

**Test Report 9775790 Issue 2.**  
Eurocell Profiles Limited

## Introduction.


This report has been prepared by Jack Nicholls and relates to the activity detailed below:

Job/Registration Details	Client Details
<b>Job number:</b> 9775790 Job type: Testing Samples Submitted Start Date: 24/06/2019 Test type: Type Sample ID: 10183682 <b>Registration:</b> KM 500319 Scheme: BS EN 12608 / PAS24 Protocol: PP 519 Scheme Mgr: Lorraine Balch Quality system: ISO 9001:2008	Eurocell Profiles Limited Fairbrook House Clover Nook Road Alfreton DE55 4RF United Kingdom

The report has been approved for issue by Chris Rayment – Team Manager

This issue 2 supersedes all previous issues. The amendment giving rise to this issue of the report is as follows –

The client has corrected the hardware parts list information, which was incorrectly supplied to the lab at the time of submission.

Approved For Issue	
	Issue Date: 12 August 2019

## Objectives.

Type Test for Product Certification

## Product Scope.

Eurocell PVC-U Syncro Patio Sliding Doors

## Report Summary.

The samples were received on 20 June 2019 and the testing was started on 25 June 2019.

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

## PAS24:2016 Type Test.

2 off patio sliding doors full glass infill with a standard threshold (samples 1 and 4)

2 off patio sliding doors full glass infill with a low threshold (samples 2 and 3)

(Sample ID No 10183682)

Date sample received: 20 June 2019

## Test Results.

- |    |                                     |  |
|----|-------------------------------------|--|
| 1. | Manipulation                        | The test samples met the requirements of the Specification in respect of B.4.3     |
| 2. | Infill Removal                      | The test samples met the requirements of the Specification in respect of B.4.4     |
| 3. | Mechanical Loading                  | The test samples met the requirements of the Specification in respect of B.4.5     |
| 4. | Manual Check Test                   | The test samples met the requirements of the Specification in respect of B.4.6     |
| 5. | Soft Body Impact                    | The test samples met the requirements of the Specification in respect of B.4.8     |
| 6. | Hard Body Impact                    | The test samples met the requirements of the Specification in respect of B.4.9.2.2 |
| 7. | Security Hardware and Cylinder Test | The test samples 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.

## 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. (Sample 1)

<b>Sample Type -</b>	One off patio sliding doors full glass infill with a standard threshold		
<b>Material -</b>	PVC-U		
<b>Construction -</b>	Mitred, welded and grooved		
<b>Fittings -</b>	An eight-point locking (eight hook bolts) ERA espagnolette system, key lockable 3* ERA cylinder, two rollers and one continuous interlock device		
<b>Classification -</b>	D		
<b>Glass -</b>	Double glazed 6-16-6mm toughened glass sealed units		
<b>Panel -</b>	Not applicable		
<b>Glass Retention System -</b>	Internal beads and gaskets		
<b>Sample dimensions -</b>	Overall length:	3210mm	Height: 2460mm
	Active leaf length:	1630mm	Height: 2370mm
<b>Date of test -</b>	25 June 2019		
<b>Laboratory temperature -</b>	20.6°C		

Full Description of Test Sample. **SAMPLES NP-007**

<b>Manufacturer</b>	Eurocell
<b>Product Range Name</b>	Syncro Sliding Patio Door
<b>Configuration</b>	2 Pane
<b>Orientation</b>	

<b>Outer Frame width</b>	3200	<b>Outer Frame Material</b>	PVC-U
<b>Outer Frame height</b>	2455	<b>Outer Frame Gasket</b>	
<b>Outer Frame Part Numbers</b>		Gasket Type	N/A
Top	EWS7050	Manufacturer	
Bottom	EWS7050	Product Name	
Lock Side	EWS7050	Product Code	
Hinge Side	EWS7050	<b>Threshold</b>	
<b>Outer Frame section dimensions</b>		Manufacturer	N/A
Width	50	Product name	
Depth	94	Product Code	
<b>Reinforcing:</b>		Materials	
Manufacturer		<b>Outer Frame Joint Method</b>	
Product Name		Head	WELDED
Product code		Foot	WELDED
Material			

<b>Leaf</b>		<b>Leaf Material:</b>	
Leaf Width:	1603	<b>Leaf Gasket</b>	
Leaf Height:	2371	Gasket type:	Co-Ex PVC Flex & Wool Pile
Leaf Part Numbers:		Manufacturer:	
Top:	EWS7055	Product Name:	
Bottom:	EWS7055	Product Code	
Lock side:	EWS7055	<b>Leaf Midrail:</b>	
Hinge Side	EWS7055	Manufacturer:	
<b>Leaf section size</b>		Product name:	
Width:	89	Product code:	
Depth:	60	Material:	
<b>Reinforcing</b>		<b>Leaf joint method</b>	
Manufacturer:		Head:	Welded
Product Name:		Foot:	Welded
Product Code:	EWS659S & EWS7555A		
Material:	Steel & Aluminium		
<b>Bead</b>			
Manufacturer:	<b>Eurocell</b>		
Product Name:			
Product Code:	<b>EWS7301/7312</b>		
Material:	<b>PVC-U</b>		
Bead Size:			

Full Description of Test Sample. **SAMPLES NP-007**

<b>Glazing Unit</b>		<b>Glazing Gasket</b>	
Manufacturer:		Gasket Type:	Co-Ex PVC-U
Inner Thickness:	6mm	Manufacturer:	
Spacer Material:	16mm	Product Name:	
Outer Thickness:	6mm	Product Code	
Unit Sizes:	1457 x 2225	<b>Glazing Clip</b>	
<b>Glazing Tape Details</b>		Manufacturer:	N/A
Manufacturer:		Product Name:	
Product Name:		Product Code	
Product Code			

<b>Hardware</b>	<b>Manufacturer</b>	<b>Product Code/Description</b>	<b>Fixings</b>
Lock & Keeps:	ERA / Eurocell	EWS757 + EWS756	Lock – 4.3 x 30 Gimlet Keep – 4.2 x 30 Drill Point
Cylinder:	ERA / Eurocell	EWS759/760	N/A
Handle:	ERA / Eurocell	EWS758 / EWS754	
Wheels	ERA / Eurocell	EWS7851	

**Note** – parts list supplied by client but not verified by BSI

## 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 try to manipulate the mechanism.

No entry gained by any technique within three minutes.

Pass

Date of test – 25 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 20.6

#### 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 try to remove the internal glazing beads.

No entry gained within three minutes.

Pass

Date of test – 25 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 20.6

## Test Results (Continued).

### Performance Requirements (Continued).

### Assessment

#### B.4.4.4 Manual Cutting Test

Not applicable.

