

Issue 2 Test Report 3156751.
Smart Systems Limited
Incorporating Smart Extrusions

Introduction.


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

| Job/Registration Details | Client Details |
|---|--|
| Job number: 3156751 Job type: Testing Samples Submitted Start Date: 01/02/2021 Test type: Direct Sample ID: 10188027 Registration: NA Protocol: NA Quality system: NA Registration: NA Protocol: NA Quality system: NA | Smart Systems Limited Incorporating Smart Extrusions Arnolds Way Yatton BS49 4QN United Kingdom |

The report has been approved for issue by Mohamed Abukar – Subject Matter Expert

This issue supersedes all previous issues. The amendments giving rise to the re-issue of this report are as follows:

Page 4, Description of sample updated.

| Approved for Issue | |
|---|-------------------------|
|  | Issue Date: 20 May 2021 |

Objectives.

Direct test

Product Scope.

Aluminium single door

Report Summary.

The sample were received on 11 March 2021 and the testing was started on 11 March 2021.

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

PAS 24:2016 Audit.

1 off open out glazed in hinged single door with a standard threshold

(Sample ID No 10188027)

Date sample received: 11 March 2021

Test Results.

2. Infill Removal The test sample met the requirements of the Specification in respect of B.4.4

B.2 Sample Selection.

The sample submitted for tests was 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 sample followed the sequence detailed in B.4 of the Specification.

Description of Sample.

| | | | |
|---------------------------------|---|--------|----------------|
| Sample Type - | Single leaf open out glazed in hinged single door with a standard threshold | | |
| Material - | Aluminium | | |
| Construction - | Cleated | | |
| Fittings - | A seven-point locking (two hook bolts, two cams, two shoot bolt and one dead bolt) SKG espagnolette system, key lockable 2* handle with an ISEO cylinder, six dog bolts and two run up blocks | | |
| Classification - | D | | |
| Glass - | Bonded glass unit within an insulated aluminium panel | | |
| Panel - | Insulated aluminium infill panel | | |
| Panel size - | 816 x 2316 x 28mm | | |
| Glass Retention System - | Internal beads and gaskets | | |
| Sample dimensions - | Overall length: | 1200mm | Height: 2560mm |
| | Active leaf length: | 1000mm | Height: 2510mm |

Description of Test Sample.

Alitherm Plus, Single Door. Panel Test

| | | | |
|---------------------------------------|--------|---------------------------------|----------------|
| Outer Frame width | 1067mm | Outer Frame Material | Aluminium |
| Outer Frame height | 2567mm | Outer Frame Gasket | |
| Outer Frame Part Numbers | | Gasket Type | EDPM |
| Top | ETD017 | Manufacturer | Reddiplex |
| Bottom | ETD017 | Product Name | Flipper Gasket |
| Lock Side | ETD017 | Product Code | ACET160 |
| Hinge Side | ETD017 | Threshold | |
| Outer Frame section dimensions | | Manufacturer | Smart Systems |
| Width | 70mm | Product name | Outer Frame |
| Depth | 57mm | Product Code | ETC017 |
| Reinforcing: NA. | | Materials | Aluminium |
| Manufacturer | | Outer Frame Joint Method | |
| Product Name | | Head | Mech Cleat |
| Product code | | Foot | Mech Cleat. |
| Material | | | |

| | | | |
|--------------------------|-----------------------|--------------------------|----------------|
| Leaf | | Leaf Material: | Aluminium |
| Leaf Width: | 1000mm | Leaf Gasket | |
| Leaf Height: | 2500mm | Gasket type: | EDPM |
| Leaf Part Numbers: | | Manufacturer: | Reddiplex |
| Top: | ETD025 | Product Name: | Flipper Gasket |
| Bottom: | ETD025 | Product Code | ACET160 |
| Lock side: | ETD025 | Leaf Midrail: | NA. |
| Hinge Side | ETD025 | Manufacturer: | |
| Leaf section size | | Product name: | |
| Width: | 47mm | Product code: | |
| Depth: | 102mm | Material: | |
| Reinforcing NA. | | Leaf joint method | |
| Manufacturer: | | Head: | Mech Cleat |
| Product Name: | | Foot: | Mech Cleat |
| Product Code: | | | |
| Material: | | | |
| Bead | | | |
| Manufacturer: | Smart Systems | | |
| Product Name: | Alitherm | | |
| Product Code: | ETC161 | | |
| Material: | Aluminium | | |
| Bead Size: | 15mm x 19.5mm x 8.5mm | | |

Description of Test Sample.

Alitherm Plus, Single Door. Panel Test.

| | | | |
|---------------------------------|-----------------------|-----------------------|------------------|
| Glaze in Panel. PM0006T. | | Glazing Gasket | |
| Manufacturer: | Smart Systems | Gasket Type: | EDPM |
| Inner Thickness: | | Manufacturer: | Semperit |
| Spacer Material: | | Product Name: | E Gasket , Wedge |
| Outer Thickness: | | Product Code | ACVG31, ACVG34 |
| Panel Sizes: | 816mm x 2316mm X 28mm | Glazing Clip | NA. |
| Glazing Tape Details NA. | | Manufacturer: | |
| Manufacturer: | | Product Name: | |
| Product Name: | | Product Code | |
| Product Code | | | |

| Hardware | | | Fixings | Quantity |
|----------------------|-------------|---------------|----------|----------|
| Hinges: | ACET 250 | SFS | ACET 062 | 3 |
| Hinge Protectors: | ACET252 | FUHR | ACET060 | 3 |
| Lock: | ACET292 | FUHR | ACET060 | 1 |
| Cylinder: | ACCY4530S1 | UAP. | M5 | 1 |
| Handle: | ACET480 | Mila | | 1 Pair |
| Touch Bar: | | | | |
| Cylinder Support: | | | | |
| Cylinder Escutcheon: | | | | |
| Keeps: | | | | |
| Drip Bar | | | | |
| Additional Hardware | | | | |
| Shootbolts | ACDV737,738 | FUHR | ACET060 | 1 Pair |
| Top and Bottom Keeps | ACET268 | Smart Systems | ACET066 | 1 Pair. |
| Keep Reinforcement | ACET217 | Smart Systems | ACET064 | 3 |
| Guide Blocks | ACET257 | Smart Systems | ACET060 | 2 |
| | | | | |

Test Results.

Performance Requirements

Assessment

B.4.4.4 Manual Cutting 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 Clause using the tools described.

A craft knife and 25mm chisel were used to attack the portion of the panel within Zone 1, the horizontal band with an upper limit of 400mm above the centre of rotation of the hardware unlocking point and a lower limit of 400mm below the centre of rotation of the hardware unlocking point, for three minutes.

No entry gained within the time allowed.

Pass

Date of test –11 March 2021

Test engineer(s) – E Savage, D Vinyard and K Huscroft

Laboratory temperature – 21.1°C

Photograph of Sample.



Test Sample.

| Sample Id | ER Number | Description |
|-----------|-----------|----------------|
| 1 | 10188027 | Aluminium door |

Description of Test Sample.

| Sample Description |
|---|
| 1 off open out glazed in hinged single door with a standard threshold |

Test Requirements.

PAS24 door audit

| Clause | Requirements |
|----------------------|------------------|
| Results table | PAS24 door audit |

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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*** End of Report ***