Test Report 8851932.

Kaliber Marketing (Holdings) Limited

T/A Kat UK

Introduction.

This report has been prepared by David Vinyard and relates to the activity detailed below:

Job/Registration Details		Client Details
Job number:	**8851932**	Kaliber Marketing (Holdings) Limited
Job type:	Testing Samples Submitted	T/A Kat UK
Start Date:	24/06/2019	Unit 5
Test type:	Audit	Snape Road
Sample ID:	10174546	Macclesfield
Registration:	**KM 651901**	SK10 2NZ
Scheme:	BS 7412 / PAS 24	United Kingdom
Protocol:	PP519	
Scheme Mgr:	Lorraine Balch	

The report has been approved for issue by F Merrison – Laboratory Manager

Approved For Issue	
	Issue Date:30 July 2019

Objectives.

Audit test for product certification

Product Scope.

Veka Imagine PVC Patio Sliding Door

Report Summary.

The sample was received on 21 March 2019 and the testing was started on 24 June 2019.

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

BS7412:2007 Weather Audit.

One off fully glazed horizontal sliding patio door assembly with a standard threshold

(Sample ID No 10174546)

Date sample received: 21 March 2019

Test Results.

1.	Air Permeability	The test sample met the requirements of the Specification, in respect of Clause 6, for Test Pressure Class 3.
2.	Watertightness	The test sample met the requirements of the Specification, in respect of Clause 7, for Test Pressure Class 5A.
3.	Operational Strength	The test sample met the requirements of the Specification in respect of BS6375-2:2009, Operating forces – Class 1
4.	Basic Security	The test sample met the requirements of the Specification in respect of BS6375-3:2009.

Sample Selection.

The sample submitted for tests were selected using the PCP Scheme Document 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.

Clause 5 Sequence of Tests.

The sequence of testing the samples followed that detailed in Clause 5 of BS6375-1:2015.

Clause 5 Performance Requirements.

The performance of each sample was assessed against the requirements detailed in Table 1 Exposure Categories and Classifications.

Methods of Test.

1. **Operating Forces**

   The operating forces acting on the sample were determined by the methods given in BS EN 12046-2:2000.

2. **Air Permeability**

   The air permeability of the sample was determined by the method given in BS 6375-1:2015.

3. **Watertightness**

   The watertightness of the sample was determined by the method given in BS 6375-1:2015.

4. **Basic Security**

   The basic security test was carried out using the method given in BS 6375-3:2009.

Note

BS 6375-3:2009 basic security not UKAS accredited.

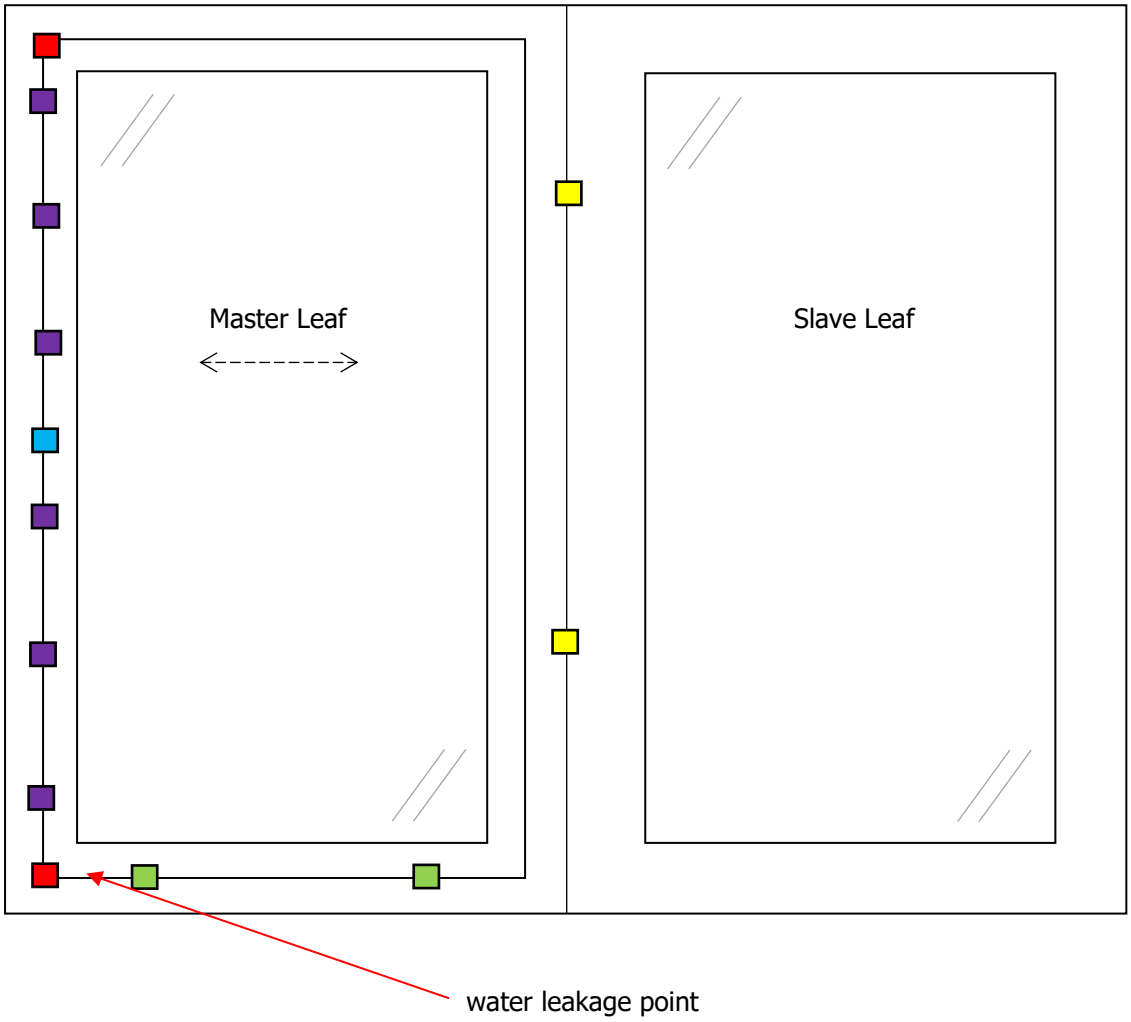
Description of Sample. (Weather)

