ASSA ABLOY

BS 6375-1:2016

Test of:

Profile Developments Single open in doorset

Performance of windows & doors
Part 1: Classification for weathertightness

Customer:

Profile Developments

UKAS TESTING
2526

CONTENTS

AUTHORISATION

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Report issued by: Richard Darrell (Senior Test Engineer)

Signed:

Date: 16th July 2020

For and on behalf of ASSA ABLOY UK Test Laboratory

Report authorised by: Ian Bridge (Test Laboratory Manager)

Signed:

Date: 16th July 2020

For and on behalf of ASSA ABLOY UK Test Laboratory

Date report issued: 16th July 2020

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Note that tests marked "Not UKAS Accredited" are not covered by the Laboratory UKAS accreditation schedule

Origin of Request

Client Details

Company Name	Profile Developments
Address	Ballygiltenan North, Glin, Co. Limerick, Ireland
Post Code	
Contact	John Fletcher

Order Details

Order Number	N/A
Dated	N/A

Test Details

Sample Details

Product	Single open in composite leaf with uPVC outer frame
Model Number	Single open in door set
Marking / Brand	Profile Developments door sets
Manufacturer	Profile Developments
Date of Manufacture	Not known
Other information	None

Test Specification / Details	BS6375-1:2016 - Performance of windows & doors Part 1: Classification for weathertightness
Date samples received	20th April 2017
Date test commenced	15th May 2017
Date test completed	15th May 2017
Job Number	2017-119
Any special test requirements	None

Component Details

Sample Details:	Profile Developments Palladio door set
Fabricator:	Profile Developments & Liniar
Material:	UPVC FRAME & GRP DOOR LEAF. OUTER FRAME CORNERS WELDED,THRESHOLD MECHANICAL FIXED Outer frame : LSW016 Reinforcement : Steel LSR106 Leaf : 68mm Composite slab
Finish:	White
Lock:	Lock : Yale Mantis Keeps : Yale OPK
Hinges:	Palladio composite door hinge with dog bolt
Cylinder:	YALE 1* Superior cylinder
Handle:	Mila Pro Secure lever/Lever
Fixings:	Lock : 4.3 x 30 CSK Keep : 4.3 x 30 CSK Hinge to frame: 4.8 x 38 CSK drill point Hinge to leaf : 5.0 x 40 wood screw Handle : Supplied with handle set Glazing/Panel fixings : Glued
Letterplate:	N/A
Weather sealing:	Threshold : Stormguard
Glass:	Total thickness : Triple Glazing Supplier : Profile Developments
Glazing system:	Glued internal and external beads
Sample dimensions:	Frame : 1000 X 2100 Each Leaf : 850 X 1970

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

Test Conclusions

Clause No.	Description	Classification
6	Air permeability	**Class 2**
7	Water tightness	**Class 3A**
8	Wind Resistance	**Class A3**
Classification	Exposure category rating	**1200**

Door Assembly

Locking point ●

Test Climates

Laboratory Temperature	Laboratory Humidity	Barometric Pressure
21° C	47%	100.4kPa

All hardware was checked for correct operation prior to the commencement of the test
Sample was stored for a minimum of 4 hours conditioning prior to test

Sequence of Tests

Sample 1 – Clause 6 air permeability, clause 7 water tightness, clause 8 resistance to wind – deflection P1, resistance to wind – pulsating test to P2 pressure and resistance to wind – safety test to pressure P3.

Results

6 – Air permeability – EN 1026:2000

Date of Test: 15th May 2017

Opening perimeter = 5.51m Opening area = 2.10m²

Positive Pressure Readings

Air Pressure	Blank Readings – air leakage	Measured rate of air leakage	Actual rate of air leakage from window / frame	Adjusted rate of leakage from window / frame	Rate of air leakage relative to opening perimeter	Rate of air leakage relative to opening area
(Pa)	(m^3/h)	(m^3/h)	(m^3/h)	(m^3/h)	($m^3/h/m$)	($m^3/h/m^2$)
50	1.2	8.6	7.4	7.31	1.33	3.48
100	3.1	16.4	13.3	13.14	2.38	6.26
150	5.4	24.3	18.9	18.67	3.39	8.89
200	7.6	36.6	29.0	28.64	5.20	13.64
250	9.4	48.8	39.4	38.92	7.06	18.53
300	11.7	62.6	50.9	50.28	9.12	23.94

