ASSA ABLOY

PAS 24:2012

Test of:

Kestrel Single Pivot V-Locks Door Set

Enhanced security performance requirements for doorsets and windows in the UK

Customer:

Kestrel Aluminium Systems Limited

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Date: 11TH September 2015

For and on behalf of ASSA ABLOY UK Test Laboratory

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Date: 14th September 2015

For and on behalf of ASSA ABLOY UK Test Laboratory

Date report issued: 11th September 2015

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Origin of Request

Client Details

Company Name	Kestrel Aluminium Systems Limited
Address	50 Pritchett street, Birmingham, West Midlands
Post Code	B6 4EX
Contact	Mike Cresswell

Order Details

Order Number	N/A
Dated	N/A

Test Details

Sample Details

Product	Single pivot hinged with V-Locks and low aluminium threshold door set
Model Number	TB Commercial Pivot Door
Marking / Brand	Kestrel Aluminium Systems Limited
Manufacturer	Kestrel Aluminium Systems Limited
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	11th August 2015
Date test commenced	13th August 2015
Date test completed	13th August 2015
Job Number	2015-196
Any special test requirements	None

Sample Details

Sample Details:	Kestrel Aluminium Systems Limited Single dual action pivot door with 2 x ES8000 V lock (motorised bolt)
Fabricator:	A & S Glazing (West Bromwich)
Material:	Outer frame profiles square cut and screwed together via integral extruded screw ports Door leaf profiles square cut and mechanically jointed with bespoke door cleats Outer frame: KAS721/727/729 – jamb KAS757/756/589 – header bar Master Leaf: KAS751/753 hinge stile KAS754 lock stile KAS762 top rail KAS763 bottom rail KAS769 stile security beads KAS631 internal beads Threshold: KAS758
Finish:	Dark Grey
Lock:	2 x ES8000 V locks
Hinges:	KAS572.4 COC set
Cylinder:	N/A
Handle:	N/A
Fixings:	Lock (frame): 2 x (¾' x 1 ¼' x 1/8') Aluminium channel lock bridge 70mm long (Kestrel) and fixed to jamb with 4 x No 8 x 50mm csk pozi head dp (AS Glazing) Keep (door stile): 3 x KAS528T-T and KAS537-HTPSC (Kestrel) Hinge to frame: As supplied in KAS572.4 COC set Hinge to leaf: As supplied in KAS572.4 COC set Glazing/Panel fixings: No 8 x 12.5mm csk pozi head dp self-drill (AS Glazing)
Letterplate:	N/A
Weather sealing:	Header bar – KAS482 Jambs – KAS480 Bottom rail – KAS482 External retained glazing gasket – KAS282 Internal wedge gasket – KAS467 Glass packers – KAS486.30.05
Glass:	Total thickness: 28mm Individual thickness (including air gap): 6mm clear toughened outer and inner 16mm spacer/cavity (air filled)
Glazing system:	Fixed external bead with captive gasket. Internal bead and wedge gasket.
Sample dimensions:	Frame: 1245mmW x 2422mmH Door: 1103mmW x 2340mmH

Test Conclusions

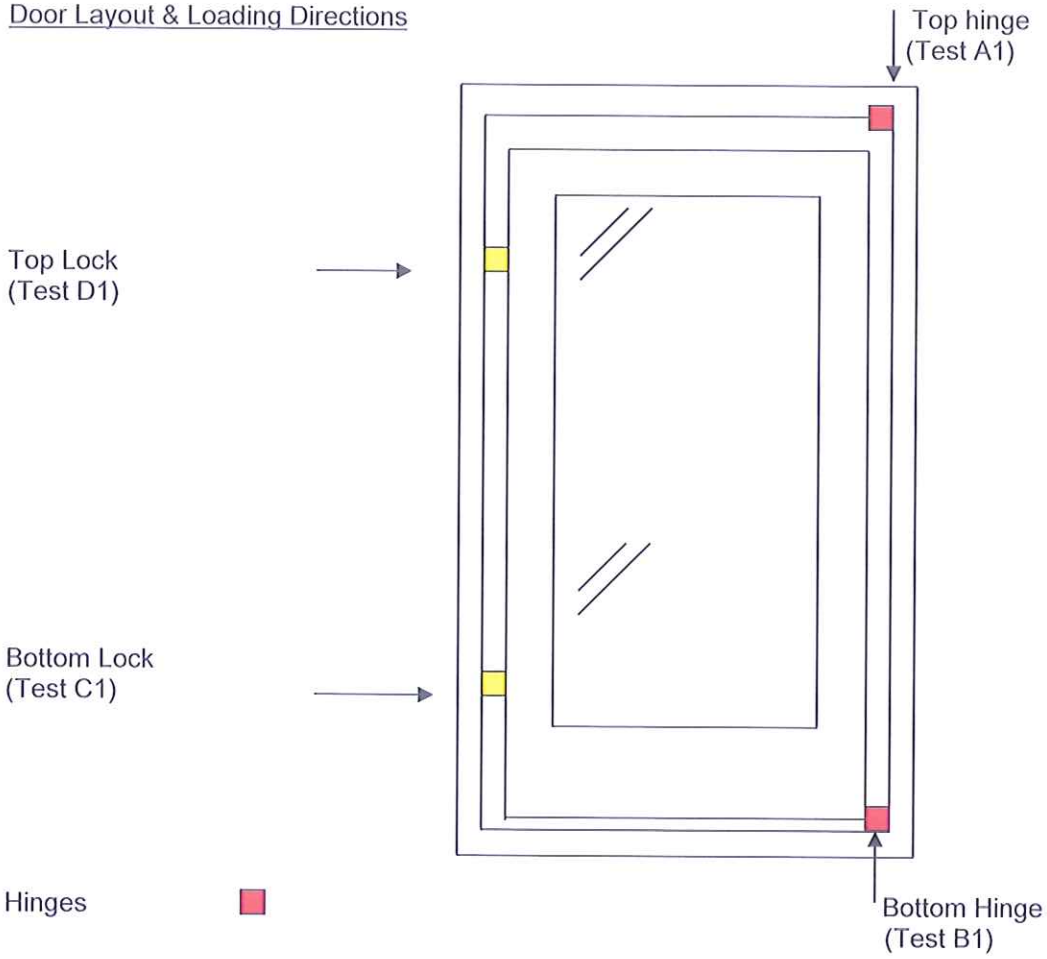
Clause No.	Description	Compliance / Comment
A.3	Security hardware and cylinder test	N/A
B.4.3	Manipulation test	Yes
B.4.4.2	Infill medium removal test – Manual	Yes
B.4.4.3	Infill medium removal test – Mechanical	Yes
B.4.4.4	Infill Medium Removal test – Manual Cutting	Yes
B.4.5	Mechanical loading test	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)