#### 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 could be affected.

Pass

Date of test – 25 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 20.6



## Test Results (Continued).

### Performance Requirements (Continued).

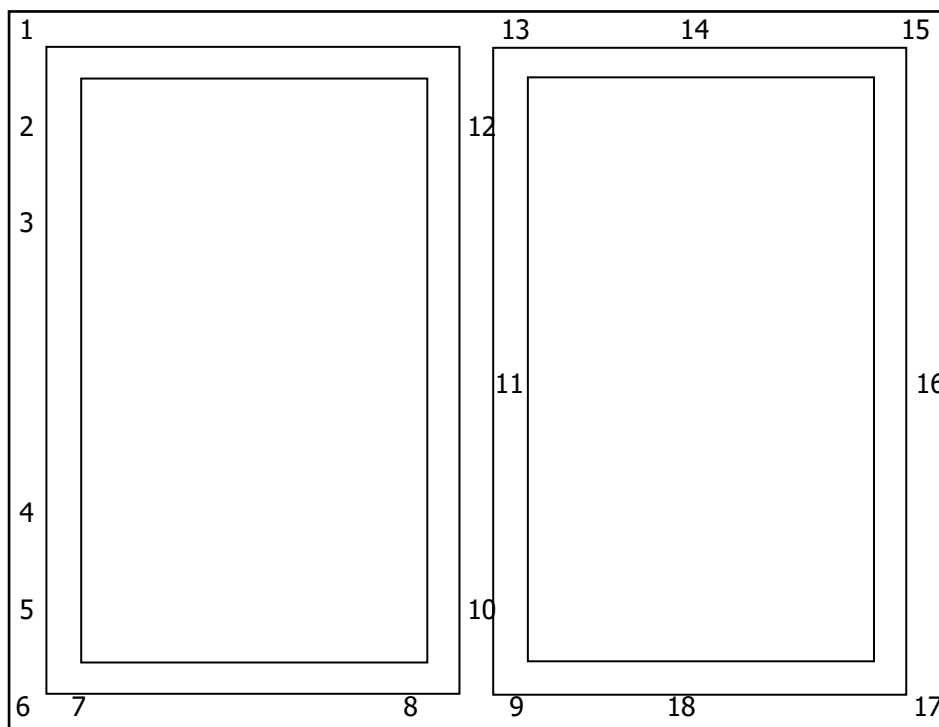
### Assessment

#### 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: 1.5kN 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. Hook Bolt / Hook Bolt (upper left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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

3. Hook Bolt / Hook Bolt (upper left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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 / Hook Bolt (lower left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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)**

5. Hook Bolt / Hook Bolt (lower left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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

6. 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

7. Roller (left active 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

8. Roller (right active 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

## Test Results (Continued).

### B.4.5.2 Loading Procedure (continued)

#### First Sequence (continued)

9. Fixed light corner (lower left 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
10. 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
11. 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
12. 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
13. Fixed light corner (upper left 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

## Test Results (Continued).

### B.4.5.2 Loading Procedure (continued)

### Assessment

#### First Sequence (continued)

14. 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

15. Fixed light corner (upper 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

16. 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

17. 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

18. 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

No entry gained

Pass

Date of test – 25 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 20.6

## Test Results (Continued).

### Assessment

#### **B.4.3 Manipulation Test B**

No fixings were exposed during mechanical loading.

Pass

Date of test – 25 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 20.6

#### **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 – 25 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 20.6

##### **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 – 25 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 20.6

## Test Results (Continued).

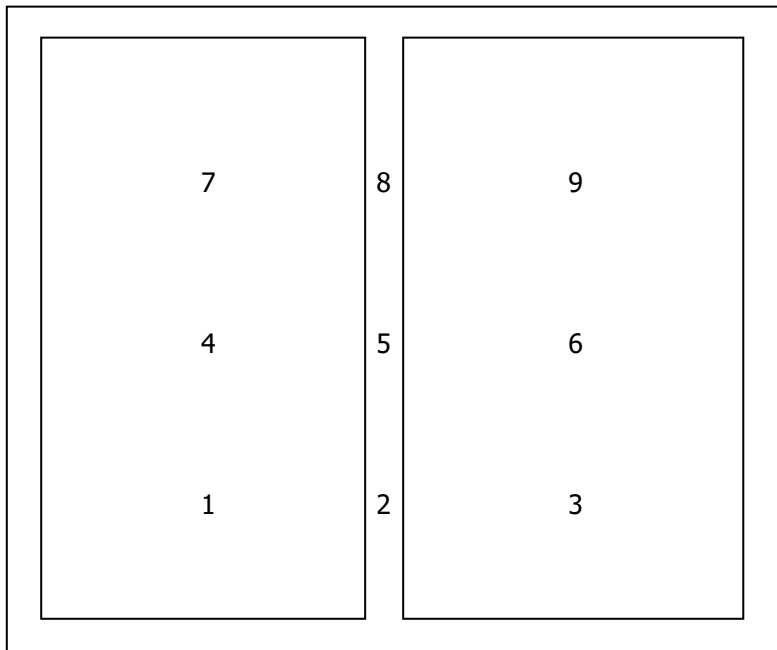
### Performance Requirements (Continued).

#### Clause B.4.8 Soft Body Impact 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, objectives and procedures Detailed in B.4.8.1 using the impact points and procedure described in B.4.8.2 and B.4.8.3 and Figure B.10.

Diagram of impact points



## Test Results (Continued).

### Performance Requirements (Continued).

#### Clause B.4.8 Soft Body Impact Test (continued)

#### Assessment

Impact Point	Height from Floor Level	Effect
1	0.8m	None
2	0.8m	None
3	0.8m	None
4	1.25m	None
5	1.25m	None
6	1.25m	None
7	1.7m	None
8	1.7m	None
9	1.7m	None

No entry gained

Pass

Date of test – 25 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 20.6



## Test Results (Continued).

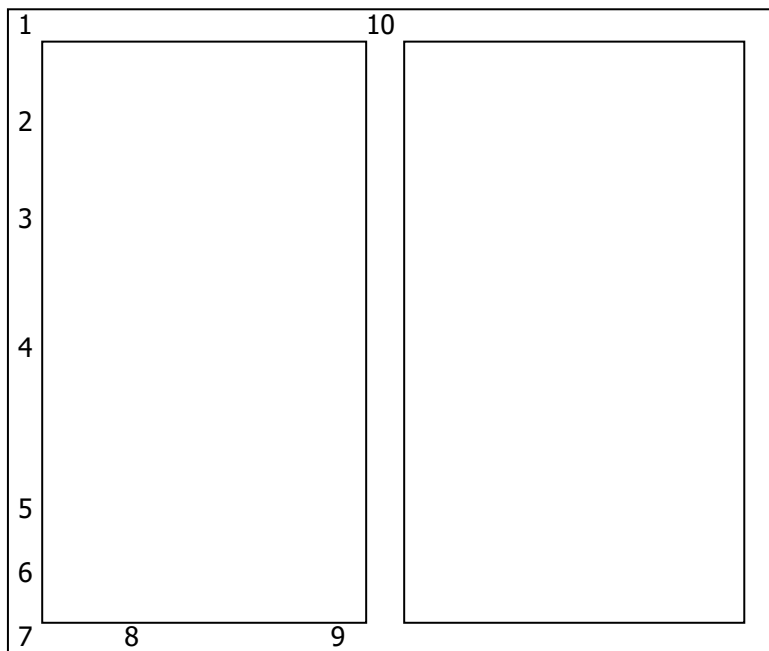
### Performance Requirements (Continued).

#### Clause B.4.9 Hard Body Impact 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, objectives and procedures detailed in B.4.9.1, B.4.9.2.1, B.4.9.2.2 and B.4.9.2.3 using procedure B.4.9.3, using the test apparatus detailed in B.11 and using the impact sequence in figure B.14.