Sample Type -	Fully glazed horizontal sliding patio door assembly with a standard threshold
Material -	PVC-U
Construction -	Mitred, welded and grooved
Fittings -	**Active Leaf (Master) -** an eight-point locking (six hook bolts and two shoot bolts) Yale espagnolette system, key lockable 3* KAT UK cylinder, two interlocks and two rollers
Glass -	Double glazed 4-20-4mm toughened glass sealed units
Panel -	Not applicable
Glass Retention System -	Internal beads and gaskets
Weathersealing -	Brush

Sample dimensions -	Overall length:	1810mm	Height: 2100mm
	Active leaf length:	905mm	Height: 2005mm
	Inactive leaf length:	795mm	Height: 2005mm

Date of test -	24 July 2019
Laboratory temperature -	24.0°C
Laboratory humidity -	66.5%RH
Atmospheric pressure -	100.3kPa

Elevation Drawing Showing Position of Hardware.



Handle:
Interlock devices:
Roller:
Hook Bolt:
Shoot Bolt:

Graph of Average Air Permeability.

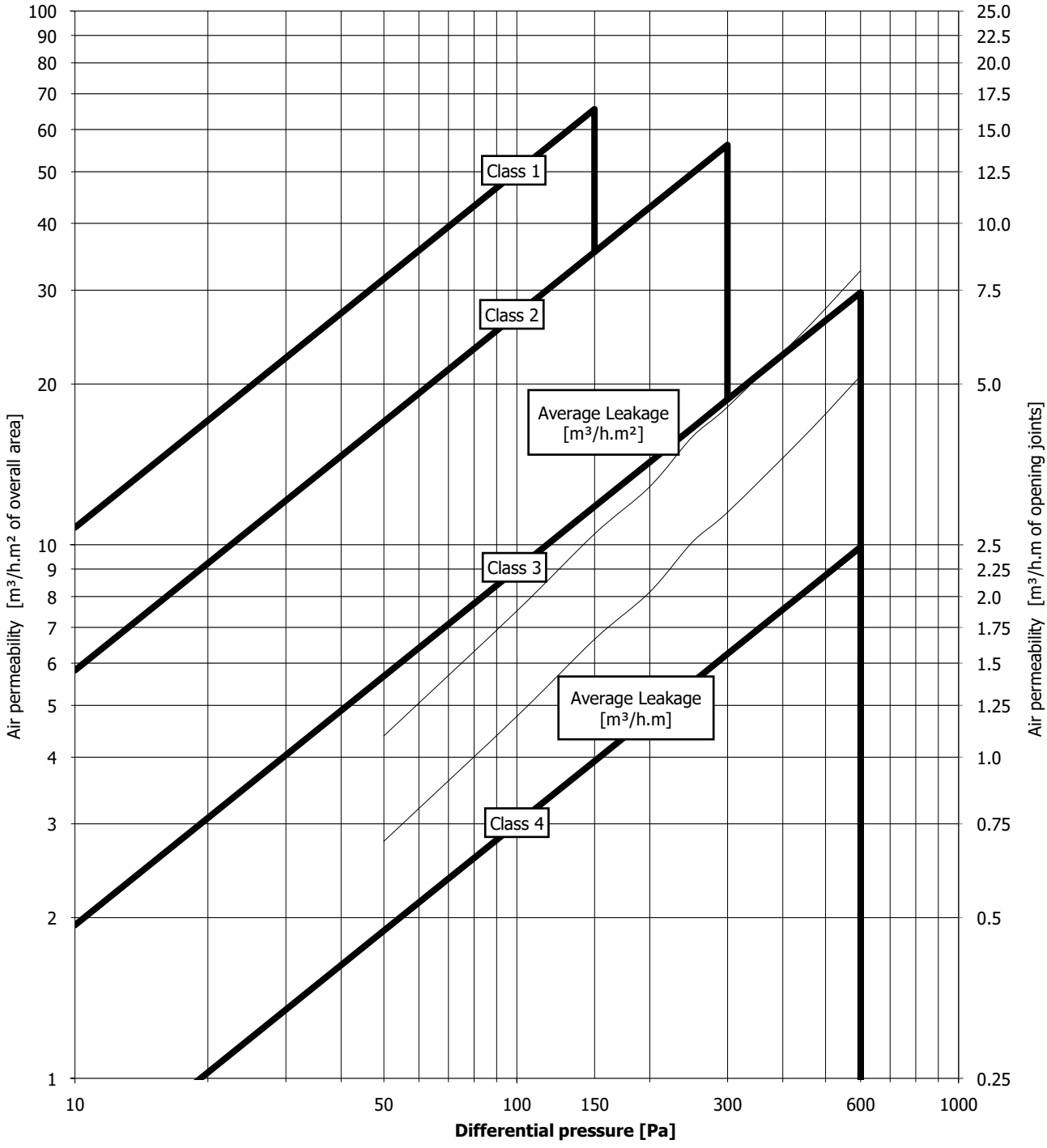


Table of Average Air Permeability.

AIR PERMEABILITY TEST RESULTS - BS 6375-1:2015 / BS EN 1026:2000

Three positive pressure pulses of 660Pa were applied prior to testing

Air Pressure [Pa]	Average rate of air leakage [m^3/h]	Average rate of air leakage per meter length of opening joint [$m^3/h.m$]	Average rate of air leakage relative to area of sample [$m^3/h.m^2$]
50	8.0	0.70	4.38
100	13.7	1.19	7.51
150	19.1	1.66	10.48
