

Report No: 183038

Test of:

Sapa Building Systems
Dualframe Aluminium single
doorset



Tested to:

PAS 23-1:1999
General Performance
Requirements for Door
Assemblies

For:

ERA Products Ltd
Straight Road
Short Heath
Willenhall
West Midlands
WV12 5RA

TEST OF DOOR ASSEMBLIES TO PAS 23-1:1999

TEST CONCLUSIONS

Samples of:

Manufacturer Sapa
Product Aluminium Door
Model Dualframe

have been tested in accordance with: PAS 23-1:1999 incorporating amendments 1, 2, 3, 4 & Corrigendum N°1

By Bodycote Warrington apt [A UKAS accredited Testing Laboratory (No. 0621) and EC Notified Body number 1104]

At Key Industrial Park, Fernside Rd., Willenhall. West Midlands. WV13 3YA.

Results and comments as detailed below:

Clause No.	Description	Compliance
6.2	Weather Performance requirements	No
6.2.1	Air Permeability – No requirement	N/T
6.2.2	Watertightness – No requirement	N/T
6.2.3	Wind Resistance - No requirement	N/T
6.2	Classification – No requirement	N/T
	Mechanical Performance	No
6.3	Operating Forces	N/T
6.4	Resistance to vertical loads	N/T
6.5	Resistance to static torsion	N/T
6.6	Slamming resistance	N/T
6.7	Closure against obstructions	N/T
6.8	Abusive forces on handles	N/T
6.9	Door assembly resistance to soft and heavy body impact	N/T
6.10	Door leaf resistance to hard body impact	N/T
	Performance in use	Yes
6.11	Cyclic operation test	Yes
6.12	Resistance to thermal variation	N/A
6.13	Resistance to humidity	N/A
6.14	Basic security	Yes

Tests marked " N/A" are not applicable to the sample under test.

Tests marked "N/T" were not applied to the sample under test

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AUTHORISATION

Tests performed by: Mark West, Assistant Operations Manager

Report issued by: Mark West, Assistant Operations Manager (Doors & Windows)

Signed



Date 21/12/2009

For and on behalf of Bodycote Warrington APT

Report authorised by: Ian Keeling, Operations Manager

Signed



Date 21/12/2009

For and on behalf of Bodycote Warrington APT

Report issued: 21 December 2009



NOTE.

Tests marked "Not UKAS Accredited" are not covered by the Laboratory UKAS accreditation schedule.

Tests marked NT were not tested

Tests marked NA are not applicable to the product on test.

The laboratory has tested the product supplied by the client as sampled in accordance with their own requirements

Bodycote Warringtonapt is an EC Notified Body Number 1104

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TEST DETAILS

CLIENT DETAILS

Company name ERA Products Ltd
Address Straight Road
Short Heath
Willenhall
West Midlands
Post code WV12 5RA
Contact Adrian Crutchley

ORDER DETAILS

Order number 100488
Dated 29/04/2009

SAMPLE DETAILS

Product Aluminium Single Doorset
Model Dualframe
Manufacturer Sapa
Sample Dimensions Door frame 2165 x 1050mm
Door leaf 988 x 2113 mm (over external rebate)
Material Aluminium
Details of Hardware fitted
Hinges SAPA
Lever Furniture Hoppe
Lock ERA DFC1601 3 Hook, 2 Roller
Cylinder Yale 90mm
Markings None
Date of Manufacture Unknown
Other information Fixture & Fitting information provided by SAPA

TEST DETAILS

Test specification PAS 23-1:1999 Incorporating amendments 1, 2, 3 & 4 & Corrigendum N°1
Date sample received 29/04/2009
Date test started 01/05/2009
Date test completed 09/06/2009
Laboratory Storage and Testing conditions Maximum Temperature 28.4°C, Minimum Temperature 17.5°C, Maximum Humidity 58.2 %RH, Minimum Humidity 26.7 %RH
Special Test requirements No cycling of additional/secondary locking system required.
Other reports to be used in conjunction with this report None

