ASSA ABLOY

PAS 24:2012

Test of:

Smart Systems Ltd single pivot hinged door set with panic bar and low aluminium threshold

Enhanced security performance requirements for doorsets and windows in the UK

Customer:

Smart Systems Ltd

CONTENTS

AUTHORISATION

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Signed:

Date: 5th January 2017

For and on behalf of ASSA ABLOY UK Test Laboratory

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Signed:

Date: 5th January 2017

For and on behalf of ASSA ABLOY UK Test Laboratory

Date report issued: 5th January 2017

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Origin of Request

Client Details

Company Name	Smart Systems Ltd
Address	Arnolds Way Yatton North Somerset
Post Code	BS49 4QN
Contact	Mark Walford

Order Details

Order Number	N/A
Dated	N/A

Test Details

Sample Details

Product	Smart Systems Ltd single pivot hinged door set with panic bar and low aluminium threshold
Model Number	Smart Systems Ltd single pivot hinged door set
Marking / Brand	Smart Systems Ltd
Manufacturer	Smart Systems Ltd
Date of Manufacture	Not known
Other information	None

Test Specification / Details	PAS 24 : 2012 – Enhanced security performance requirements for door sets and windows in the UK
Date samples received	19th September 2016
Date test commenced	20th September 2016
Date test completed	20th September 2016
Job Number	2016-241
Any special test requirements	None

