


Test Report 8682086.
Smart Systems Limited
Incorporating Smart Extrusions

Introduction.

This report has been prepared by Adam Pearce and relates to the activity detailed below:

Job/Registration Details	Client Details
Job number: 8682086 Job type: Testing Samples Submitted Start Date: 20/02/2017 Test type: Direct Sample ID: 10169267 Registration: NA Protocol: NA Quality system: NA Registration: NA Protocol: NA Quality system: NA	Smart Systems Limited Incorporating Smart Extrusions Arnolds Way Yatton BS49 4QN United Kingdom

The report has been approved for issue by Chris Rayment – Senior Engineer

Approved For Issue	
	Issue Date: 6 March 2017

Objectives.

Direct test

Product Scope.

Smart Systems Smart Wall Double Door with Panic Bar

Report Summary.

The sample was received on 15 February 2017 and the testing was started on 20 February 2017.

The sample submitted complied with the requirements of the test work conducted.

PAS24:2016 Direct Test

Product Description.

1 off double leaf open out glaze in hinged door assembly with panic bars, glass above and below the midrail and low threshold

(Sample ID No 10169276)

Date sample received: 15 February 2017

Test Results.

1. Mechanical loading The test sample met the requirements of the Specification in respect of B.4.5
2. Manual check test The test sample met the requirements of the Specification in respect of B.4.6

B.2 Sample Selection.

The sample submitted for tests was selected using the criteria in B.2 of the Specification. Each sample was submitted for test mounted in a 75mm x 100mm timber subframe in accordance with the manufacturer's installation requirements. The test sample was manufactured by the client.

B.4 Test Methods.

The method of testing the sample followed the sequence detailed in B.4 of the Specification.

B.3 Requirements for Test Apparatus.

The test apparatus for the manual and mechanical tests is shown in figures B.2 to B.5.

Description of Sample.

Sample type -	Double leaf open out glaze in hinged door assembly with panic bars, glass above and below the midrail and low threshold		
Material -	Aluminium		
Finish -	White		
Fittings (Each Leaf) -	A two point Axim (two shoot bolts) concealed panic bar system with anti-finger trap continuous hinge		
Classification -	D		
Weathersealing -	Wool pile		
Glass (Each Leaf) -	Double glazed with 6-16-6mm toughened glass sealed units		
Panel -	Not applicable		
Glass retention system -	Internal beads and gaskets		
Sample dimensions -	Overall -	Length: 2400mm	Height: 2500mm
	Each Leaf -	Length: 1115mm	Height: 2410mm
Date of test -	20 February 2017		
Laboratory temperature -	18.3°C		
Laboratory humidity -	44.5%		

Description of Test Sample. (Continued)

Manufacturer	Smart systems
Product Range Name	Smart wall
Configuration	Double door set with concealed panic bars
Orientation	Open out

Outer Frame width	2400	Outer Frame Material	ALUMINIUM
Outer Frame height	2500	Outer Frame Gasket	
Outer Frame Part Numbers		Gasket Type	WOOL PILE
Top	IMP110,IMP011,IMP262	Manufacturer	REDDI PLEX, SCHLEGEL
Bottom	IMP263,IMP261	Product Name	
Lock Side	NA	Product Code	ACSH035,ACVL033
Hinge Side	IMP210,013,035	Threshold	
Outer Frame section dimensions		Manufacturer	SMART SYSTEMS
Width	53MM	Product name	SMART WALL
Depth	100MM	Product Code	IMP263,261
Reinforcing:		Materials	ALUMINIUM
Manufacturer	NA	Outer Frame Joint Method	
Product Name	NA	Head	SCREWPORT, BRACKET
Product code	NA	Foot	SCREWPORT
Material	NA		