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INITIAL OBSERVATIONS

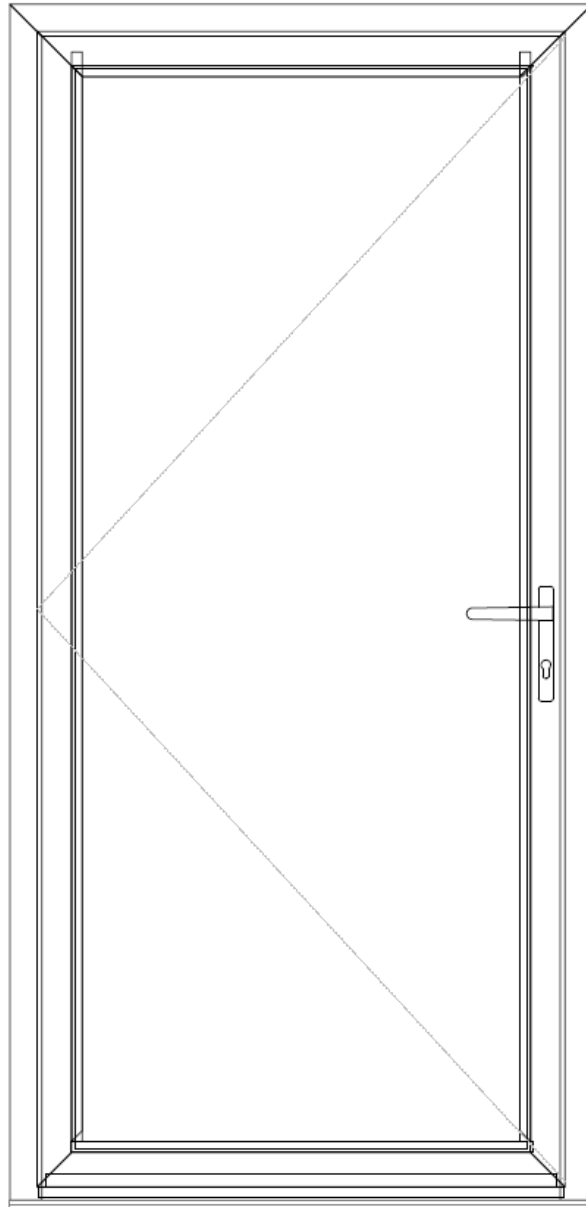
**The internal face
of the sample**



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TEST SPECIMEN

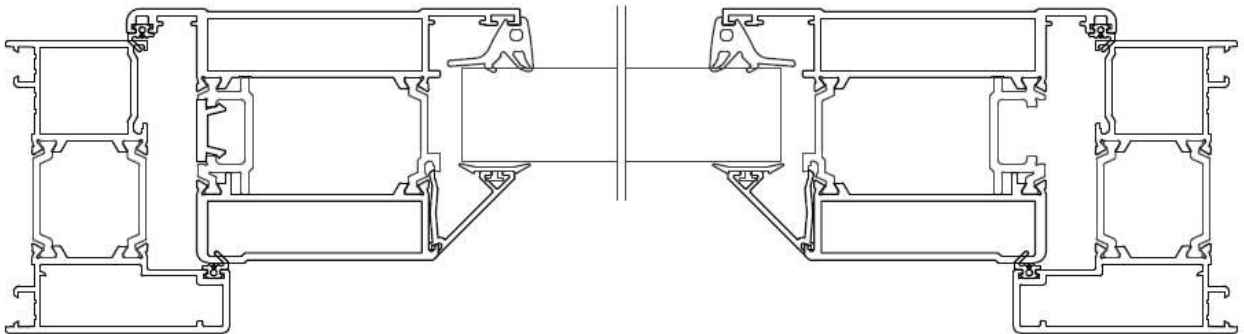
Figure 1- General Elevation of Test Specimen