Diagram of impact points



## Test Results (Continued).

### Performance Requirements (Continued).

#### Clause B.4.9 Hard Body Impact Test (continued)

#### Assessment

Impact Point	Position	Effect
1	Corner	None
2	Hook / Hook	None
3	Hook / Hook	None
4	Cylinder	None
5	Hook / Hook	None
6	Hook / Hook	None
7	Corner	None
8	Roller	None
9	Roller / Corner	None
10	Corner	None

No entry gained

Pass

Date of test – 25 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 20.6

## Description of Sample. (Sample 2)

<b>Sample Type -</b>	One off patio sliding doors full glass infill with a low threshold		
<b>Material -</b>	PVC-U		
<b>Construction -</b>	Mitred, welded and grooved		
<b>Fittings -</b>	An eight-point locking (eight hook bolts) ERA espagnolette system, key lockable 3* ERA cylinder, two rollers and one continuous interlock device		
<b>Classification -</b>	D		
<b>Glass -</b>	Double glazed 6-16-6mm toughened glass sealed units		
<b>Panel -</b>	Not applicable		
<b>Glass Retention System -</b>	Internal beads and gaskets		
<b>Sample dimensions -</b>	Overall length:	3210mm	Height: 2460mm
	Active leaf length:	1630mm	Height: 2370mm
<b>Date of test -</b>	26 June 2019		
<b>Laboratory temperature -</b>	18.3°C		

Full Description of Test Sample. **SAMPLES NP-008**

<b>Manufacturer</b>	Eurocell
<b>Product Range Name</b>	Syncro Sliding Patio Door
<b>Configuration</b>	2 Pane
<b>Orientation</b>	

<b>Outer Frame width</b>	3200	<b>Outer Frame Material</b>	PVC-U
<b>Outer Frame height</b>	2455	<b>Outer Frame Gasket</b>	
<b>Outer Frame Part Numbers</b>		Gasket Type	N/A
Top	EWS7050	Manufacturer	
Bottom	EWS7551A	Product Name	
Lock Side	EWS7050	Product Code	
Hinge Side	EWS7050	<b>Threshold</b>	
<b>Outer Frame section dimensions</b>		Manufacturer	
Width	50	Product name	
Depth	94	Product Code	EWS7551A
<b>Reinforcing:</b>		Materials	Thermally Broken Aluminium
Manufacturer		<b>Outer Frame Joint Method</b>	
Product Name		Head	WELDED
Product code		Foot	WELDED
Material			

<b>Leaf</b>		<b>Leaf Material:</b>	
Leaf Width:	1603	<b>Leaf Gasket</b>	
Leaf Height:	2396	Gasket type:	Co-Ex PVC Flex & Wool Pile
Leaf Part Numbers:		Manufacturer:	
Top:	EWS7055	Product Name:	
Bottom:	EWS7055	Product Code	
Lock side:	EWS7055	<b>Leaf Midrail:</b>	
Hinge Side	EWS7055	Manufacturer:	
<b>Leaf section size</b>		Product name:	
Width:	89	Product code:	
Depth:	60	Material:	
<b>Reinforcing</b>		<b>Leaf joint method</b>	
Manufacturer:		Head:	Welded
Product Name:		Foot:	Welded
Product Code:	EWS659S & EWS7555A		
Material:	Steel & Aluminium		
<b>Bead</b>			
Manufacturer:	<b>Eurocell</b>		
Product Name:			
Product Code:	<b>EWS7301/7312</b>		
Material:	<b>PVC-U</b>		
Bead Size:			

Full Description of Test Sample. **SAMPLES NP-008**

<b>Glazing Unit</b>		<b>Glazing Gasket</b>	
Manufacturer:		Gasket Type:	Co-Ex PVC-U
Inner Thickness:	6mm	Manufacturer:	
Spacer Material:	16mm	Product Name:	
Outer Thickness:	6mm	Product Code	
Unit Sizes:	1457 x 2225	<b>Glazing Clip</b>	
<b>Glazing Tape Details</b>		Manufacturer:	N/A
Manufacturer:		Product Name:	
Product Name:		Product Code	
Product Code			

<b>Hardware</b>	<b>Manufacturer</b>	<b>Product Code/Description</b>	<b>Fixings</b>
Lock & Keeps:	ERA / Eurocell	EWS757 + EWS756	Lock – 4.3 x 30 Gimlet Keep – 4.2 x 30 Drill Point
Cylinder:	ERA / Eurocell	EWS759	N/A
Handle:	ERA / Eurocell	EWS758 / EWS754	
Wheels	ERA / Eurocell	EWS7851	

**Note** – parts list supplied by client but not verified by BSI

## 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 try to manipulate the mechanism.

No entry gained by any technique within three minutes.

Pass

Date of test – 26 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.3

#### 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 try to remove the internal glazing beads.

No entry gained within three minutes.

Pass

Date of test – 26 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.3

## Test Results (Continued).

### Performance Requirements (Continued).

### Assessment

#### B.4.4.4 Manual Cutting Test

Not applicable.

#### 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 could be affected.

Pass

Date of test – 26 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.3

## Test Results (Continued).

### Performance Requirements (Continued).

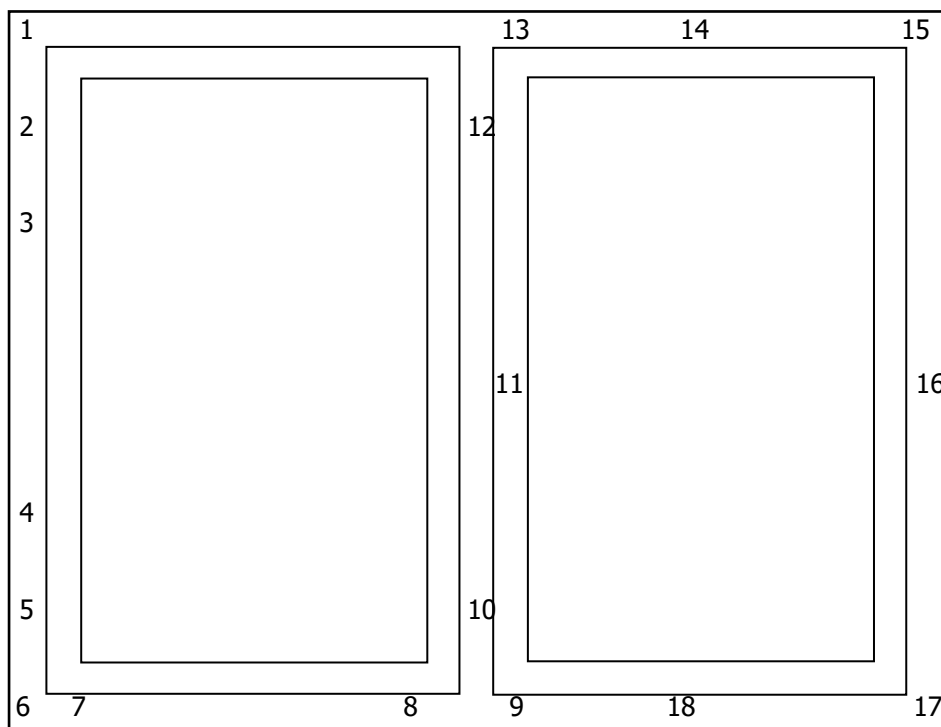
### Assessment

#### 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: 1.5kN 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. Hook Bolt / Hook Bolt (upper left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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

3. Hook Bolt / Hook Bolt (upper left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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 / Hook Bolt (lower left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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)

5. Hook Bolt / Hook Bolt (lower left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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

6. 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

7. Roller (left active 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

8. Roller (right active 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

## Test Results (Continued).

### B.4.5.2 Loading Procedure (continued)

#### First Sequence (continued)

9. Fixed light corner (lower left 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
10. 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
11. 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
12. 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
13. Fixed light corner (upper left 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

## Test Results (Continued).

### B.4.5.2 Loading Procedure (continued)

### Assessment

#### First Sequence (continued)

14. 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

15. Fixed light corner (upper 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

16. 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

17. 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

18. 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

No entry gained

Pass

Date of test – 26 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.3

## Test Results (Continued).

### Assessment

#### **B.4.3 Manipulation Test B**

No fixings were exposed during mechanical loading.