200	23.4	2.04	12.85
250	29.0	2.53	15.95
300	33.0	2.88	18.13
450	46.0	4.01	25.29
600	59.4	5.18	32.64

Note: The figures in the table above give the leakage as an average of the leakage at positive pressure and the leakage at negative pressure

Total opening perimeter = 11.47m

Overall area = 1.82m^2

BS 6375-1:2015 Clause 6.3 - Joint class = 3

BS 6375-1:2015 Clause 6.3 - Area class = 2

BS 6375-1:2015 Clause 6.3 - Overall class = 3

Watertightness Test Results.

BS EN 1027:2000 Clause 7 watertightness before resistance to wind loads

TABLE 2 – Spraying method 1A

Pressure (Pa)	Point at which water leakage occurred
0	No leakage
50	No leakage
100	No leakage
150	No leakage
200	No leakage
250	Water leaked out and over the threshold at 1 minute 50 seconds
300	-
450	-
600	-
750	-
900	-
1050	-

BS 6375-2:2009.

Clause 6.2 Operating Forces: EN12046-2:2000 and EN12217:2015

Assessment

The sample was tested three times – closing the leaf, closing the handle, locking the key, unlocking the key, opening the handle and opening the leaf – and the average force recorded

Active Leaf

Closing leaf force – 43.88N (maximum 75N)	Pass
Handle closing – 16.78N (maximum 100N)	Pass
Key Torque to lock – <1Nm (maximum 5Nm)	Pass
Key Torque to lock – <1Nm (maximum 5Nm)	Pass
Handle opening – 14.55N (maximum 100N)	Pass
Force to maintain opening – 51.43N (maximum 75N)	Pass

Basic Security (Annex A).