Test Sample

Figure 1 – General Elevation

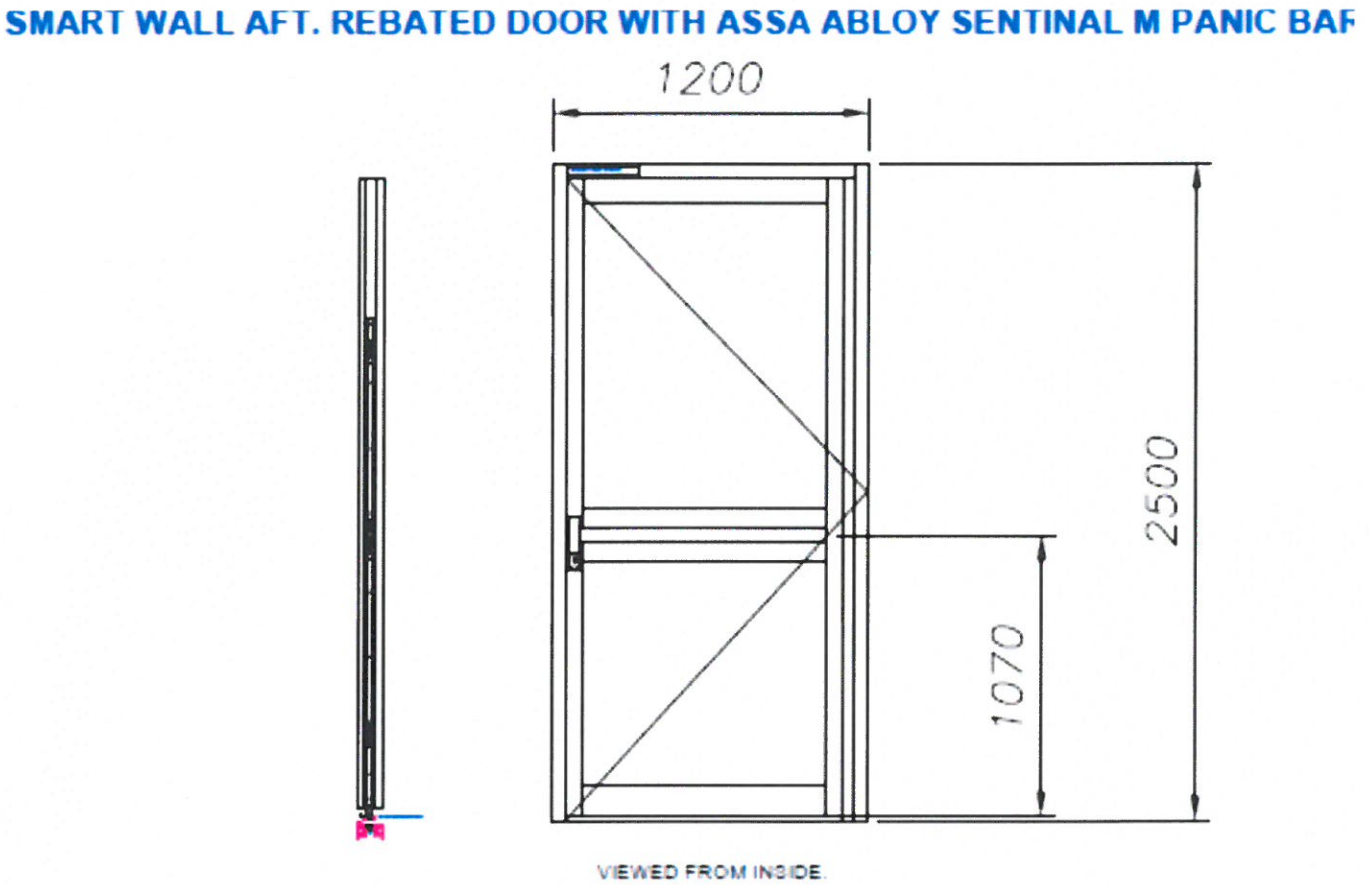


Figure 2 – Vertical Section

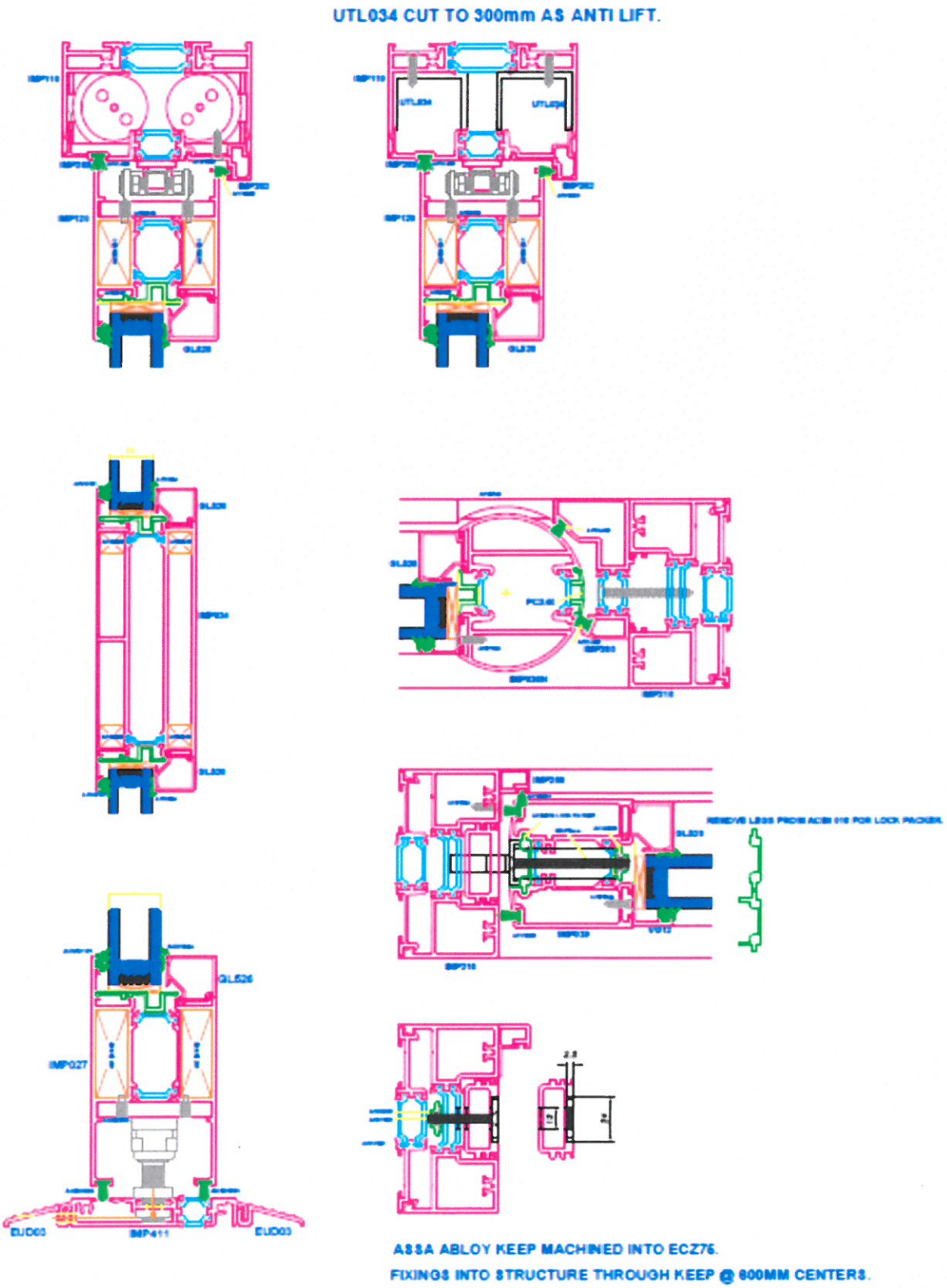


Figure 3 – Horizontal Section

Not supplied

Component Details

Sample Details:	Smart Systems Ltd single pivot hinged door set with panic bar and low aluminium threshold
Fabricator:	Smart Systems Ltd
Material:	Aluminium outer frame and leaf with cleated joints Jamb IMP210 Transom IMP110 Threshold IMP411 Leaf Top Rail IMP120 Anti-Finger Trap Stile IMP036 Jamb Rebate Adaptor IMP266 Head Rebate Adaptor IMP262 Door Lock Stile IMP039 Secondary Stile IMP040 Midrail IMP034 Leaf Bottom Rail IMP027 Closer Plate IMP269 Jamb Back Plate Closer Strip IMP300 Infill for AFT Stile PCX40 Single Door Keep Section ECZ75SA Head Support Anti Lift UTL034
Finish:	White
Lock:	430A-24U31LO-SS EN 1125 Escape lock (left hand) 430A-24U31RO-SS EN 1125 Escape lock (right hand)