Pass

Date of test – 26 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.3

#### **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 – 26 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.3

##### **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 – 26 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.3

## Test Results (Continued).

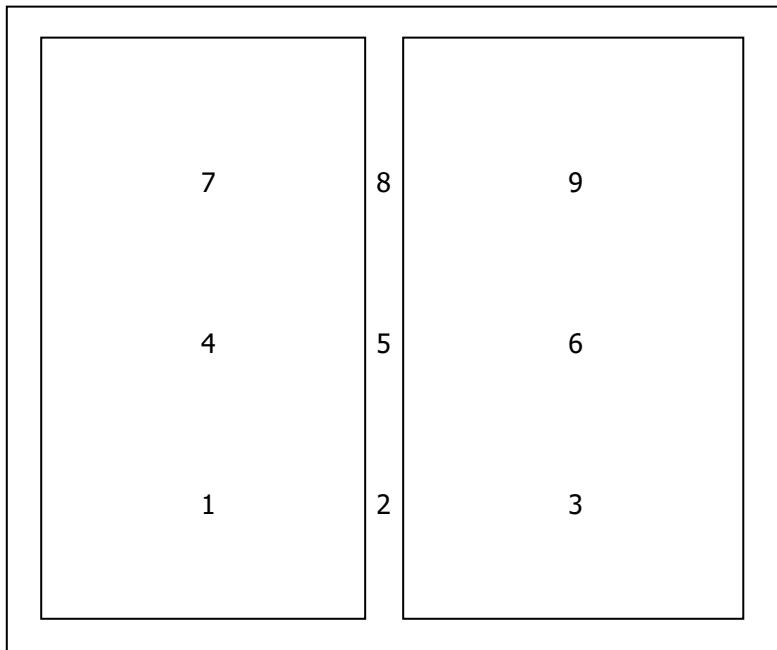
### Performance Requirements (Continued).

#### Clause B.4.8 Soft Body Impact 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, objectives and procedures Detailed in B.4.8.1 using the impact points and procedure described in B.4.8.2 and B.4.8.3 and Figure B.10.

Diagram of impact points



## Test Results (Continued).

### Performance Requirements (Continued).

#### Clause B.4.8 Soft Body Impact Test (continued)

#### Assessment

<b>Impact Point</b>	<b>Height from Floor Level</b>	<b>Effect</b>
1	0.8m	None
2	0.8m	None
3	0.8m	None
4	1.25m	None
5	1.25m	None
6	1.25m	None
7	1.7m	None
8	1.7m	None
9	1.7m	None

No entry gained

Pass

Date of test – 26 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.3

## Test Results (Continued).

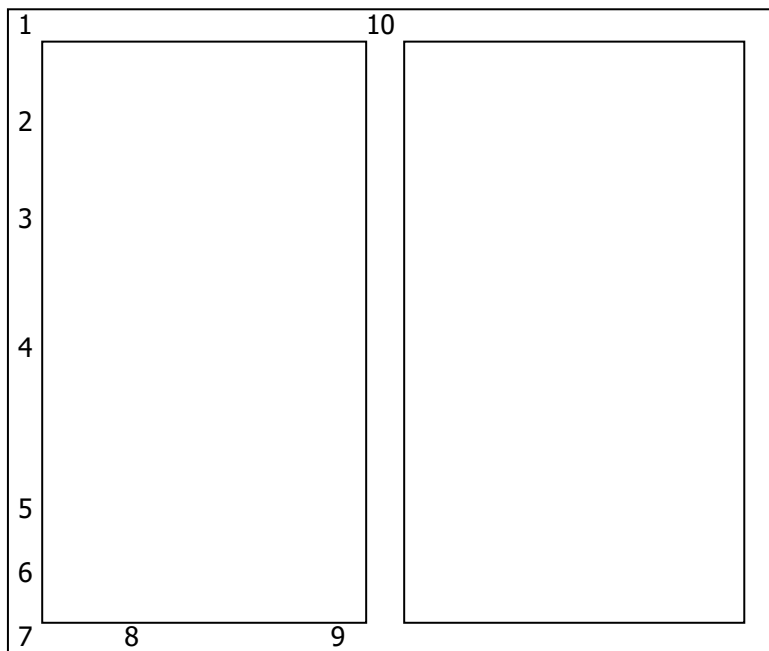
### Performance Requirements (Continued).

#### Clause B.4.9 Hard Body Impact 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, objectives and procedures detailed in B.4.9.1, B.4.9.2.1, B.4.9.2.2 and B.4.9.2.3 using procedure B.4.9.3, using the test apparatus detailed in B.11 and using the impact sequence in figure B.14.

Diagram of impact points





**Test Results (Continued).****Performance Requirements (Continued).****Clause B.4.9 Hard Body Impact Test (continued)****Assessment**

<b>Impact Point</b>	<b>Position</b>	<b>Effect</b>
1	Corner	None
2	Hook / Hook	None
3	Hook / Hook	None
4	Cylinder	None
5	Hook / Hook	None
6	Hook / Hook	None
7	Corner	None
8	Roller	None
9	Roller / Corner	None
10	Corner	None

No entry gained

Pass

Date of test – 26 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard &amp; Errol Creary

Laboratory temperature – 18.3

## Description of Sample. (Sample 3)

<b>Sample Type -</b>	One off patio sliding doors full glass infill with a low threshold		
<b>Material -</b>	PVC-U		
<b>Construction -</b>	Mitred, welded and grooved		
<b>Fittings -</b>	An eight-point locking (eight hook bolts) ERA espagnolette system, key lockable 3* ERA cylinder, two rollers and one continuous interlock device		
<b>Classification -</b>	D		
<b>Glass -</b>	Double glazed 6-16-6mm toughened glass sealed units		
<b>Panel -</b>	Not applicable		
<b>Glass Retention System -</b>	Internal beads and gaskets		
<b>Sample dimensions -</b>	Overall length:	3510mm	Height: 2100mm
	Active leaf length:	1760mm	Height: 2060mm
<b>Date of test -</b>	27 June 2019		
<b>Laboratory temperature -</b>	18.8°C		

Full Description of Test Sample. **SAMPLES NP-010**

<b>Manufacturer</b>	Eurocell
<b>Product Range Name</b>	Syncro Sliding Patio Door
<b>Configuration</b>	2 Pane – Low Threshold
<b>Orientation</b>	