Assessment

BS 6375-3:2009

The objective of this test is to establish if, from the outside, entry can be gained by defeating the glazing or locking system.

The force used did not result in permanent set or plastic deformation of any tool.

Damaged tools shall be replaced. The test did not exceed the maximum three minute time period.

The screwdriver was used to no effect.

No entry gained within three minutes. Pass

Photograph of Water Leakage Point.

PAS24:2016 Audit.

1 off fully glazed horizontal sliding patio door assembly with a standard threshold

(Sample ID No 10174546)

Date sample received: 21 March 2019

Test Results.

1.	Manipulation	The test sample met the requirements of the Specification in respect of B.4.3
2.	Infill Removal	The test sample met the requirements of the Specification in respect of B.4.4
3.	Mechanical Loading	The test sample met the requirements of the Specification in respect of B.4.5
4.	Security Hardware and Cylinder Test	The test sample met the requirements of the Specification in respect of Annex A

B.2 Sample Selection.

The sample submitted for tests were selected using the criteria in B.2 of the Specification. The 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.

The results within this test report are valid only for the conditions under which the testing was carried out, and only for the specified products.

B.3 Requirements for Test Apparatus.

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

B.4 Test Methods.

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

Description of Sample. (Security)

Sample Type -	Fully glazed horizontal sliding patio door assembly with a standard threshold
Material -	PVC-U
Construction -	Mitred, welded and grooved
Fittings -	**Active Leaf (Master) -** an eight-point locking (six hook bolts and two shoot bolts) Yale espagnolette system, key lockable 3* KAT UK cylinder, two interlocks and two rollers
Classification -	D
Glass -	Double glazed 4-20-4mm toughened glass sealed units
Panel -	Not applicable
Glass Retention System -	Internal beads and gaskets
Weathersealing -	Brush

Sample dimensions -

Overall length:	1810mm	Height: 2100mm
Active leaf length:	905mm	Height: 2005mm
Inactive leaf length:	795mm	Height: 2005mm

Test Results.

Performance Requirements — Assessment

B.4.3 Manipulation Test A

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 Annex using the procedure detailed in B.4.3.1 and the tools described in Group A and Group B where applicable.

The sample was closed and locked and the key removed. Although there is a 15 minute overall time limit no one technique was used for more than three minutes.

A craft knife was used to expose the locking and a screwdriver was used to attempt to manipulate the mechanism.

No entry gained by any technique within three minutes. Pass

Date of test – 6 July 2019
Test engineer(s) – D Vinyard & J Nicholls
Laboratory temperature – 19.7

B.4.4 Cutting and Infill Medium Removal Test

B.4.4.2 Infill Manual 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 requirements of this Annex using the tools described in Group A and Group B where applicable.

A craft knife was used to cut holes in the profile and a 6mm chisel used to attempt to remove the internal glazing beads.

No entry gained within three minutes. Pass

Date of test – 6 July 2019
Test engineer(s) – D Vinyard & J Nicholls
Laboratory temperature – 19.7

Test Results (Continued).

Performance Requirements (Continued). Assessment

B.4.4.3 Infill Mechanical Test

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

The test was carried out with a perpendicular-to-plane load of 2.0kN applied to each corner of the glazing.

No evidence of bead failure. No entry gained. Pass

Date of test – 6 July 2019
Test engineer(s) – D Vinyard & J Nicholls
Laboratory temperature – 19.7

B.4.4.4 Manual Cutting Test

Not applicable

Test Results (Continued).