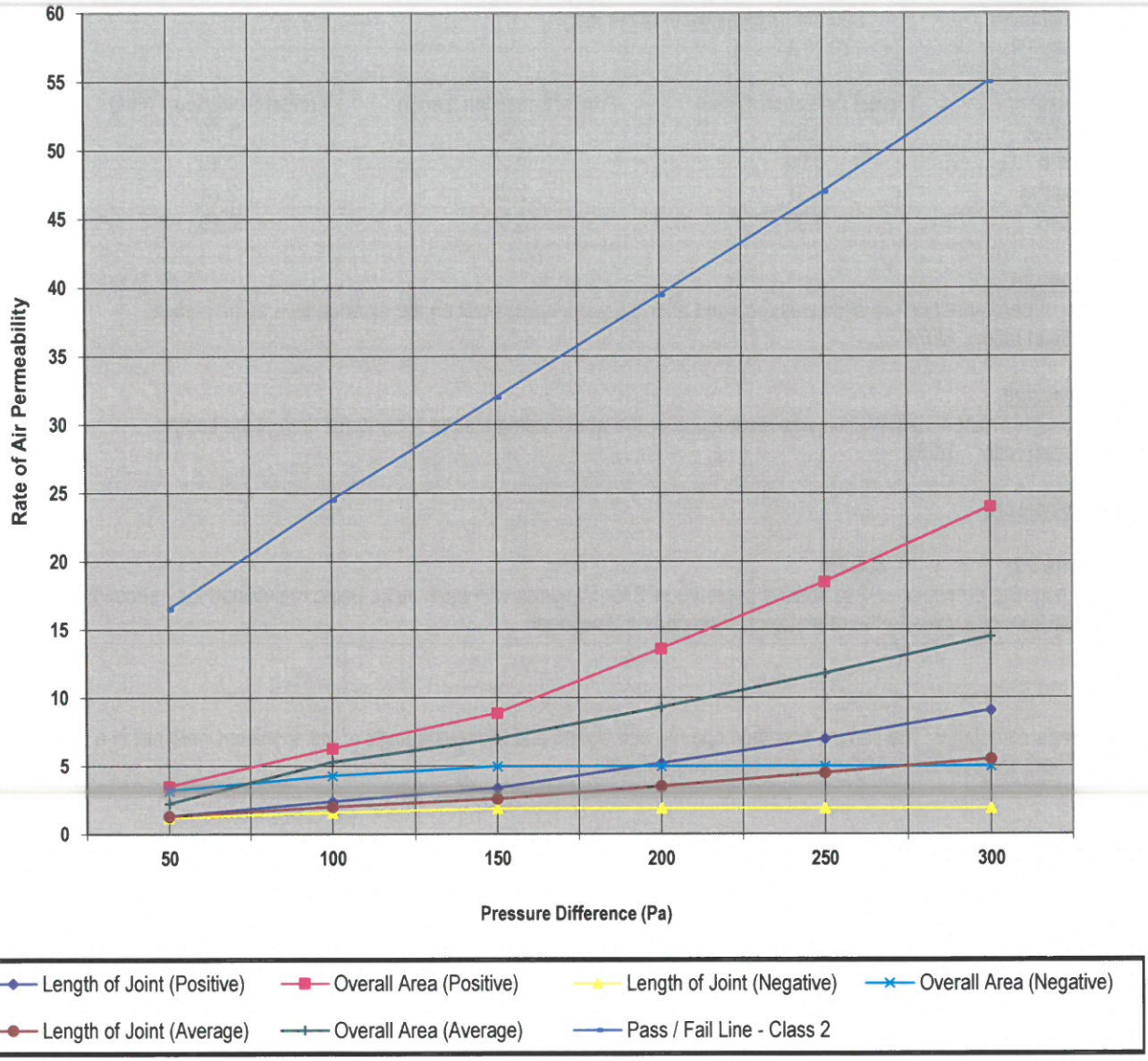
Negative Pressure Readings

Air Pressure	Blank Readings – air leakage	Measured rate of air leakage	Actual rate of air leakage from window / frame	Adjusted rate of leakage from window / frame	Rate of air leakage relative to opening perimeter	Rate of air leakage relative to opening area
(Pa)	(m^3/h)	(m^3/h)	(m^3/h)	(m^3/h)	($m^3/h/m$)	($m^3/h/m^2$)
- 50	1.4	8.3	6.9	6.82	1.24	3.25
- 100	3.4	12.6	9.2	9.09	1.65	4.33
- 150	5.7	16.4	10.7	10.57	1.92	5.03
- 200	7.9	18.4	10.5	10.37	1.88	4.94
- 250	9.9	20.6	10.7	10.57	1.92	5.03
- 300	12.2	22.8	10.6	10.47	1.90	4.99

Average Readings

Air Pressure	Rate of air leakage relative to opening perimeter	Rate of air leakage relative to opening area
(Pa)	($m^3/h/m$)	($m^3/h/m^2$)
50	1.28	3.36
100	2.02	5.29
150	2.65	6.96
200	3.54	9.29
250	4.49	11.78
300	5.51	14.46

Graph of Air Permeability (pre wind resistance test)



7 – Test for Water tightness – EN 1027:2000

Spraying method used for this test – 1A

Pressure (Pa)	Point and location at which water leakage occurred
100	No Leakage

Classification in accordance with BS EN 12208

Class 3A

8 – Test for Wind Resistance – EN 12211:2000

Deflection Test

Length of member: 900 mm (Across width of the leaf)
Test Pressure P1: 1200 Pa

Pressure	Frontal Deflection 1 (mm)	Frontal Deflection 2 (mm)	Frontal Deflection 3 (mm)
Positive	0.53	2.05	1.50
Zero	0.00	0.05	0.10
Negative	0.37	2.28	2.74
Zero	0.03	0.04	0.19

Positive pressure