<b>Outer Frame width</b>	3500	<b>Outer Frame Material</b>	PVC-U
<b>Outer Frame height</b>	2100	<b>Outer Frame Gasket</b>	
<b>Outer Frame Part Numbers</b>		Gasket Type	N/A
Top	EWS7050	Manufacturer	
Bottom	EWS7551A	Product Name	
Lock Side	EWS7050	Product Code	
Hinge Side	EWS7050	<b>Threshold</b>	
<b>Outer Frame section dimensions</b>		Manufacturer	
Width	50	Product name	
Depth	94	Product Code	EWS7551A
<b>Reinforcing:</b>		Materials	Thermally Broken Aluminium
Manufacturer		<b>Outer Frame Joint Method</b>	
Product Name		Head	WELDED
Product code		Foot	WELDED
Material			

<b>Leaf</b>		<b>Leaf Material:</b>	
Leaf Width:	1753	<b>Leaf Gasket</b>	
Leaf Height:	2041	Gasket type:	Co-Ex PVC Flex & Wool Pile
Leaf Part Numbers:		Manufacturer:	
Top:	EWS7055	Product Name:	
Bottom:	EWS7055	Product Code	
Lock side:	EWS7055	<b>Leaf Midrail:</b>	
Hinge Side	EWS7055	Manufacturer:	
<b>Leaf section size</b>		Product name:	
Width:	89	Product code:	
Depth:	60	Material:	
<b>Reinforcing</b>		<b>Leaf joint method</b>	
Manufacturer:		Head:	Welded
Product Name:		Foot:	Welded
Product Code:	EWS659S & EWS7555A		
Material:	Steel & Aluminium		
<b>Bead</b>			
Manufacturer:	<b>Eurocell</b>		
Product Name:			
Product Code:	<b>EWS7301/7312</b>		
Material:	<b>PVC-U</b>		
Bead Size:			

Full Description of Test Sample. **SAMPLES NP-010**

<b>Glazing Unit</b>		<b>Glazing Gasket</b>	
Manufacturer:		Gasket Type:	Co-Ex PVC-U
Inner Thickness:	6mm	Manufacturer:	
Spacer Material:	16mm	Product Name:	
Outer Thickness:	6mm	Product Code	
Unit Sizes:	1457 x 2225	<b>Glazing Clip</b>	
<b>Glazing Tape Details</b>		Manufacturer:	N/A
Manufacturer:		Product Name:	
Product Name:		Product Code	
Product Code			

<b>Hardware</b>	<b>Manufacturer</b>	<b>Product Code/Description</b>	<b>Fixings</b>
Lock & Keeps:	ERA / Eurocell	EWS757 + EWS756	Lock – 4.3 x 30 Gimlet Keep – 4.2 x 30 Drill Point
Cylinder:	ERA / Eurocell	EWS759	N/A
Handle:	ERA / Eurocell	EWS758 / EWS754	
Wheels	Ciilock / Eurocell	EWS7852	

**Note** – parts list supplied by client but not verified by BSI

## 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 try to manipulate the mechanism.

No entry gained by any technique within three minutes.

Pass

Date of test – 27 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.8

#### 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 try to remove the internal glazing beads.

No entry gained within three minutes.

Pass

Date of test – 27 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.8

## Test Results (Continued).

### Performance Requirements (Continued).

### Assessment

#### B.4.4.4 Manual Cutting Test

Not applicable.

#### 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 could be affected.

Pass

Date of test – 27 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.8

## Test Results (Continued).

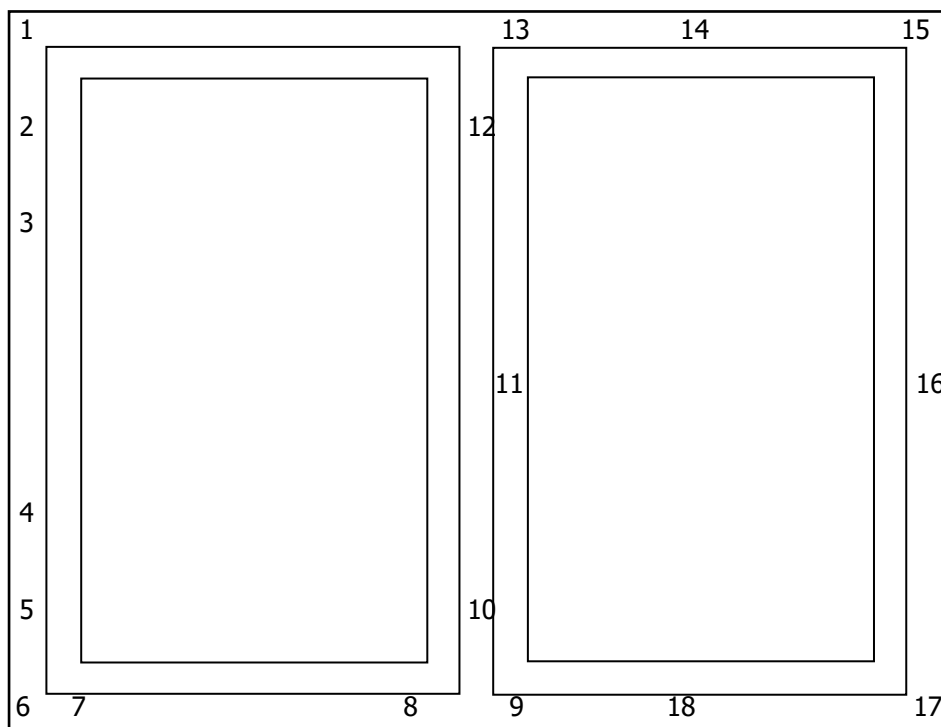
### Performance Requirements (Continued).

#### 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: 1.5kN 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. Hook Bolt / Hook Bolt (upper left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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

3. Hook Bolt / Hook Bolt (upper left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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 / Hook Bolt (lower left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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)**

5. Hook Bolt / Hook Bolt (lower left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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

6. 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

7. Roller (left active 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

8. Roller (right active 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

## Test Results (Continued).

### B.4.5.2 Loading Procedure (continued)

#### First Sequence (continued)

9. Fixed light corner (lower left 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
10. 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
11. 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
12. 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
13. Fixed light corner (upper left 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

## Test Results (Continued).

### B.4.5.2 Loading Procedure (continued)

### Assessment

#### First Sequence (continued)

14. 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

15. Fixed light corner (upper 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

16. 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

17. 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

18. 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

No entry gained

Pass

Date of test – 27 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.8

## Test Results (Continued).

### Assessment

#### **B.4.3 Manipulation Test B**

No fixings were exposed during mechanical loading.