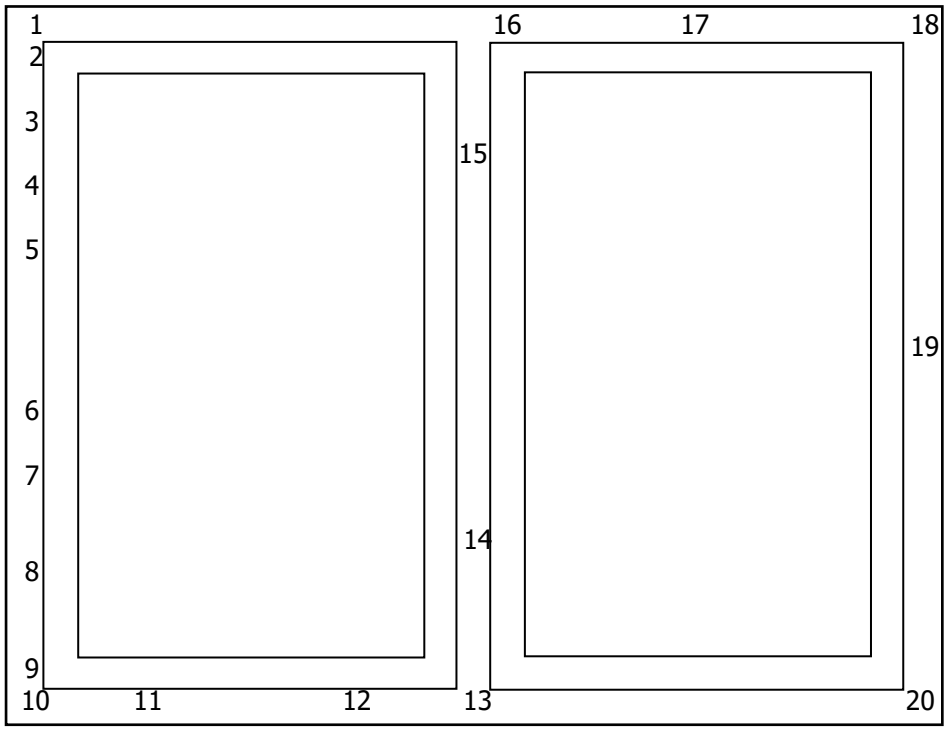
Performance Requirements (Continued). Assessment

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.6.

Diagram of load points



B.4.5.2 Loading Procedure

First Sequence

1. Non-Meeting Corner (upper left jamb)

   Standard loading case used: 1

   Load applied in plane: 4.5kN in the direction of opening
   Load applied perpendicular to plane: 1.5kN applied for ten seconds

   Load applied in plane: 4.5kN vertical away from the frame edge
   Load applied perpendicular to plane: 4.5kN applied for ten seconds

Test Results (Continued).

B.4.5.2 Loading Procedure (continued)

First Sequence (continued)

2. Shoot Bolt (upper left jamb)

   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 ten seconds

3. Hook Bolt (upper left jamb)

   Standard loading case used: 6

   Load applied in plane: 1.5kN along the edge in the direction to disengage the bolt
   Load applied perpendicular to plane: 4.5kN applied for ten seconds

   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 ten seconds

   Load applied in plane: 4.5kN at right angles to the edge and towards the opposite edge

4. Hook Bolt (upper left jamb)

   Standard loading case used: 6

   Load applied in plane: 1.5kN along the edge in the direction to disengage the bolt
   Load applied perpendicular to plane: 4.5kN applied for ten seconds

   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 ten seconds

   Load applied in plane: 4.5kN at right angles to the edge and towards the opposite edge

5. Hook Bolt (upper left jamb)

   Standard loading case used: 6

   Load applied in plane: 1.5kN along the edge in the direction to disengage the bolt
   Load applied perpendicular to plane: 4.5kN applied for ten seconds

   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 ten seconds

   Load applied in plane: 4.5kN at right angles to the edge and towards the opposite edge

Test Results (Continued).

B.4.5.2 Loading Procedure (continued)

First Sequence (continued)

6. Hook Bolt (lower left jamb)

   Standard loading case used: 6

   Load applied in plane: 1.5kN along the edge in the direction to disengage the bolt
   Load applied perpendicular to plane: 4.5kN applied for ten seconds

   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 ten seconds

   Load applied in plane: 4.5kN at right angles to the edge and towards the opposite edge

7. Hook Bolt (lower left jamb)

   Standard loading case used: 6

   Load applied in plane: 1.5kN along the edge in the direction to disengage the bolt
   Load applied perpendicular to plane: 4.5kN applied for ten seconds

   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 ten seconds

   Load applied in plane: 4.5kN at right angles to the edge and towards the opposite edge

8. Hook Bolt (lower left jamb)

   Standard loading case used: 6

   Load applied in plane: 1.5kN along the edge in the direction to disengage the bolt
   Load applied perpendicular to plane: 4.5kN applied for ten seconds

   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 ten seconds

   Load applied in plane: 4.5kN at right angles to the edge and towards the opposite edge

9. Shoot Bolt (upper left jamb)

   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 ten seconds

Test Results (Continued).