Hinges:	Overhead concealed transom closer ARC51N OHCC
Cylinder:	Mul-T-Lock cylinder 51288527-M71B-S XP Euro 120 50AX70NM CAM 348E 2 Key Bag External Escutcheon 400ES-NN1-BL
Handle:	External single handle 400LH-SAN1-BL Touch Bar 1200mm 400TB-BN1-BS
Fixings:	Top Rail Cleat ACIM001 Bottom Rail Cleat ACIM002 Midrail Cleat ACIM003 Closure Fixing Bracket ACIM004 Bottom Bracket ACIM005 Top Bracket ACIM006 AFT Stile End Cap ACIM009 Stile End Cap ACIM010 Lock and Keep Fixation Plates ACSG023 Lock: M4 x 75mm Handle and Push Bar: Supplied with product
Letterplate:	N/A
Weather sealing:	AFT Woolpile carrier to Head ACIM140 WoolPile
Glass :	6mm Toughened / 16mm spacer / 6mmToughened 28mm total thickness
Infill :	N/A
Glazing system:	Glazing Bead GL526 External Glazing Bead VG12 E Gasket ACVG131 Wedge ACVG34
Sample dimensions:	Overall Frame: 2500mm H x 1200mm W

Note: The sample details are as supplied by the customer and have not been verified by the Laboratory