Pass

Date of test – 27 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.8

#### **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 – 27 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.8

##### **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 – 27 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.8

## Test Results (Continued).

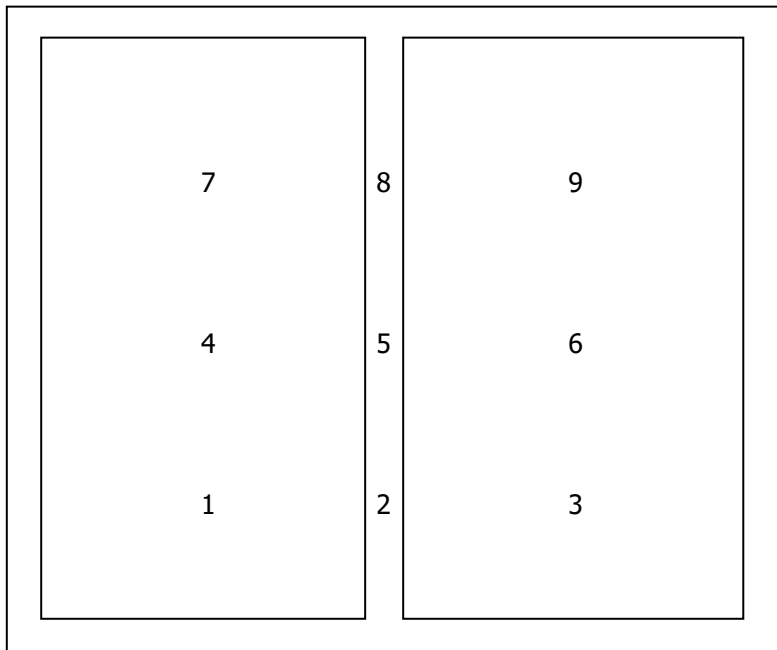
### Performance Requirements (Continued).

#### Clause B.4.8 Soft Body Impact 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, objectives and procedures Detailed in B.4.8.1 using the impact points and procedure described in B.4.8.2 and B.4.8.3 and Figure B.10.

Diagram of impact points



## Test Results (Continued).

### Performance Requirements (Continued).

#### Clause B.4.8 Soft Body Impact Test (continued)

#### Assessment

<b>Impact Point</b>	<b>Height from Floor Level</b>	<b>Effect</b>
1	0.8m	None
2	0.8m	None
3	0.8m	None
4	1.25m	None
5	1.25m	None
6	1.25m	None
7	1.7m	None
8	1.7m	None
9	1.7m	None

No entry gained

Pass

Date of test – 27 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.8

## Test Results (Continued).

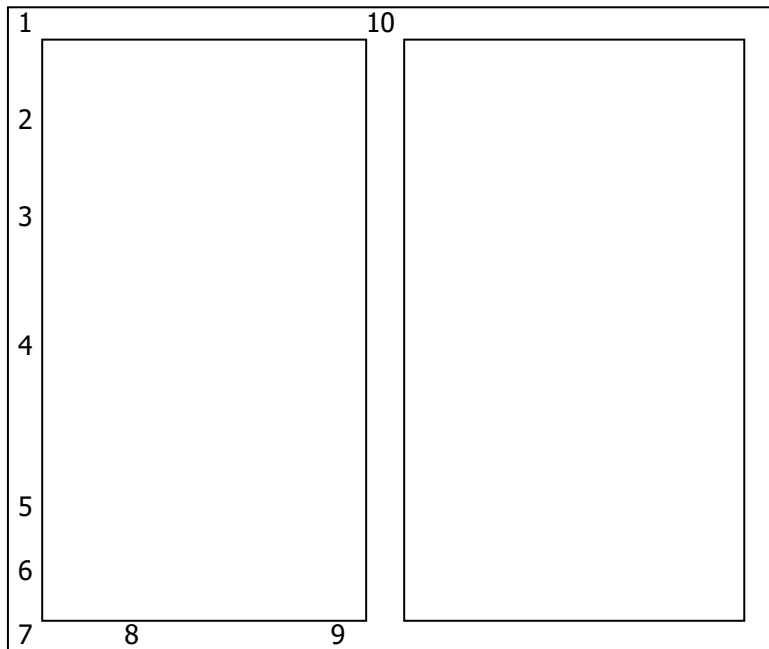
### Performance Requirements (Continued).

#### Clause B.4.9 Hard Body Impact 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, objectives and procedures detailed in B.4.9.1, B.4.9.2.1, B.4.9.2.2 and B.4.9.2.3 using procedure B.4.9.3, using the test apparatus detailed in B.11 and using the impact sequence in figure B.14.

Diagram of impact points



## Test Results (Continued).

### Performance Requirements (Continued).

#### Clause B.4.9 Hard Body Impact Test (continued)

#### Assessment

Impact Point	Position	Effect
1	Corner	None
2	Hook / Hook	None
3	Hook / Hook	None
4	Cylinder	None
5	Hook / Hook	None
6	Hook / Hook	None
7	Corner	None
8	Roller	None
9	Roller / Corner	None
10	Corner	None

No entry gained

Pass

Date of test – 27 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 18.8



## Description of Sample. (Sample 4)

<b>Sample Type -</b>	One off patio sliding doors full glass infill with a standard threshold		
<b>Material -</b>	PVC-U		
<b>Construction -</b>	Mitred, welded and grooved		
<b>Fittings -</b>	An eight-point locking (eight hook bolts) ERA espagnolette system, key lockable 3* ERA cylinder, two rollers and one continuous interlock device		
<b>Classification -</b>	D		
<b>Glass -</b>	Double glazed 6-16-6mm toughened glass sealed units		
<b>Panel -</b>	Not applicable		
<b>Glass Retention System -</b>	Internal beads and gaskets		
<b>Sample dimensions -</b>	Overall length:	3510mm	Height: 2100mm
	Active leaf length:	1760mm	Height: 2060mm
<b>Date of test -</b>	28 June 2019		
<b>Laboratory temperature -</b>	17.4°C		

Full Description of Test Sample. **SAMPLES NP-009**

<b>Manufacturer</b>	Eurocell
<b>Product Range Name</b>	Syncro Sliding Patio Door
<b>Configuration</b>	2 Pane
<b>Orientation</b>	

<b>Outer Frame width</b>	3500	<b>Outer Frame Material</b>	PVC-U
<b>Outer Frame height</b>	2100	<b>Outer Frame Gasket</b>	
<b>Outer Frame Part Numbers</b>		Gasket Type	N/A
Top	EWS7050	Manufacturer	
Bottom	EWS7050	Product Name	
Lock Side	EWS7050	Product Code	
Hinge Side	EWS7050	<b>Threshold</b>	
<b>Outer Frame section dimensions</b>		Manufacturer	N/A
Width	50	Product name	
Depth	94	Product Code	
<b>Reinforcing:</b>		Materials	
Manufacturer		<b>Outer Frame Joint Method</b>	
Product Name		Head	WELDED
Product code		Foot	WELDED
Material			

<b>Leaf</b>		<b>Leaf Material:</b>	
Leaf Width:	1753	<b>Leaf Gasket</b>	
Leaf Height:	2016	Gasket type:	Co-Ex PVC Flex & Wool Pile
Leaf Part Numbers:		Manufacturer:	
Top:	EWS7055	Product Name:	
Bottom:	EWS7055	Product Code	
Lock side:	EWS7055	<b>Leaf Midrail:</b>	
Hinge Side	EWS7055	Manufacturer:	
<b>Leaf section size</b>		Product name:	
Width:	89	Product code:	
Depth:	60	Material:	
<b>Reinforcing</b>		<b>Leaf joint method</b>	
Manufacturer:		Head:	Welded
Product Name:		Foot:	Welded
Product Code:	EWS659S & EWS7555A		
Material:	Steel & Aluminium		
<b>Bead</b>			
Manufacturer:	<b>Eurocell</b>		
Product Name:			
Product Code:	<b>EWS7301/7312</b>		
Material:	<b>PVC-U</b>		
Bead Size:			