No damage or permanent deformation was recorded after the wind loading test on the external face of the sample
Deflection span ratio: 1/874

Negative pressure
No damage or permanent deformation was recorded after the wind loading test on the internal face of the sample
Deflection span ratio: 1/638

Repeated Pressure

Test pressure P2: 600 Pa
Starts with negative pressure – P2 to positive pressure +P2 for 50 cycles with each value being maintained for 7 seconds ± 3 seconds with each reverse from one value to the other taking 7 seconds ± 3 seconds.

Result

50 cycles were completed. The sample was then opened and closed and all moving parts of the specimen were still in a good working condition. There were no signs of damage or operating defects

Classification in accordance with EN12210:1999

Aspect	Class
Classification of wind load	3
Classification of relative frontal deflection	A
Resistance to wind load classification	**A3**

6 – Repeated Test for Air Permeability EN 1026:2000

Positive Pressure Readings

Air Pressure	Blank Readings – air leakage	Measured rate of air leakage	Actual rate of air leakage from window / frame	Adjusted rate of leakage from window / frame	Rate of air leakage relative to opening perimeter	Rate of air leakage relative to opening area
(Pa)	(m^3/h)	(m^3/h)	(m^3/h)	(m^3/h)	($m^3/h/m$)	($m^3/h/m^2$)
50	1.2	6.9	5.7	5.63	1.02	2.68
100	3.1	12.1	9.0	8.89	1.61	4.23
150	5.4	20.8	15.4	15.21	2.76	7.24
200	7.6	30.2	22.6	22.32	4.05	10.63
250	9.4	39.1	29.7	29.34	5.32	13.97
300	11.7	51.8	40.1	39.61	7.19	18.86