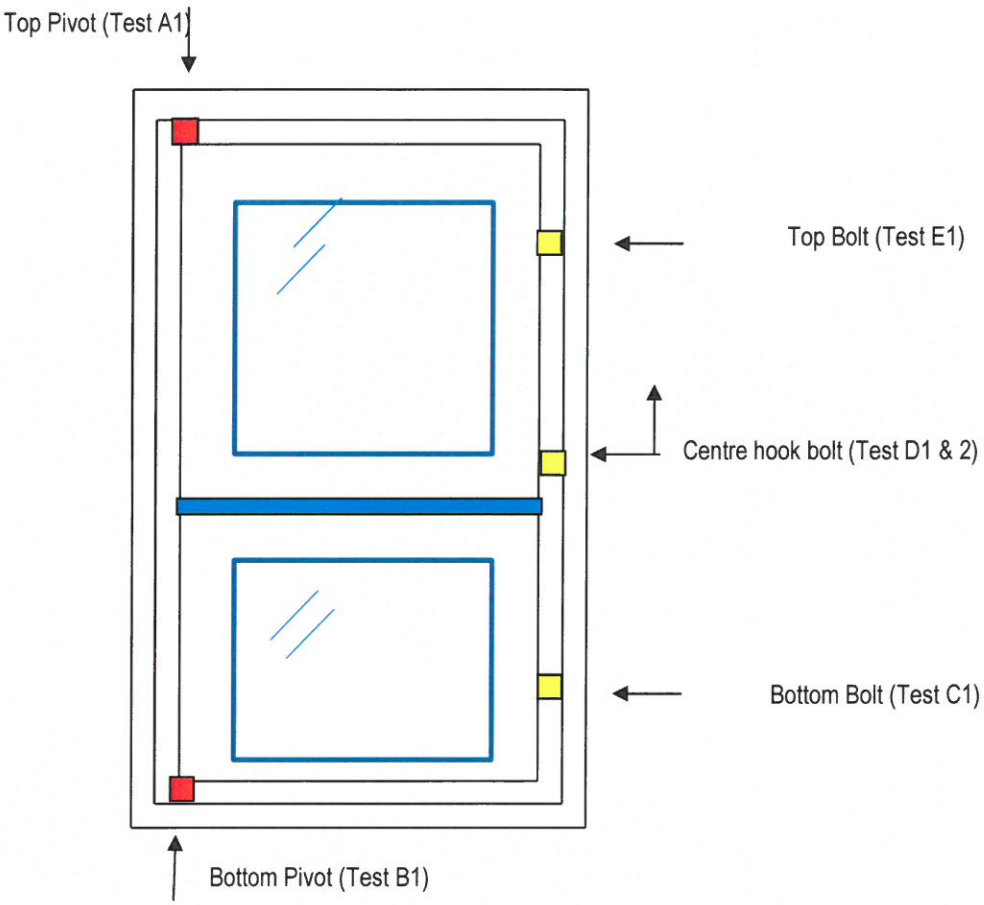
Test Conclusions

Clause No.	Description	Compliance / Comment
A.3	Security hardware and cylinder test	Yes
B.4.3	Manipulation test	Yes
B.4.4.2	Infill medium removal test – Manual	Yes
B.4.4.3	Infill medium removal test – Mechanical	Yes
B.4.4.4	Infill medium removal test – Manual Cutting	Yes
B.4.5	Mechanical loading test	Yes
B.4.6	Manual check test	Yes
B.4.7	Additional mechanical loading test	N/A
B.4.8	Soft body impact test	Yes
B.4.9	Hard body test	Yes
7.2	Letter plate test	N/A

Classification (according to 4.4)	Code
Without letter plate	D KT

Test Results

Door Layout (External view)



Pivot Hinges

Lock Point

Panic bar

Laboratory Temperature: 18°C

All hardware was checked for correct operation prior to the commencement of the test

Test	Sample / Actual	Pass/Fail
B.4.3 - Manipulation Test	The paint scrapper was used to remove the handle back plate cap revealing screws, these were then un done removing the handle with the cross head screwdriver. An attempt was then made to manipulate the lock through the aperture using the flat bladed screwdrivers. – 3 minutes The paint scrapper was used in an attempt to manipulate the bottom bolt – 3 minutes The wire was used in an attempt to feed through to the internal side of the door set and manipulate the panic unit.– 3 minutes Flat bladed screwdrivers were used to attack the bottom pivot hinge – 3 minutes Following 12 minutes total no access was gained	Pass

Test	Sample / Actual	Pass/Fail
B.4.4.2 – Infill Medium Removal Test – Manual test	Sample 1 - The top glazed unit was attacked using the paint scrapper to remove the 2 side and the bottom external gaskets. Following 3 minutes the infill remained secure and no internal beads were removed.	Pass

Test	Sample / Actual	Pass/Fail
B.4.4.3 – Infill Medium Removal Test – Mechanical test	Sample 2 - 4 corners of the bottom glazed infill were loaded to 2 kN for 10 seconds each	Pass

Test	Sample / Actual	Pass/Fail
B.4.4.4 – Infill Medium Removal Test – Manual Cutting test	Sample 2 - An attempt was made to create a hole in the leaf near the centre lock unit using the 6mm wood chisel in drilling action. Following 3 minutes no hole was created in the leaf.	Pass

B.4.5 – Mechanical Load Test (Sample 2)

Test Ref.	Load Position	Requirement	Actual	Pass/Fail
A1 –Top pivot	Parallel to plane at right angles to the edge	1.5kN (153Kg)	153Kg	----
	Perpendicular to plane	4.5kN	4502kN	Pass
B1 – Bottom pivot	Parallel to plane at right angles to the edge	1.5kN (153Kg)	153Kg	----
	Perpendicular to plane	4.5kN	4506kN	Pass
C1 – Bottom bolt	Parallel to plane at right angles to the edge	1.5kN (153Kg)	153Kg	----
	Perpendicular to plane	4.5kN	4503kN	Pass
D1 – Centre hook	Parallel to plane along the edge	1.5kN (153Kg)	153Kg	----
	Perpendicular to plane	4.5kN	4508kN	Pass
D2 – Centre hook	Parallel to plane at right angles to the edge	1.5kN (153Kg)	153Kg	----
	Perpendicular to plane	4.5kN	4502kN	Pass
E1 – Top bolt	Parallel to plane at right angles to the edge	1.5kN (153Kg)	153Kg	----
	Perpendicular to plane	4.5kN	4503kN	Pass

