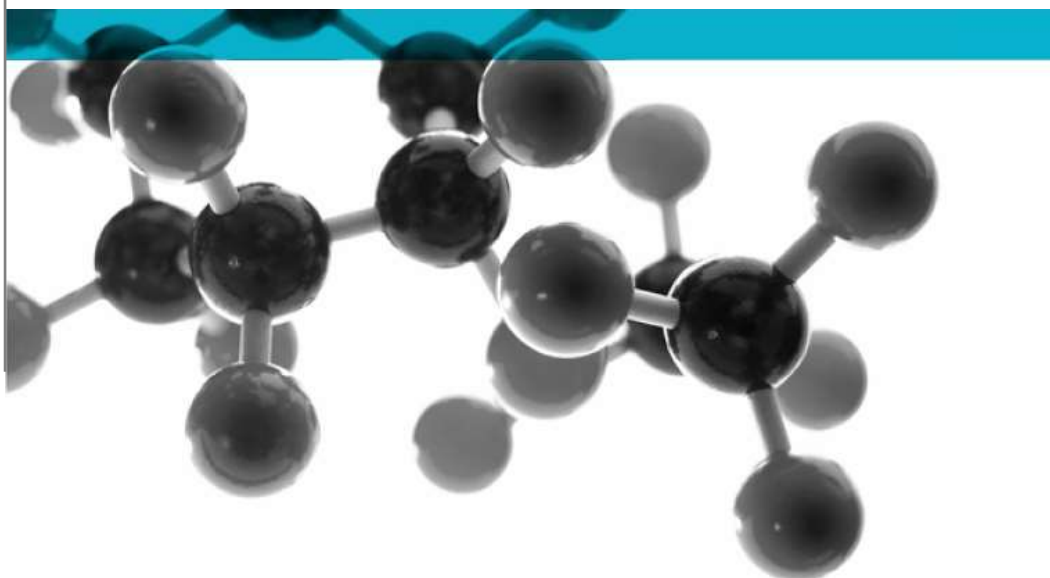


Testing, calibrating, advising.

EN 1634: 2004

Smoke control test for door and shutter assemblies



Test of: Single Leaf Doorset

Sponsor: Jiangsu Sainty Bancom Wood Co. Ltd

No. 6 North 2nd Road
Hongze Industrial Zone
Jiangsu
223100, China

Date of Test: 23/08/18

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Issue No.: 1

Page 1

Document Reference: WYC403032/02

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Results of Test:

WYC403032/02

Jiangsu Sainty Bancom Wood Co. Ltd

No. 6 North 2nd Road
Hongze Industrial Zone
Jiangsu
223100, China

This document confirms that performance testing was conducted on 23rd August 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	Prolite Single Leaf Doorset		
Test Detail	Latched, with no threshold not taped		
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	20.13	3.29
	25	14.42	2.36
	10	4.94	0.81
Results under negative chamber (door leaf opening away from chamber)	50	20.13	3.29
	25	14.42	2.36
	10	4.94	0.81

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 when tested at 25Pa.

The perimeter length of gap was 6.11m

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Issue date: 13th November 2018

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1. Introduction

Performance testing to BS EN 1634-3:2004 incorporating corrigendum no. 1 was conducted on the doorset on 23rd August 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 doorset was constructed at Exova according to the sponsor's specification, and was delivered to the smoke leakage laboratory on 20th August 2018. 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 4).

2.1. Conditioning

The specimen was made from hygroscopic materials and was conditioned for at least 72 hours at an average temperature between 18°C and 25°C. Relative humidity was between 51% and 65%.

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 is taken to be of a standard wall construction.

The specimen was fixed with 4No. 5 x 80 screws per jamb.

The gap between the specimen and supporting construction was nominal 10mm, this gap was tightly packed with rockwool and capped with intumescent mastic on both sides to create an impermeable barrier.

See Appendix 1 for more detail.

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 specimens were identified as a Prolite Single Leaf Doorset. The overall frame dimensions were 990mm wide x 2170mm high x 70mm deep. The leaf dimensions were 920mm wide by 2135mm high x 44mm thick. The specimen was latched with for the test.