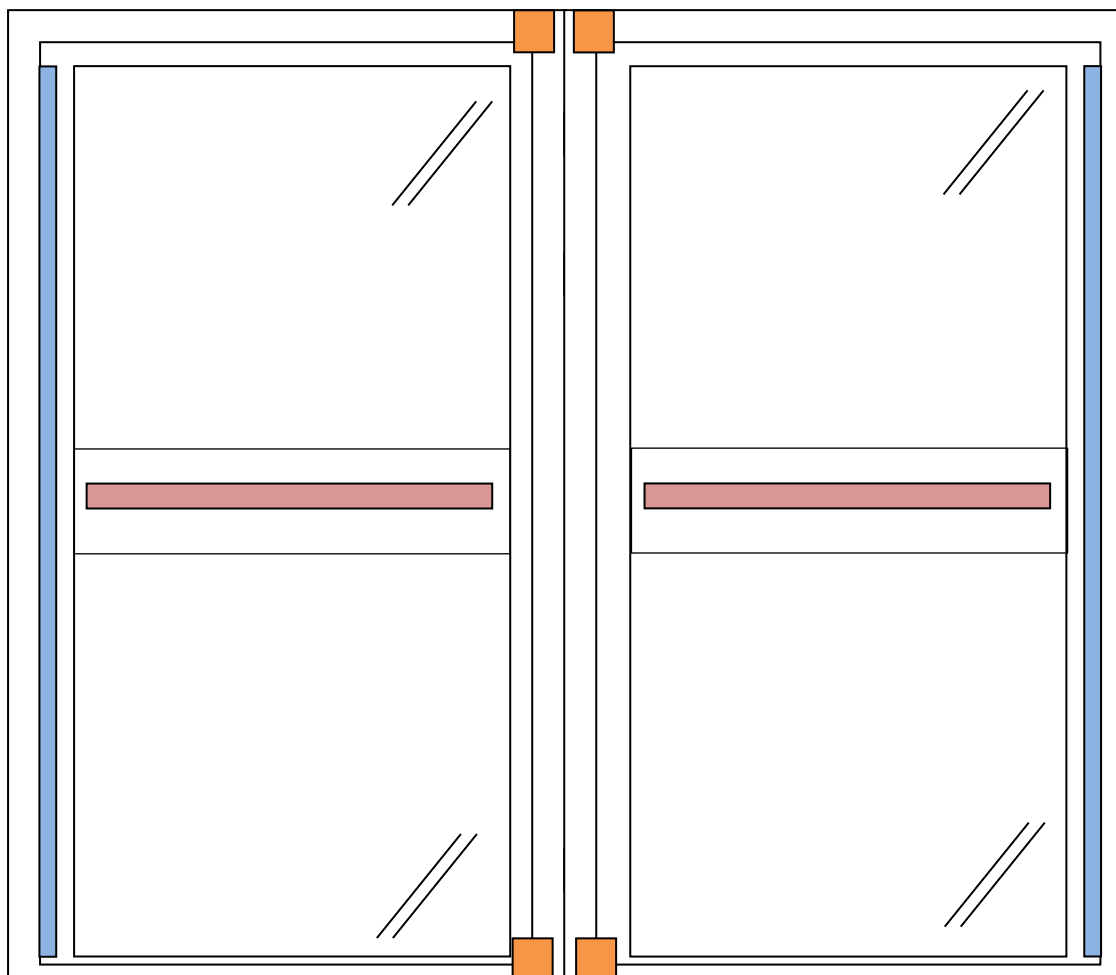
Leaf		Leaf Material:	ALUMINIUM
Leaf Width:	1121MM	Leaf Gasket	
Leaf Height:	2413MM	Gasket type:	WOOLPILE
Leaf Part Numbers:		Manufacturer:	REDDI PLEX, SCHLEGEL
Top:	IMP120	Product Name:	
Bottom:	IMP027	Product Code	ACSH035,ACVL033
Lock side:	IMP039,IMP040	Leaf Midrail:	
Hinge Side	IMP036	Manufacturer:	SMART SYSTEMS
Leaf section size		Product name:	SMART WALL
Width:	64MM	Product code:	IMP034
Depth:	67MM	Material:	ALUMINIUM
Reinforcing		Leaf joint method	
Manufacturer:	NA	Head:	CLEAT AND SCREW, GLUE
Product Name:	NA	Foot:	CLEAT AND SCREW, GLUE
Product Code:	NA		
Material:	NA		
Bead			
Manufacturer:	SMART SYSTEMS		
Product Name:			
Product Code:	VG12,GL526		
Material:	ALUMINIUM		
Bead Size:	22MM X 26MM		