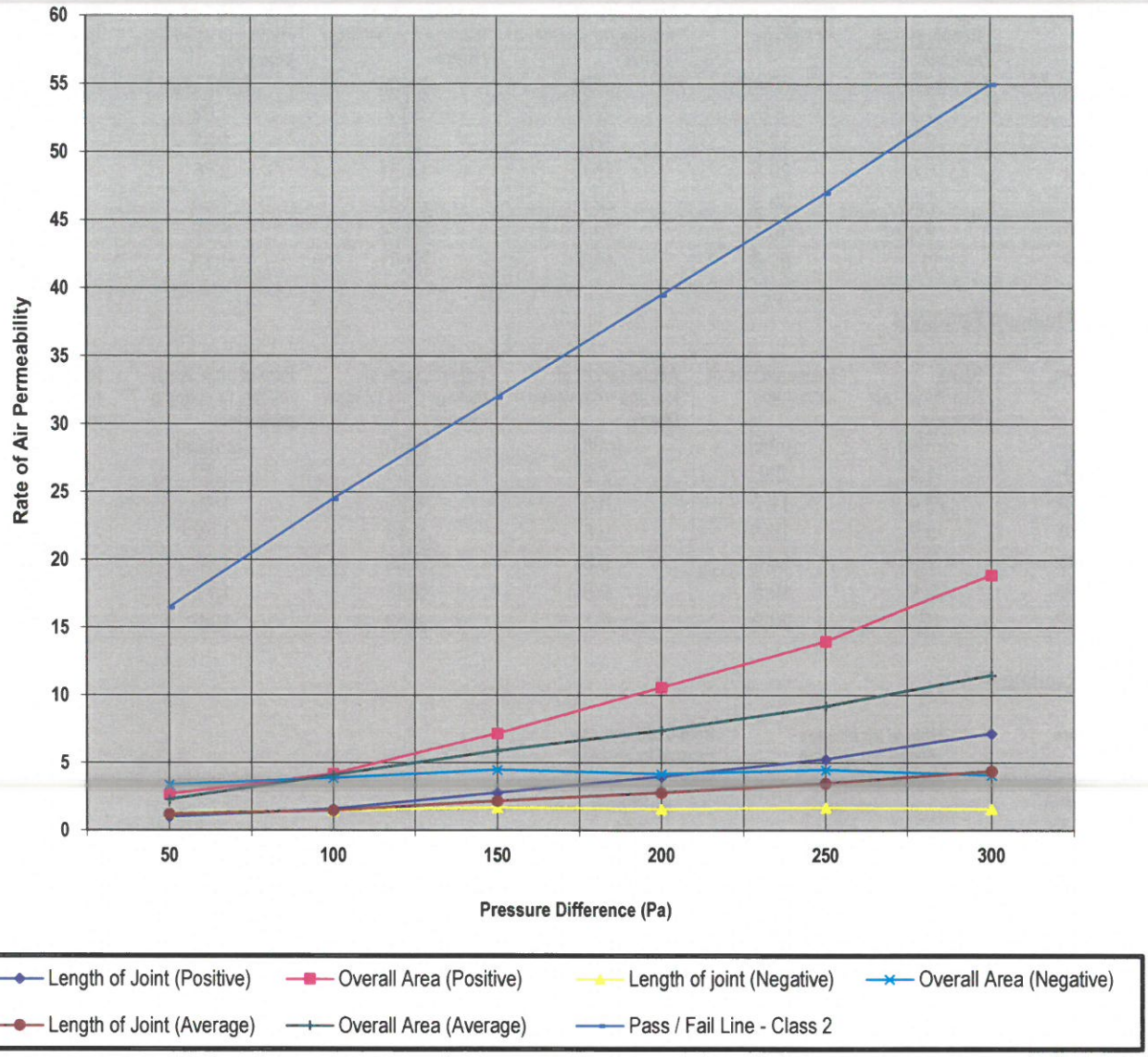
Negative Pressure Readings

Air Pressure	Blank Readings – air leakage	Measured rate of air leakage	Actual rate of air leakage from window / frame	Adjusted rate of leakage from window / frame	Rate of air leakage relative to opening perimeter	Rate of air leakage relative to opening area
(Pa)	(m^3/h)	(m^3/h)	(m^3/h)	(m^3/h)	($m^3/h/m$)	($m^3/h/m^2$)
- 50	1.4	8.6	7.2	7.11	1.29	3.39
- 100	3.4	11.7	8.3	8.20	1.49	3.90
- 150	5.7	15.3	9.6	9.48	1.72	4.52
- 200	7.9	16.9	9.0	8.89	1.61	4.23
- 250	9.9	19.5	9.6	9.48	1.72	4.52
- 300	12.2	20.9	8.7	8.59	1.56	4.09

Average Readings

Air Pressure	Rate of air leakage relative to opening perimeter	Rate of air leakage relative to opening area
(Pa)	($m^3/h/m$)	($m^3/h/m^2$)
50	1.16	3.03
100	1.55	4.07
150	2.24	5.88
200	2.83	7.43
250	3.52	9.24
300	4.37	11.48