Full Description of Test Sample. **SAMPLES NP-009**

<b>Glazing Unit</b>		<b>Glazing Gasket</b>	
Manufacturer:		Gasket Type:	Co-Ex PVC-U
Inner Thickness:	6mm	Manufacturer:	
Spacer Material:	16mm	Product Name:	
Outer Thickness:	6mm	Product Code	
Unit Sizes:	1457 x 2225	<b>Glazing Clip</b>	
<b>Glazing Tape Details</b>		Manufacturer:	N/A
Manufacturer:		Product Name:	
Product Name:		Product Code	
Product Code			

<b>Hardware</b>	<b>Manufacturer</b>	<b>Product Code/Description</b>	<b>Fixings</b>
Lock & Keeps:	ERA / Eurocell	EWS757 + EWS756	Lock – 4.3 x 30 Gimlet Keep – 4.2 x 30 Drill Point
Cylinder:	ERA / Eurocell	EWS759	N/A
Handle:	ERA / Eurocell	EWS758 / EWS754	
Wheels	Ciilock / Eurocell	EWS7852	

**Note** – parts list supplied by client but not verified by BSI

## 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 try to manipulate the mechanism.

No entry gained by any technique within three minutes.

Pass

Date of test – 28 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 17.4

#### 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 try to remove the internal glazing beads.

No entry gained within three minutes.

Pass

Date of test – 28 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 17.4

## Test Results (Continued).

### Performance Requirements (Continued).

### Assessment

#### B.4.4.4 Manual Cutting Test

Not applicable.

#### 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 could be affected.

Pass

Date of test – 28 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 17.4

## Test Results (Continued).

### Performance Requirements (Continued).

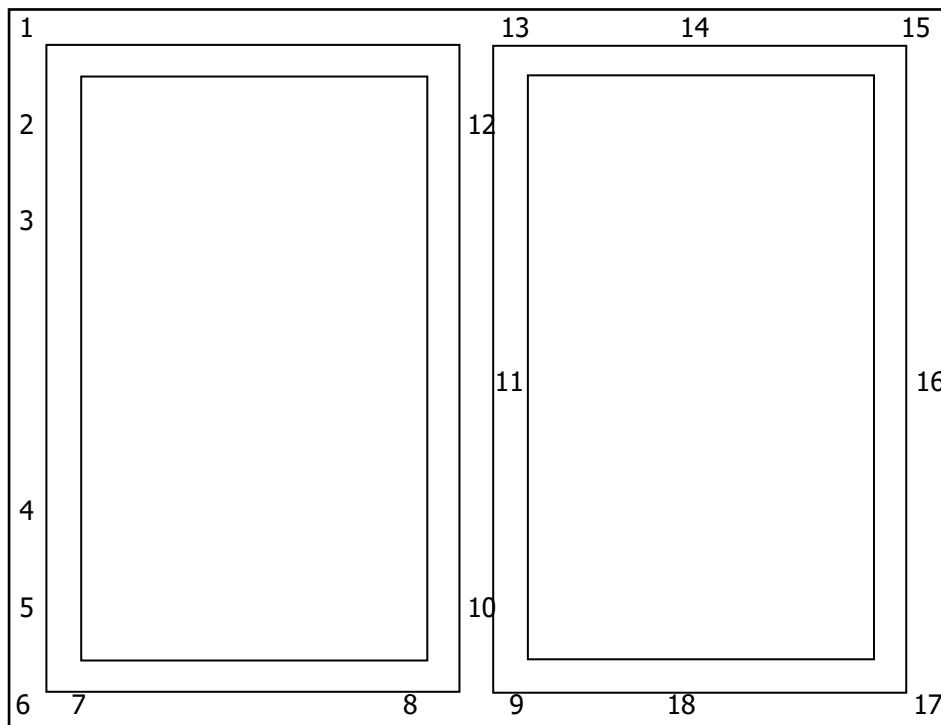
### Assessment

#### 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: 1.5kN 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. Hook Bolt / Hook Bolt (upper left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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

3. Hook Bolt / Hook Bolt (upper left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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 / Hook Bolt (lower left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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)

5. Hook Bolt / Hook Bolt (lower left jamb)

Standard loading case used: 6 / 6

Load applied in plane: 1.5kN along the edge in the direction to disengage the bolts  
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

6. 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

7. Roller (left active 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

8. Roller (right active 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



## Test Results (Continued).

### B.4.5.2 Loading Procedure (continued)

#### First Sequence (continued)

9. Fixed light corner (lower left 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
  
10. 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
  
11. 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
  
12. 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
  
13. Fixed light corner (upper left 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

## Test Results (Continued).

### B.4.5.2 Loading Procedure (continued)

### Assessment

#### First Sequence (continued)

14. 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

15. Fixed light corner (upper 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

16. 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

17. 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

18. 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

No entry gained

Pass

Date of test – 28 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 17.4

## Test Results (Continued).

### Assessment

#### **B.4.3 Manipulation Test B**

No fixings were exposed during mechanical loading.

Pass

Date of test – 28 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 17.4

#### **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 – 28 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 17.4

##### **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 – 28 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 17.4

## Test Results (Continued).

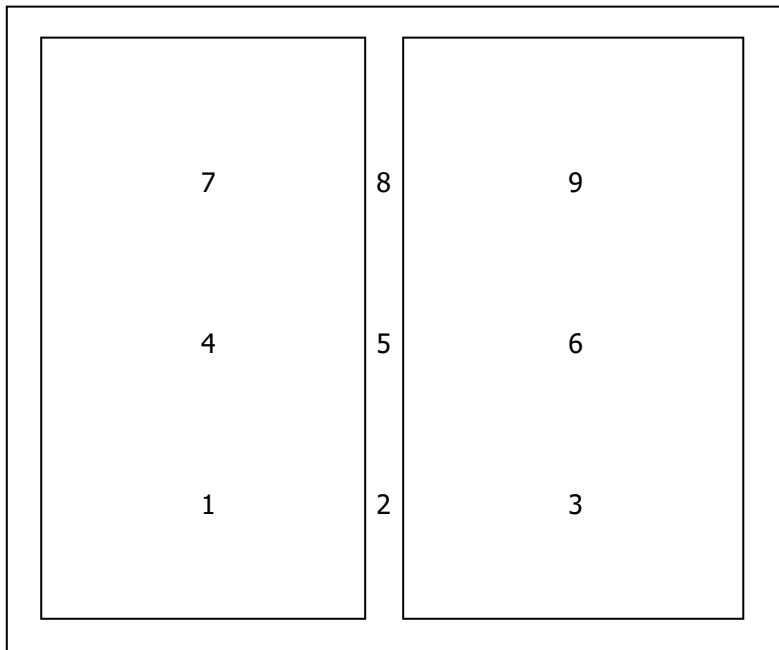
### Performance Requirements (Continued).

#### Clause B.4.8 Soft Body Impact 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, objectives and procedures Detailed in B.4.8.1 using the impact points and procedure described in B.4.8.2 and B.4.8.3 and Figure B.10.