Door Leaf

		Material/type	Dimensions (mm)	Density (kg/m³)
Core		Albasia*	36 thick (3 layers of 12)*	160-350*
Facings		Plywood – Poplar / Beech*	4 thick	450-500*
Lippings		Sapele	6 thick	640**
Adhesive	Core	WBP Melamine*	-	-
	Facings	WBP Melamine*	-	-
	Lippings	PU	-	-

*as stated by sponsor, not checked by laboratory

**nominla density, not checked by laboratory

Door Frame

	Material/type	Dimensions (mm)	Density (kg/m³)
Head & jambs	European Redwood	70 x 32	510**
Stops	European Redwood	20 x 12	510**
Threshold	<i>Temporary MDF threshold for testing purposes only</i>	90 x 10	-
Joints	Butt jointed and screwed	-	-

*as stated by sponsor, not checked by laboratory

**nominla density, not checked by laboratory

Hardware

	Make/type	Size (mm)	Fixing details (dimensions in mm)
Hinges	3No. Royde and Tucker (Ref. Hi-Load 101) <i>1mm intumescent interdans behind hinge blades</i>	100 x 35 blade size	5No. 5 x 30 screws per blade
Latch	Eurospec 'Standard' tubular latch <i>1mm intumescent interdans behind fore end</i>	28 x 56	2No. 3.5 x 25 screws
Latch keep	Eurospec 'Standard' tubular latch keep <i>1mm intumescent interdans around body</i>	38 x 56	2No. 3.5 x 20 screws
Handles	Zoo handle	100 x 110 footprint	4No. 3 x 25 screws
Closer	Rutland closer	235 x 55 footprint	5No. 4 x 50 screws

* As stated by sponsor, not checked by laboratory

Perimeter Sealing detail

	Make/type	Size (mm)	Location
Door Edges	None present	-	-
Frame reveal	Head and jambs	Pryoplex intumescent brush seal 15 x 4	On rebate platform
	Threshold	Norsound NOR810 920 length	In recess at bottom of leaf
Seal continuity	Brush seal interrupted by hardware	-	-

* As stated by sponsor, not checked by laboratory

Glazing

	Material/type/reference/size (mm)	Location (dimensions in mm)
Glass type & configuration	Pyroshield	-
Overall size	703 wide x 863 high	-
Sight size	685 wide x 840 high	-
Cassettes	Sapele 20 x 20	On internal and external faces of glass perimeter
Cassette fixings	22No. 4 x 40 screws	Nominal 50 from corners, and at 150 centres
Gaskets	Lorient 36/6 glazing system*	Around perimeter of glass

* As stated by sponsor, not checked by laboratory

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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

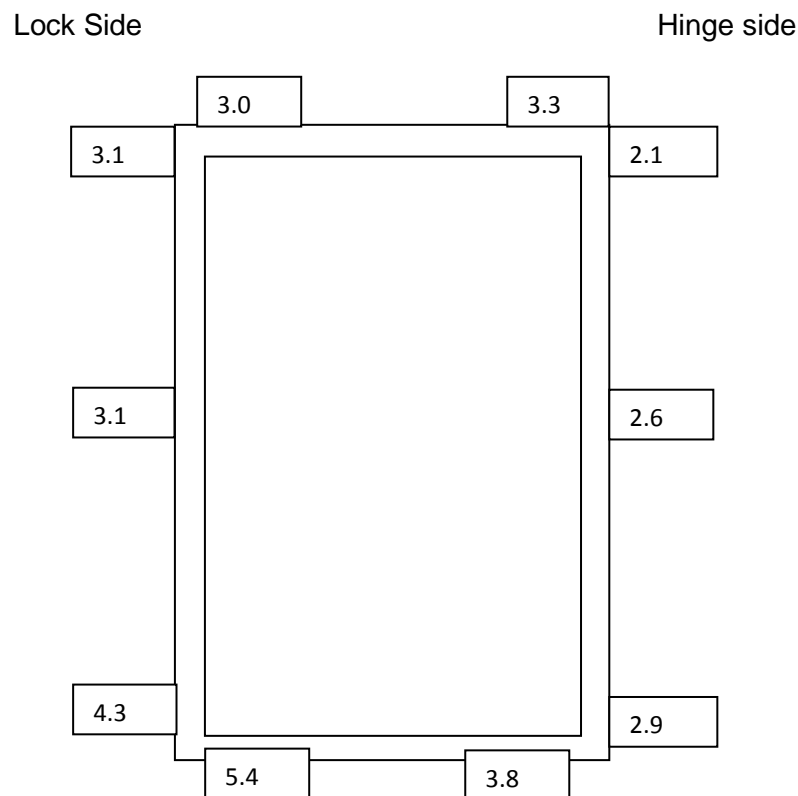
6.2 Retention forces

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

Opening Forces
38N @ handle position

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.