Description of Test Sample. (Continued)


Glazing Unit		Glazing Gasket	
Manufacturer:	ASHTON GLASS	Gasket Type:	EDPM
Inner Thickness:	6MM	Manufacturer:	SEMPERIT
Spacer Material:	16MM	Product Name:	
Outer Thickness:	6MM	Product Code	ACVG31, ACGV34
Unit Sizes:	980X737, 980X1323	Glazing Clip	
Glazing Tape Details		Manufacturer:	NA
Manufacturer:	NA	Product Name:	NA
Product Name:	NA	Product Code	NA
Product Code	NA		

Hardware	Manufacturer	Product Code/Description	Fixings	Quantity
Hinges:	ASSA ABLOY	ACIM424, OVER HEAD CLOSURE. BOTTOM PIVOT	M5 AND M6 MACHINE SCREWS WITH M6 NUTS.	2
Hinge Protectors:	NA			
Lock:	AXIM	PR-7085 SERIES	M6 AND M4 MACHINE SUPPLIED WITH KIT	8
Cylinder:	NA			
Handle:	NA			
Touch Bar:	NA			
Cylinder Support:	NA			
Cylinder Escutcheon:	NA			
Keeps:	NA			
Drip Bar	VL72			
Additional Hardware	AXIM	EXTENSION ROD RE-712	NA	2
	AXIM	WIDE PUSH BAR CB-758-AL	SUPPLIED WITH KIT	2
	SMART	SUPPORT BLOCK ACIM270 (2 PER LEAF)	M8X25 CSK SELF TAPPING SCREWS	4

Elevation Drawing of Door Assembly.



Shoot Bolt: 

Panic Bar: 

Anti-Finger Trap Hinge: 

Test Results (Continued).