Without letter plate - D KT

Test Results

Door Layout & Loading Directions



Laboratory Temperature: 22°C

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

B.4.3 - Manipulation Test

Attack the bottom V-lock using the paint scrapper – 3 minutes
The paint scrapper and flat bladed screwdrivers were used to attack the bottom pivot hinge – 3 minutes
No progress was made with the techniques and testing was terminated after 6 minutes total working time Pass

B.4.4 – Cutting & Infill Medium Removal Test

B.4.4.2 – Infill Medium Removal Test – Manual test

The paint scrapper was used to remove the external gasket from the glazed panel and then the glazing vibrated by hand in an attempt to remove the internal gaskets and beads.

Following 3 minutes the infill remained secure and no beads were removed Pass

B.4.4.3 – Infill Medium Removal Test – Mechanical test

The 4 corners of the glazed unit were loaded with 2kN for a period of 8-12 seconds. The infill showed no signs of damage or displacement following the test Pass

B.4.4.4 – Manual Cutting test

The 6mm wood chisel was used in an attempt to create a hole through the external fascia of the frame near the bottom V-Lock to gain entry to the locking unit
Following 3 minutes no hole was produced through to the locking unit Pass

B.4.5 – Mechanical Load Test

Test A1– Top Pivot

Load Positions	Requirement	Actual	Assessment
Parallel to plane at right angles to the edge	1.5kN (153Kg)	153Kg	----
Perpendicular to plane	4.5kN	4.502kN	Pass

Test B1 – Bottom Pivot

Load Positions	Requirement	Actual	Assessment
Parallel to plane at right angles to the edge	1.5kN (153Kg)	153Kg	----
Perpendicular to plane	4.5kN	4.503kN	Pass

Test C1 – Bottom Lock

Load Positions	Requirement	Actual	Assessment
Parallel to plane at right angles to the edge	1.5kN (153Kg)	153Kg	----
Perpendicular to plane	4.5kN	4.506kN	Pass

Test D1 – Top Lock

Load Positions	Requirement	Actual	Assessment
Parallel to plane at right angles to the edge	1.5kN (153Kg)	153Kg	----
Perpendicular to plane	4.5kN	4.508kN	Pass

B.4.6 – Manual Check Test

The door was attacked between the bottom lock and top lock, the bottom corner of the lock side, along the threshold near the bottom pivot and between the bottom pivot hinge and top pivot hinge using the two nail bars. Each area was attacked for 3 minutes resulting in a total attack time of 12 minutes.

Door remained secure and no weaknesses were identified Pass

B.4.8 – Soft Body Impact Test

Impact points were marked on the centreline of the door at 0.8m,1.25m and 1.7m.
The door bolts were thrown and locked

Each impact point was struck 3 times with the impactor. In each instance the door remained closed Pass

B.4.9 – Hard Body Impact Test

Impact points were marked on the door as follows;

- at each corner of the leaf
- on the door at each hinge point
- on the door at each locking point

The door bolts were thrown and locked.
Each impact point was struck 3 times with the impactor. In each instance the door remained closed Pass

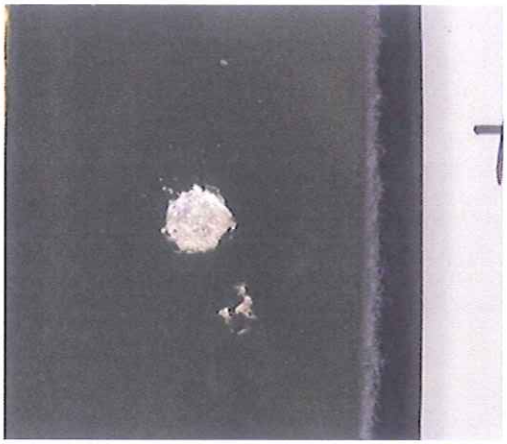
Test Equipment

The pieces of equipment used to carry out the tests are referenced below
LEN 195 – loading frame
LEN 082 – max / min thermometer
LEN 087 – PAS 24 marking out block
LEN 090 – tool sets A & B
LEN 091 – tool set (clause A.7)
LEN 156 – Spring balance

Pictures



Sample as received and in good condition



Sample following clause B.4.4.4