B.4.5.2 Loading Procedure (continued)

First Sequence (continued)

10. Non-Meeting Corner (lower left jamb)

    Standard loading case used: 1

    Load applied in plane: 4.5kN in the direction of opening
    Load applied perpendicular to plane: 1.5kN applied for ten seconds

    Load applied in plane: 4.5kN vertical away from the frame edge
    Load applied perpendicular to plane: 4.5kN applied for ten seconds

11. Roller (threshold of master leaf)

    Standard loading case used: 8

    Load applied in plane: 4.5kN at right angles to the edge and towards the opposite edge
    Load applied perpendicular to plane: 1.5kN applied for ten seconds

12. Roller (threshold of master leaf)

    Standard loading case used: 8

    Load applied in plane: 4.5kN at right angles to the edge and towards the opposite edge
    Load applied perpendicular to plane: 1.5kN applied for ten seconds

13. Meeting Edge Corner (lower meeting edge)

    Standard loading case used: 2

    Loads applied perpendicular to plane: 4.5kN at corner of leaf
    4.5kN to oppose the above load

14. Continuous interlock devices (lower meeting edge)

    Standard loading case used: 4

    Loads applied perpendicular to plane: 4.5kN at 500mm centres from corner of leaf
    4.5kN to oppose the above load

15. Continuous interlock devices (upper meeting edge)

    Standard loading case used: 4

    Loads applied perpendicular to plane: 4.5kN at 500mm centres from corner of leaf
    4.5kN to oppose the above load

Test Results (Continued).

B.4.5.2 Loading Procedure (continued) Assessment

First Sequence (continued)

16. Meeting Edge Corner (upper meeting edge)

    Standard loading case used: 2

    Loads applied perpendicular to plane: 4.5kN at corner of leaf
    4.5kN to oppose the above load

17. Fixed light centre (centre of fixed light)

    Standard loading case used: 9

    Load applied in plane: 1.5kN towards the opposite edge
    Load applied perpendicular to plane: 4.5kN applied for ten seconds

18. Fixed light corner (upper right corner of fixed light)

    Standard loading case used: 10

    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 ten seconds

19. Fixed light centre (centre of fixed light)

    Standard loading case used: 9

    Load applied in plane: 1.5kN towards the opposite edge
    Load applied perpendicular to plane: 4.5kN applied for ten seconds

20. Fixed light corner (lower right corner of fixed light)

    Standard loading case used: 9

    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 ten seconds

    No entry gained Pass

Date of test – 6 July 2019
Test engineer(s) – D Vinyard & J Nicholls
Laboratory temperature – 19.7

Test Results (Continued).

Assessment

B.4.3 Manipulation Test B

No fixings were exposed during mechanical loading. Pass

Date of test – 6 July 2019
Test engineer(s) – D Vinyard & J Nicholls
Laboratory temperature – 19.7

Annex A Security Hardware and Cylinder Test

Annex A.3.2 (Part 1)

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

The test was carried out in accordance with the given objectives of this Annex using the procedure detailed in Annex A.3.1 and the tools described in A.2.

Mole grips were used to remove the handle and snap the cylinder.

No entry gained within three minutes. Pass

Date of test – 6 July 2019
Test engineer(s) – D Vinyard & J Nicholls
Laboratory temperature – 19.7

Annex A.3.2 (Part 2)

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

The test was carried out in accordance with the given objectives of this Annex using the procedure detailed in Annex A.3.1 and the tools described in A.2.

The sample was closed and locked and the key removed.

The total attack time was three minutes and the total rest time was seven minutes.

No entry gained within three minutes. Pass

Date of test – 6 July 2019
Test engineer(s) – D Vinyard & J Nicholls
Laboratory temperature – 19.7

Photograph of Sample.

Test Sample.

Sample Id	ER Number	Description
1	10174546	PVC Patio Sliding Door

Description of Test Sample.

Sample Description
One off fully glazed two pane fully glazed horizontal sliding patio door assembly with a standard threshold

Test Requirements.

PAS24/BS7412 Door Audit

Clause	Requirements
Results table	PAS24/BS7412 Door Audit

Summary of Test Comments.

Clause	Comments

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.

Should you wish to speak with BSI in relation to this report, please contact Customer Services on +44 (0)8450 80 9000.

BSI
Kitemark House
Maylands Avenue
Hemel Hempstead
Hertfordshire
HP2 4SQ

UKAS TESTING
0135

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditation.

Unless otherwise stated, any results not obtained from testing in a BSI laboratory are outside the scope of our UKAS accreditation.

*** End of Report ***