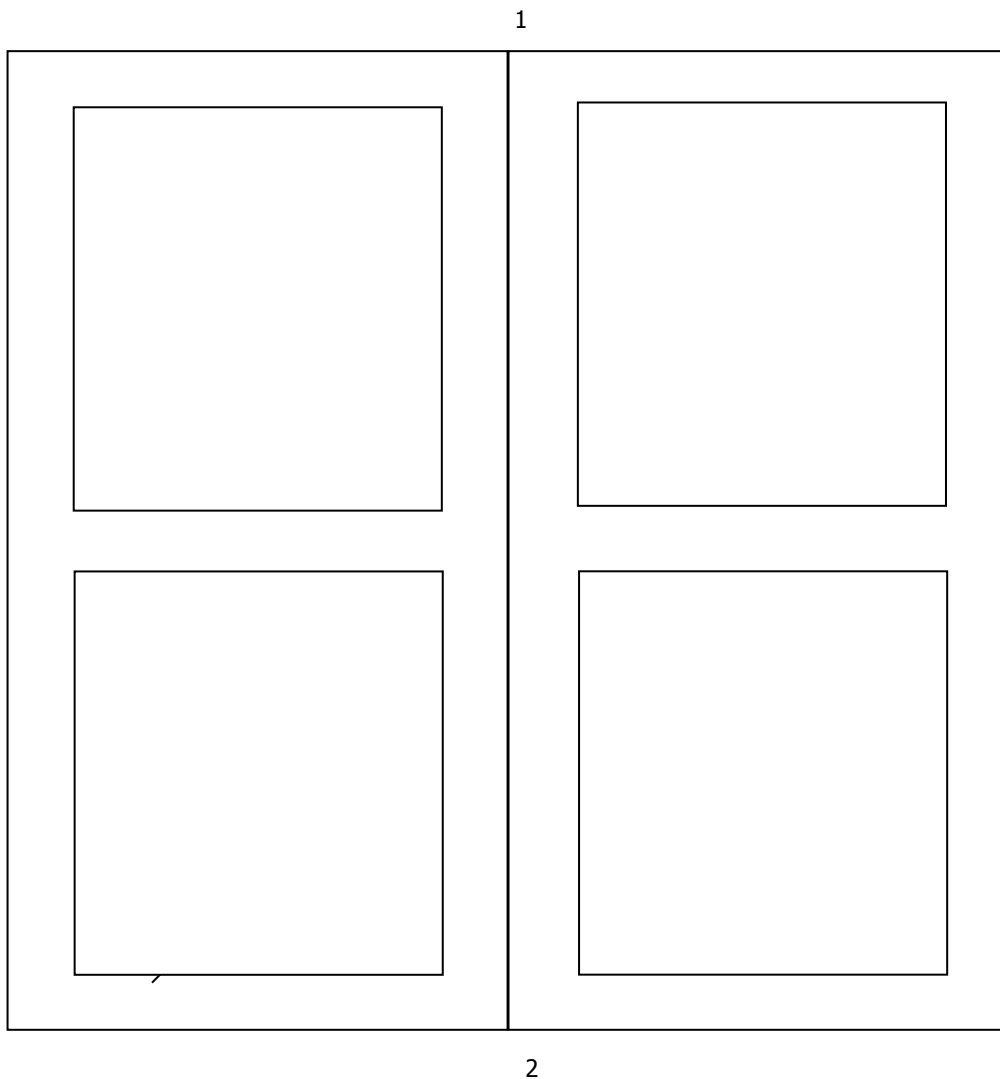
Performance Requirements

B.4.5 Mechanical Loading Test

The sample was mounted, vertically and square, in the test rig.

The test was carried out in accordance with the procedures detailed in B.4.5, Using loading cases B.1 to B.6 and Figures B.12 for loading sequence and using the test apparatus detailed in Figures B.6 to B.9.

Diagram of points of application of loads



Test Results (Continued).

PERFORMANCE REQUIREMENTS

B.4.5 Mechanical Loading Test

B.4.5.2 Loading Procedures

Point of application of load

First Sequence

ASSESSMENT

1. Shoot Bolt (head of right leaf)

Standard loading case used: 5

Load applied in plane: 1.5kN at right angles to the edge and towards the opposite edge

Load applied perpendicular to plane: 4.5kN applied for 10 seconds

2. Shoot Bolt (threshold of right leaf)

Standard loading case used: 5

Load applied in plane: 1.5kN at right angles to the edge and towards the opposite edge

Load applied perpendicular to plane: 4.5kN applied for 10 seconds*

*At the request of the client, the load was then taken to 10kN and held for a further 10 seconds

No entry effected

Pass

B.4.6 Manual Check Test

The sample was mounted, vertically and square, in the test rig as described in B.3.1.

The test was carried out in accordance with the given objective of this Clause using the procedure detailed in B.4.6.3 and the tools described in B.4.6.2.

No one technique was used for more than 3 minutes.

A nail bar was used to lever in-between locking points to no effect.

No alternative method of entry could be effected within 3 minutes

Pass

B.4.7 Additional Loading Test

Not applicable as an alternative method of entry was not identified

Test Sample.

Sample Id	ER Number	Description
1	10169267	Aluminium Double Door

Description of Test Sample.

Sample Description
1 off double leaf open out glaze in hinged door assembly with panic bars, glass above and below the midrail and low threshold

Test Requirements.

PAS24 Direct Test

Clause	Requirements
Results table	Actual test results <i>PAS24 Direct Test</i>

Glossary of Terms.

PASS: Complies. Tested by BSI engineers at BSI laboratories.

PASS1: Complies. Witnessed by BSI engineers in manufacturers laboratory.

PASS2: Complies. Tests carried out by third party lab; results accepted by BSI.

PASS*: Report resulted in uncertainty and states that Compliance is more probable than non-compliance.

FAIL: Non compliance – Product does not meet the requirements of this clause.

FAIL*: Report resulted in uncertainty and states that Non-compliance is more probable than compliance.

N/A: Not applicable to design under consideration.

N/T: Not tested due to similarity to previously tested item; reference earlier test report.

Conditions of Issue.

This Test Report is issued subject to the conditions stated in current issue of 'BSI Terms of Service'. The results contained herein apply only to the particular sample(s) tested and to the specific tests carried out, as detailed in this Test Report. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of BSI, who reserve the absolute right to agree or reject all or any of the details of any items or publicity for which consent may be sought.

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