Do not scale. All dimensions are in mm

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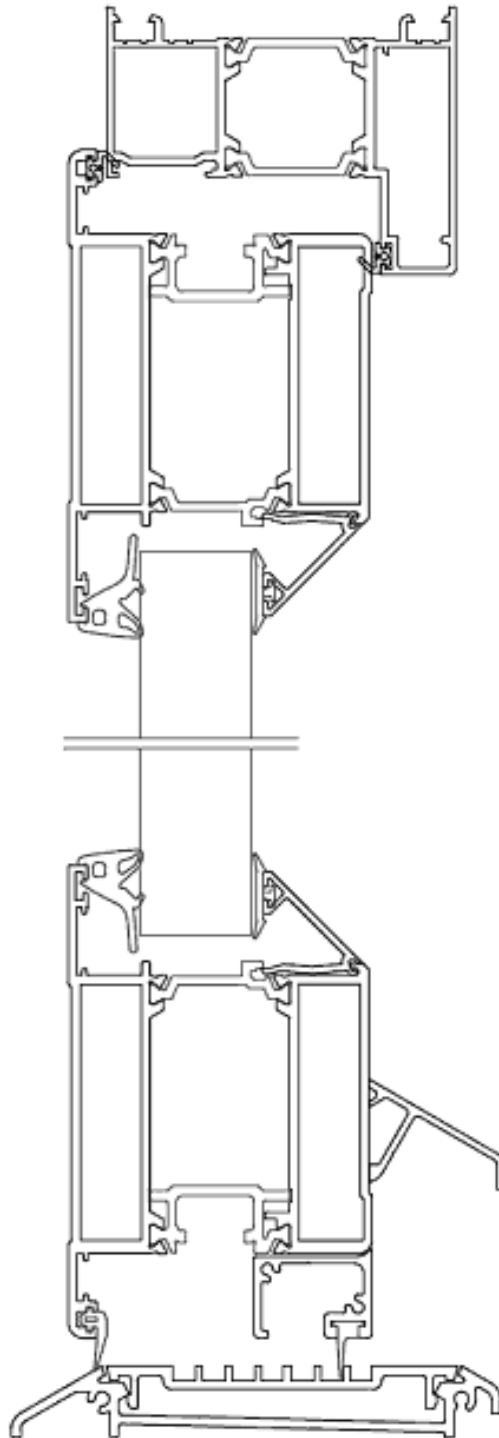
Figure 2 – Horizontal Section



Do not scale. All dimensions are in mm

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Figure 3 – Vertical Section



Do not scale. All dimensions are in mm

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SCHEDULE OF COMPONENTS

(Refer to Figures 1 to 3)
(All values are nominal unless stated otherwise)
(All other details are as stated by the sponsor)

<u>Item</u>	<u>Description</u>
1. Door Frame (Jamb & Head)	
Manufacturer	: SAPA Building Systems
Material	: 6063 Aluminum
Finish	: Powder coated
Profile code	: DF310
Overall size	: 2165 x 1050mm
Jambs to head & sill jointing method	: Mitred & crimped.
2. Door Frame (Sill)	
Material	: 6063 Aluminium
Finish	: Powder coated
Profile code	: M995, M996
Overall size	: 1050 x 105mm
3. Weather Seal	
Manufacturer	: SAPA
Reference	: Flipper Seal
Fixing method	: push fit
4. Door Leaf	
Manufacturer	: SAPA Building Systems
Material	: 6063 Aluminium
Finish	: Powder coated
Profile codes	: DF423
Overall size	: 2077 x 952mm (internal) 2113 x 988mm (external)
Corner fixings	: DFC147 Mechanical jointing cleat
5. Glass	
Supplier	: SAPA Building Systems
Overall size	: 816mm x 1941mm
Thickness	: 4-16-4
6. Glazing gasket	
Supplier	: SAPA Building Systems
Description	: Wedge
Reference	: DFC879
Fixing	: push fit

