


**Test Report 3982781.**  
Smart Systems Limited  
Incorporating Smart Extrusions

## Introduction.

This report has been prepared by E Creary and relates to the activity detailed below:

Job/Registration Details	Client Details
<b>Job number:</b> 3982781 Job type: Testing Samples Submitted Start Date: 15/11/2023 Test type: Type Sample ID: 10209605 <b>Registration:</b> KM 530838 Scheme: BS 4873/PAS 24 Protocol: PP519 Scheme Mgr: Lorraine Balch	Smart Systems Limited Incorporating Smart Extrusions Arnolds Way Yatton BS49 4QN United Kingdom

The report has been approved for issue by Kevin Huscroft – Senior test engineer.

Approved For Issue	
	Issue Date: 13/12/2023

## Objectives.

Type test for product certification

## Product Scope.

Smarts Aluminium door

## Report Summary.

The sample were received on 15 November 2023 and the testing was started on 16 November 2023.

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

Decision rule: Simple acceptance – guard band <https://page.bsigroup.com/adr>

## BS 6375-1:2015 + A1:2016 Weather Type Test.

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

(Sample ID No 10209605)

Date sample received: 15 November 2023

### Classifications for Operational Strength.

Repeated opening and closing	50,000 Cycles
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## Sample Selection.

The samples submitted for tests were selected using windows and door sets Kitemark Scheme Protocol. Each sample was submitted for test mounted in a 75mm x 100mm timber subframe in accordance with the manufacturer's installation requirements. The test samples were manufactured and supplied by the client, and the test results apply only to the sample as received. The results in this report are only valid for the conditions on which the testing was conducted and for the specified products only. Parts list supplied by client but not verified by BSI.

## Clause 5 Sequence of Tests.

The sequence of testing the samples followed that detailed in Clause 5 of BS 6375-1:2015 + A1:2016.

## Clause 5 Performance Requirements.

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

The results contained within this test report are valid only for the conditions under which the tests were conducted and for the specific range of door sets.

## Methods of Test.

### 1. **Repeated Opening and Closing**

The repeated opening and closing test were carried out using the method given in BS EN 1191:2012.

BS EN 1191:2012 and BS 6375-3:2009 + A1:2013 not UKAS accredited.

Testing to BS EN 1191:2012 was conducted in accordance with Non-Standard Test Method PP1776.

## Description of Sample.

<b>Sample Type -</b>	Fully glazed horizontal sliding patio door assembly with a standard threshold.		
<b>Material -</b>	Aluminium		
<b>Construction -</b>	Cleated		
<b>Fittings -</b>	<b>Active Leaf (Master)</b> - a three-point locking (three hook bolts) Maco espagnolette system, key lockable handle with cylinder and two rollers		
<b>Glass -</b>	Double glazed 4-20-4mm toughened glass sealed units.		
<b>Panel -</b>	Not applicable		
<b>Glass Retention System -</b>	Internal beads and gaskets		
<b>Weathersealing -</b>	Double-sealed plastic weather strip		
<b>Sample dimensions -</b>	Overall length:	4655mm	Height: 2425mm
	Active leaf length:	2330mm	Height: 2335mm
	Inactive leaf length:	2330mm	Height: 2335mm

Date of test –16 November 2023

Test engineer(s) –M Abukar

Laboratory temperature – 14.3°C

Laboratory humidity – 50.9%RH

Atmospheric pressure - kPa

## BS EN 1191:2012

### Clause 5.5 Repeated Opening and Closing

#### **Operated for 50,000 cycles**

The sample was opened and closed five times before testing was started.

Rotation of key to unlock - 180°

### Clause 6.2 Operating Forces:

#### **BS EN 12046-2:2000 and BS EN 12217:2015 (pre-test operation)**

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

Closing leaf force – 64.37N (maximum 75N)

Handle closing – 58.32N (maximum 100N)

Key force to lock – 0.123Nm (maximum 5Nm)

Key force to unlock – 0.125Nm (maximum 5Nm)

Handle opening – 61.40N (maximum 100N)

Force to maintain opening – 64.22 N (maximum 75N)

At 25% of the complete cycles the operating forces were measured again

Closing leaf force – 58.70N (maximum 75N)

Handle closing – 60.65 N (maximum 100N)

Key force to lock – 0.125Nm (maximum 5Nm)

Key force to unlock – 0.116Nm (maximum 5Nm)

Handle opening – 59.37N (maximum 100N)

Force to maintain opening – 58.48N (maximum 75N)

## BS EN 1191:2012

### Clause 5.5 Repeated Opening and Closing

At 50% of the complete cycles the operating forces were measured again

Closing leaf force – 59.57N (maximum 75N)

Handle closing – 59.45N (maximum 100N)

Key force to lock – 0.116Nm (maximum 5Nm)

Key force to unlock – 0.129 Nm (maximum 5Nm)

Handle opening – 61.45N (maximum 100N)

Force to maintain opening – 56.70 N (maximum 75N)

At 75% of the complete cycles the operating forces were measured again

Closing leaf force – 55.23N (maximum 75N)

Handle closing – 59.20 N (maximum 100N)

Key force to lock – 0.141Nm (maximum 5Nm)

Key force to unlock – 0.138 Nm (maximum 5Nm)

Handle opening – 61.55N (maximum 100N)

Force to maintain opening – 54.63 N (maximum 75N)

At 100% of the complete cycles the operating forces were measured again

Closing leaf force – 55.38N (maximum 75N)

Handle closing – 59.00N (maximum 100N)

Key force to lock – 0.124Nm (maximum 5Nm)

Key force to unlock – 0.121Nm (maximum 5Nm)

Handle opening – 57.80N (maximum 100N)

Force to maintain opening – 58.80N (maximum 75N)

The sample met the requirements of the standard and remained within operating forces for 50,000 cycles

Assessment – Pass



Photograph of Sample.



## Test Sample.

Sample Id	ER Number	Description
1	10209605	Aluminium door

## Description of Test Sample.

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

## Test Requirements.

BS 4873 door type test

Clause	Requirements
<b>Results table</b>	<i>BS 4873 door type test</i>

## 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.

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BSI  
Kitemark House  
Maylands Avenue  
Hemel Hempstead  
Hertfordshire  
HP2 4SQ

Where a statement of conformity is reported the decision rule is simple acceptance unless stated otherwise.

**\*\*End of Report\*\***