Graph of Air Permeability (Repeated test after Wind Resistance)



Classification in accordance with BS EN 12207

	Pre Wind Test	Post Wind Test
Classification according to length of opening joint	Class 2	Class 2
Classification according to overall area	Class 2	Class 2
Final Classification		**Class 2**

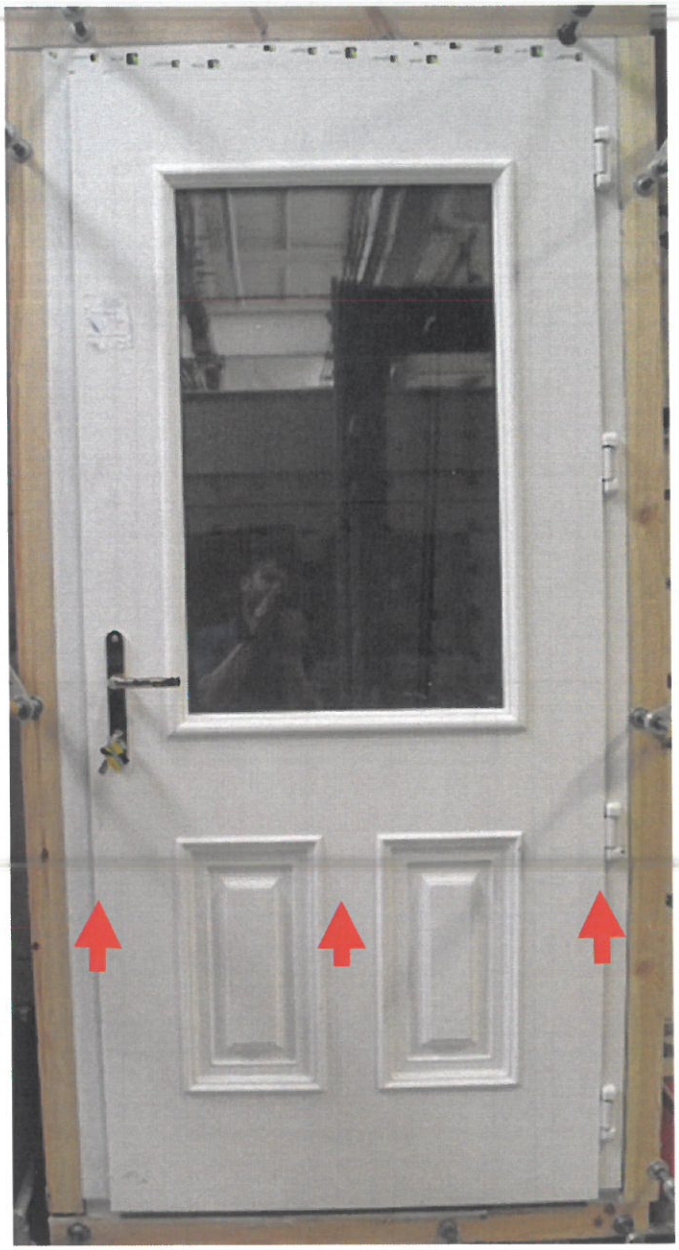
Safety Test

Test pressure P3: 1800 Pa
Starts with negative pressure – P3 to positive pressure +P3 for one cycle with each value being maintained for 7 seconds ± 3 seconds