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<u>Item</u>	<u>Description</u>
7. Lock	
Manufacturer	: Era
Description	: Multipoint lock
Reference	: DFC1601 + DFP1615
Fixings	
i. type	: Countersunk Pozi Polyamide
ii. material	: Steel
iii. size	: 4.3 x 25mm
iv. quantity	: 9
8. Lock Keep	
Manufacturer	ERA
Reference	DFP1605
Overall size	
i. top & bottom keep	: 33 x 200 mm
ii. centre keep	: 33 x 200 mm
Fixings	
i. type	: Countersunk pozi
ii. material	: Stainless steel
iii. size	: No. 8 x 3/4"
iv. quantity	: 4
9. Hinges	
Manufacturer	: SAPA Building Systems
Reference	: DFP1650
Quantity	: 2
Primary material	: Aluminium
Size of knuckle	: 16mm
Size of blades	: 27 x 60mm
Fixings hinge to door	
i. type	: Stainless steel pan-head pozi
ii. size	: No. 8 x3/4"
iii. quantity	: 3
Fixings hinge to frame	
i. type	: Stainless steel pan-head pozi
ii. size	: No. 8 x3/4"
iii. quantity	: 3

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Item

Description

10. Hinge Security Bolts

Manufacturer : SAPA Building Systems
Description : Security Bolts
Reference : DFP1649
Quantity : 3
Fixings
i. type : Stainless steel CSK Screws
ii. size : No. 8 x 1/2 " & 4.3 x 25mm Polyamide
iii. quantity : 2 & 2

11. Cylinder

Manufacturer : Yale
Reference : 90mm

12. Lever handles

Manufacturer : Hoppe
Reference : Lever-lever Handle DFP220

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PERFORMANCE CRITERIA AND TEST RESULTS

Clause	Result	Pass/Fail
6.11 Cyclic operation test	<p>Prior to the cycle test the operating forces met the requirements, and the sample latched 5 times under a 70 N force. An average torque of 2.72 Nm was required to engage the locking system, 2.72Nm was required to disengage. A torque of less than 0.3 Nm was required to lock and less than 0.3 Nm was required to unlock.. An average force of 3.92 N was required to initiate movement.</p> <p>The sample completed 50,000 cycles. No lubrication was specified by the manufacturer. Cycling was not carried out on the secondary locking system. The mass of the doorleaf was 51.4 kg and the dead load applied on the doorleaf by the operating equipment was 3.1 kg.</p> <p>Following the cycle test the operating forces continued to meet the requirements, , and the sample latched 5 times under a 70 N force. An average torque of 3.60 Nm was required to engage the locking system, 2.34 Nm was required to disengage. A torque of less than 0.3 Nm was required to lock and less than 0.3 Nm was required to unlock.. An average force of 3.7 N was required to initiate movement.</p>	PASS
6.14 Basic security test	<p>Testing was carried out following 6.11 with the secondary locking system engaged. The handle and the left side bead of the glazing system was attacked with the 25mm chisel and the screwdriver. No entry was achieved in 3 mins.</p>	PASS

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Damage to the handle following basic security test



Damage to the glazing gasket following basic security test



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LIMITATIONS

Limitations

The results are valid only for the conditions under which the test was conducted and for the specific range of door assemblies as detailed below.

Range of door assemblies covered by this report

It is our opinion that the range of door assemblies covered by this report are limited to the following

- Assemblies with identical hardware fitted no further apart than in the tested assembly
- Assemblies of the same or smaller overall dimensions to the tested assembly

Uncertainty of Measurement

The uncertainties of measurements calculated for a confidence level of 95% throughout these tests are within the limits of these tolerances.

The standard specifies the following tolerances

- Forces $\pm 5\%$
 - Distance $\pm 1\text{mm}$ for tape measures $\pm 0.1\text{mm}$ for dial gauges
-

OBSERVATIONS & COMMENTS

END OF REPORT