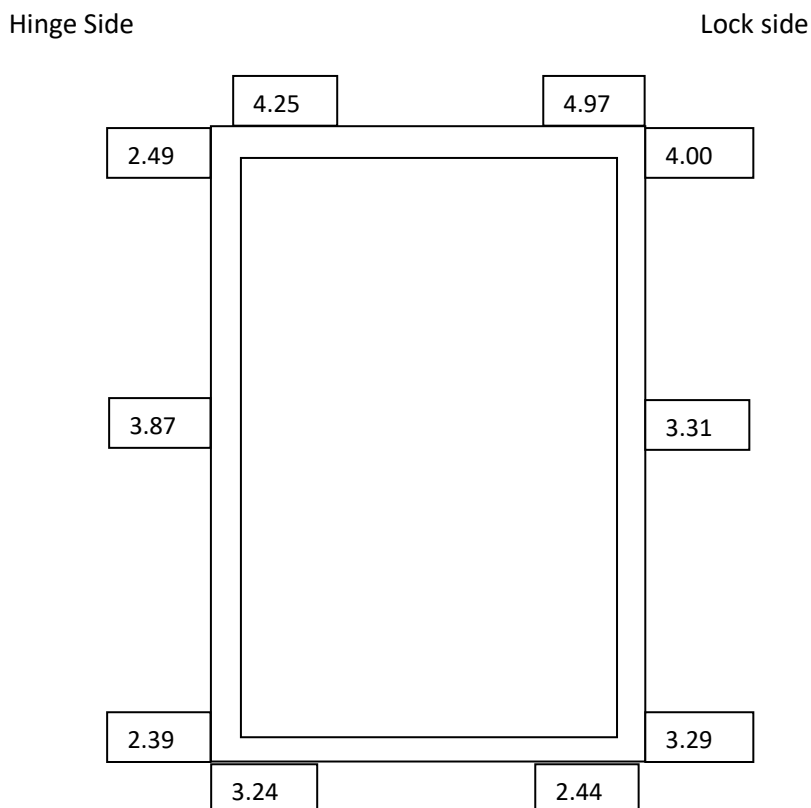
Minimum angle of opening	30°
Number of operation cycles completed	10

6.2 Retention forces

Retention forces were not recorded due to the doorset not being fitted with a closer

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.



7 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: 2014, 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 Exova upon request.