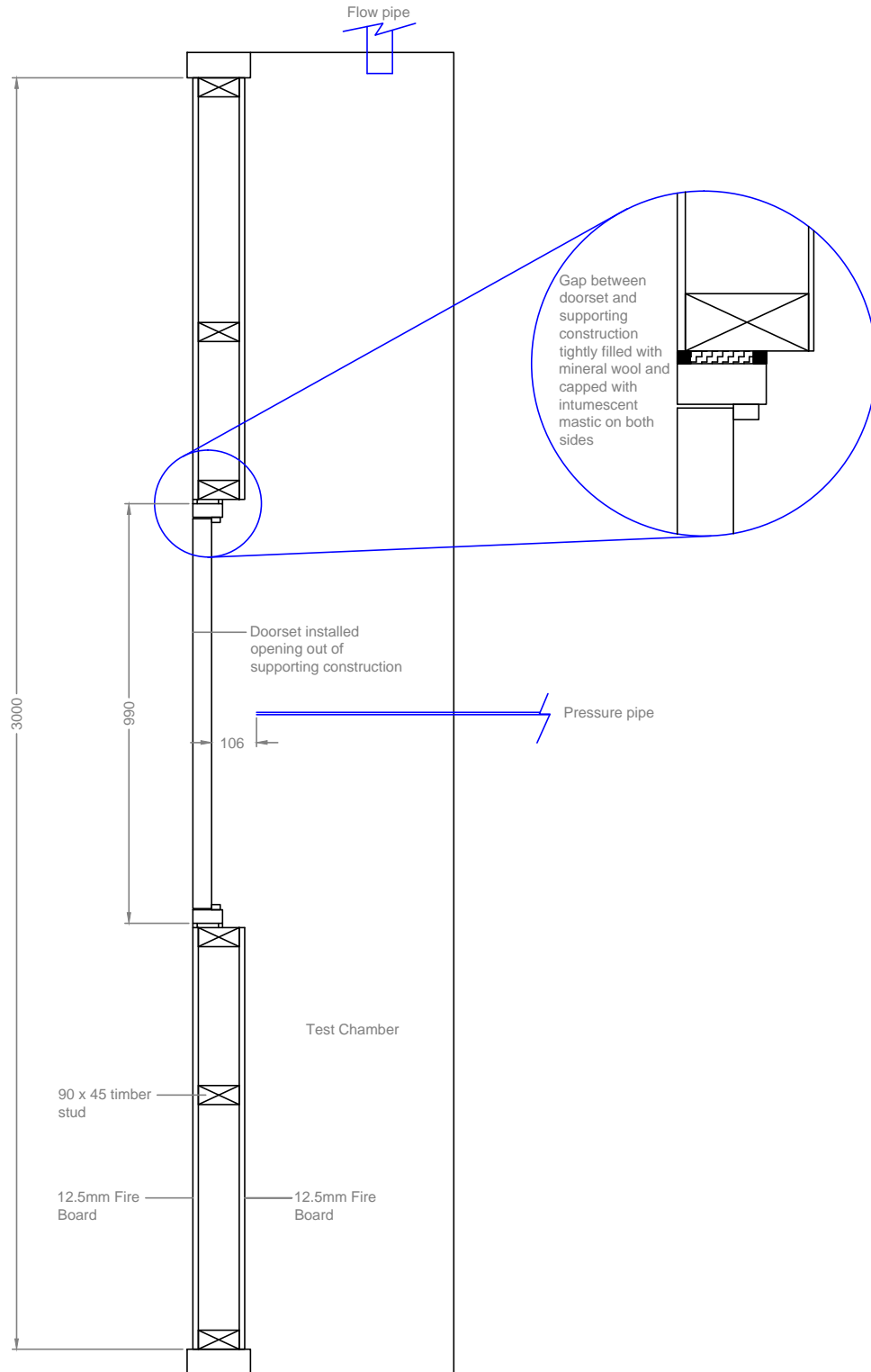


Appendix 1 – Test Drawing Set up (1 page)

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Appendix 1 Figure 1 Test Set-up Detail



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Schematic drawing showing horizontal cross section of test set up

Date Drawn
13/11/18

Drawn By
LGR

Scale Not to Scale
All dimensions in mm
unless otherwise stated

Project No.
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