Result

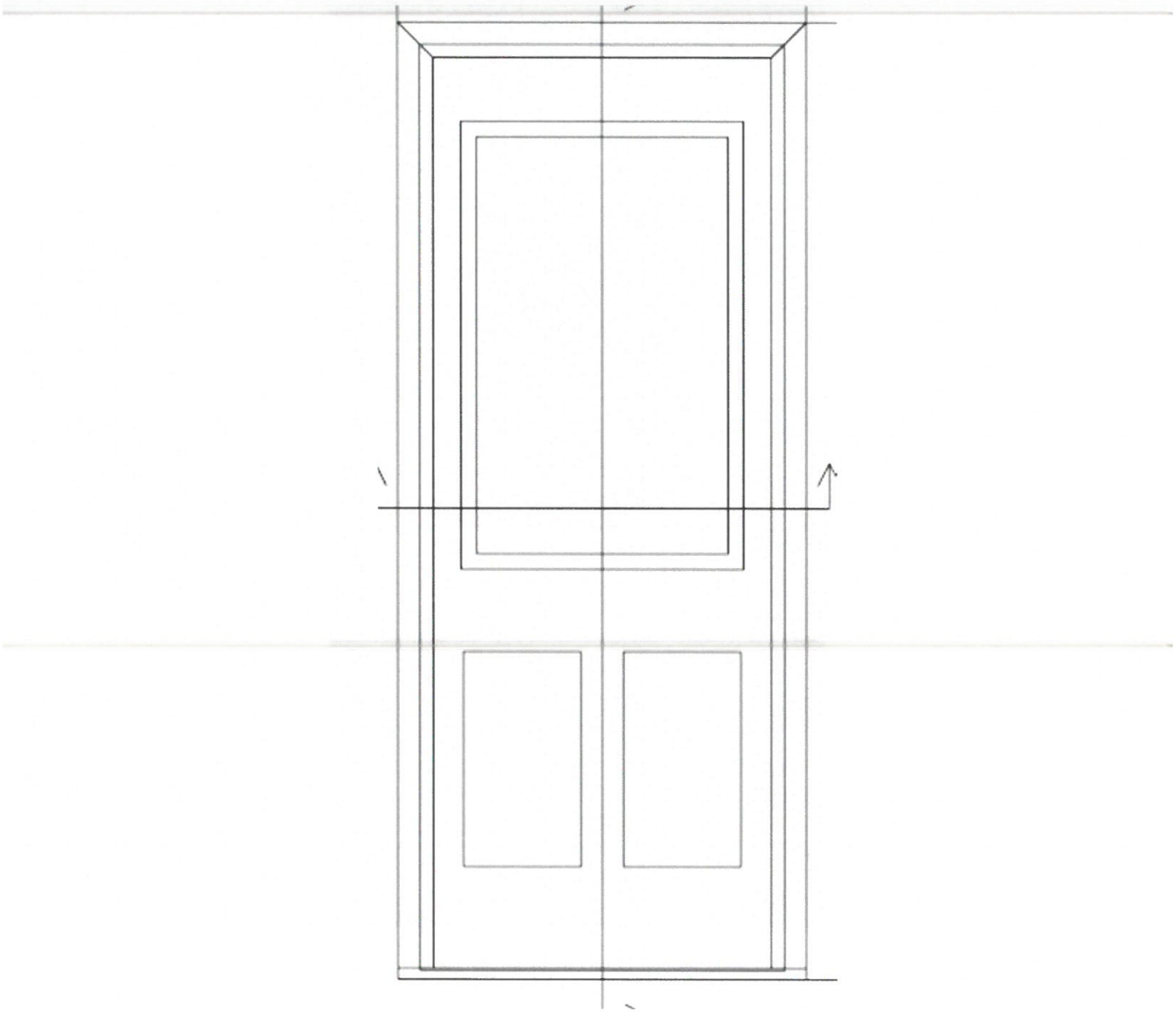
Following the test the sample remained closed and without signs of damage or parts becoming detached

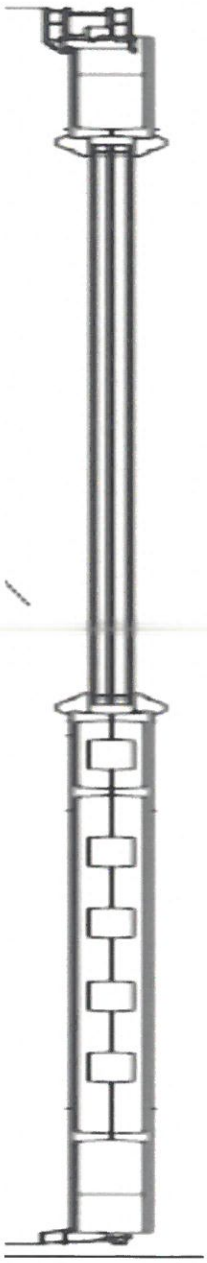
Pictures



Displacement measuring points

Cross sectional drawings





Note : The test sample was as provided by the customer. The results apply to the sample as received