Test	Sample / Actual	Pass/Fail
B.4.6 – Manual Check Test	The sample was attacked above the centre hook bolt, below the centre hook bolt, the bottom corner lock side, centre of the bottom rail and between the bottom and top pivot hinge using the two nail bars. Each area was attacked for 3 minutes resulting in a total attack time of 15 minutes. Door remained secure and no weaknesses were identified.	Pass

Test	Sample / Actual	Pass/Fail
B.4.8 – Soft Body Impact Test	Sample 1 - Impact points were marked on the centreline of the door at 0.8m, midrail and centre of the upper infill. Each impact point was struck 3 times with the impactor. In each instance the door remained closed	Pass

Test	Sample / Actual	Pass/Fail
B.4.9 – Hard Body Impact Test	Sample 1 - Impact points were marked on the door as follows; - at each corner lock side of the leaf - on the door at the locking point - at each hinge point - at the midrail - at the cylinder The door bolt was thrown and sample locked Each impact point was struck 3 times with the impactor. In each instance the door remained closed	Pass

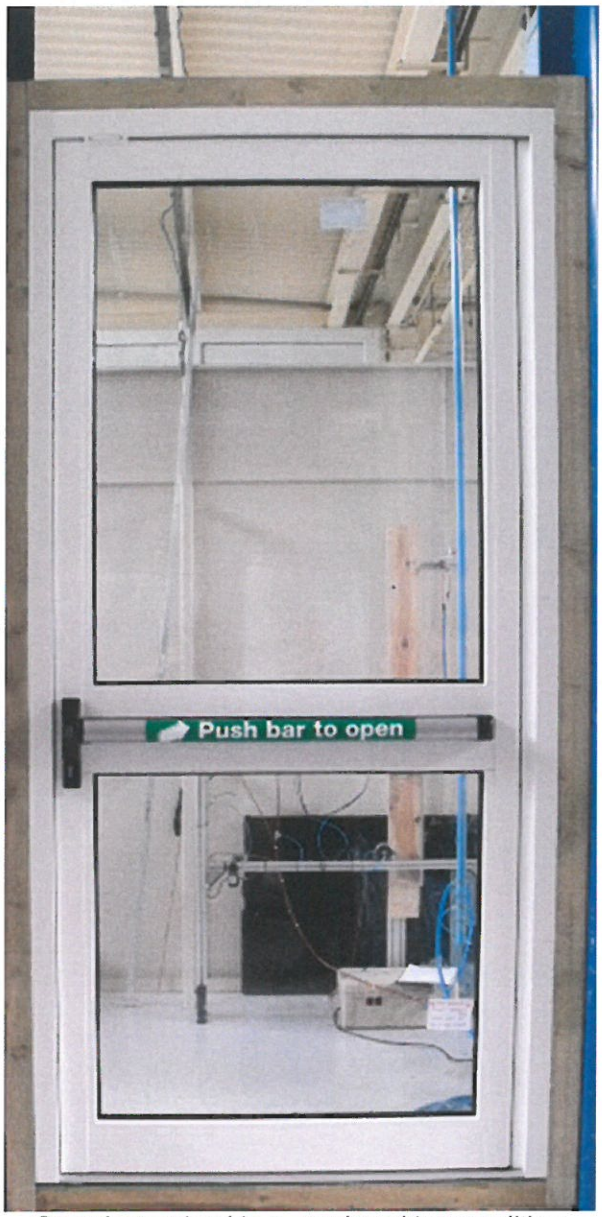
Test	Sample / Actual	Pass/Fail
A.3 – Security Hardware & Cylinder Test A.3.2 – Part 1	Sample 2 - The curved jaw grips were used in a side to side motion to remove the escutcheon and the breakaway section of the cylinder. Then using the curved jaw grips again an attempt was made to remove the remainder of the cylinder- 3 minutes Sample remained secure	Pass

Test	Sample / Actual	Pass/Fail
A.3 – Security Hardware & Cylinder Test A.3.3 – Part 2	Sample 1 - A 3.9mm screw was inserted – 38 seconds The screw was then levered with the torque wrench until the it lost traction and was removed from the cylinder plug – 42 seconds Sample remained secure	Pass

Test Equipment Used

Equipment No.	Description
LEN 195	loading frame
LEN 127	Thermometer
LEN 087	PAS 24 marking out block
LEN 090	Tool sets A & B
LEN 091	Tool set (clause A.7)
LEN 109	Torque wrench
LEN 118	Wood block
LEN 163	Spring balance
LEN 177	Curved jaw grips

Pictures



Sample received in a good working condition