Diagram of impact points



## Test Results (Continued).

### Performance Requirements (Continued).

#### Clause B.4.8 Soft Body Impact Test (continued)

#### Assessment

<b>Impact Point</b>	<b>Height from Floor Level</b>	<b>Effect</b>
1	0.8m	None
2	0.8m	None
3	0.8m	None
4	1.25m	None
5	1.25m	None
6	1.25m	None
7	1.7m	None
8	1.7m	None
9	1.7m	None

No entry gained

Pass

Date of test – 28 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 17.4

## Test Results (Continued).

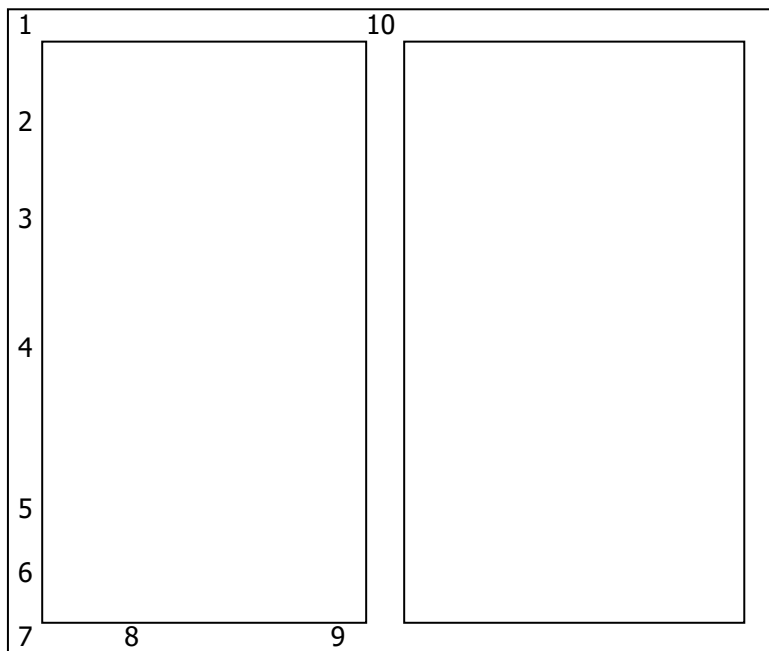
### Performance Requirements (Continued).

#### Clause B.4.9 Hard Body Impact 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, objectives and procedures detailed in B.4.9.1, B.4.9.2.1, B.4.9.2.2 and B.4.9.2.3 using procedure B.4.9.3, using the test apparatus detailed in B.11 and using the impact sequence in figure B.14.

Diagram of impact points



## Test Results (Continued).

### Performance Requirements (Continued).

#### Clause B.4.9 Hard Body Impact Test (continued)

#### Assessment

Impact Point	Position	Effect
1	Corner	None
2	Hook / Hook	None
3	Hook / Hook	None
4	Cylinder	None
5	Hook / Hook	None
6	Hook / Hook	None
7	Corner	None
8	Roller	None
9	Roller / Corner	None
10	Corner	None

No entry gained

Pass

Date of test – 28 June 2019

Test engineer(s) – Jack Nicholls, David Vinyard & Errol Creary

Laboratory temperature – 17.4

## BS EN 1191:2012 Type Test.

One off patio sliding doors full glass infill with a standard threshold (sample 5)

(Sample ID No 10183682)

Date sample received: 20 June 2019

## Test Results.

1. Repeated opening and closing The test sample met the requirements of the Specification, in respect of BS EN 1191:2012.

## Classifications for Operational Strength.

Repeated opening and closing	50,000 cycles on each leaf
------------------------------	----------------------------

**Note** – BS EN 1191:2012 not UKAS accredited.

## 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.



## Description of Sample. (Sample 5)

<b>Sample Type -</b>	One off patio sliding doors full glass infill with a standard threshold		
<b>Material -</b>	PVC-U		
<b>Construction -</b>	Mitred, welded and grooved		
<b>Fittings -</b>	An eight-point locking (eight hook bolts) ERA espagnolette system, key lockable 3* ERA cylinder, two rollers and one continuous interlock device		
<b>Glass -</b>	Slider 1 - Double glazed 8-12-8mm toughened glass sealed units Slider 2 - Double glazed 10-8-10mm toughened glass sealed units		
<b>Panel -</b>	Not applicable		
<b>Glass Retention System -</b>	Internal beads and gaskets		
<b>Sample dimensions -</b>	Overall length:	2300mm	Height: 2400mm
	Active leaf length:	1603mm	Height: 2371mm
<b>Date of test -</b>	28 June 2019		
<b>Laboratory temperature -</b>	23.1°C		

Full Description of Test Sample. **SAMPLES NP-011**

<b>Manufacturer</b>	Eurocell
<b>Product Range Name</b>	Syncro Sliding Patio Door
<b>Configuration</b>	2 Pane Duel Slider
<b>Orientation</b>	

<b>Outer Frame width</b>	2300	<b>Outer Frame Material</b>	PVC-U
<b>Outer Frame height</b>	2400	<b>Outer Frame Gasket</b>	
<b>Outer Frame Part Numbers</b>		Gasket Type	N/A
Top	EWS7050	Manufacturer	
Bottom	EWS7050	Product Name	
Lock Side	EWS7050	Product Code	
Hinge Side	EWS7050	<b>Threshold</b>	
<b>Outer Frame section dimensions</b>		Manufacturer	N/A
Width	50	Product name	
Depth	94	Product Code	
<b>Reinforcing:</b>		Materials	
Manufacturer		<b>Outer Frame Joint Method</b>	
Product Name		Head	WELDED
Product code		Foot	WELDED
Material			

<b>Leaf</b>		<b>Leaf Material:</b>	
Leaf Width:	1603	<b>Leaf Gasket</b>	
Leaf Height:	2371	Gasket type:	Co-Ex PVC Flex & Wool Pile
Leaf Part Numbers:		Manufacturer:	
Top:	EWS7055	Product Name:	
Bottom:	EWS7055	Product Code	
Lock side:	EWS7055	<b>Leaf Midrail:</b>	
Hinge Side	EWS7055	Manufacturer:	
<b>Leaf section size</b>		Product name:	
Width:	89	Product code:	
Depth:	60	Material:	
<b>Reinforcing</b>		<b>Leaf joint method</b>	
Manufacturer:		Head:	Welded
Product Name:		Foot:	Welded
Product Code:	EWS659S & EWS7555A		
Material:	Steel & Aluminium		
<b>Bead</b>			
Manufacturer:	<b>Eurocell</b>		
Product Name:			
Product Code:	<b>EWS7301/7312</b>		
Material:	<b>PVC-U</b>		
Bead Size:			

Full Description of Test Sample. **SAMPLES NP-011**

<b>Glazing Unit</b>		<b>Glazing Gasket</b>	
Manufacturer:		Gasket Type:	Co-Ex PVC-U
Inner Thickness:	Slider 1: 8mm Slider 2: 10mm	Manufacturer:	
Spacer Material:	Slider 1: 12mm Slider 2: 8mm	Product Name:	
Outer Thickness:	Slider 1: 8mm Slider 2: 10mm	Product Code	
Unit Sizes:	Slider 1: 1007 x 2170 Slider 2: 1007 x 2170	<b>Glazing Clip</b>	
<b>Glazing Tape Details</b>		Manufacturer:	N/A
Manufacturer:		Product Name:	
Product Name:		Product Code	
Product Code			

<b>Hardware</b>	<b>Manufacturer</b>	<b>Product Code/Description</b>	<b>Fixings</b>
Lock & Keeps:	ERA / Eurocell	EWS757 + EWS756	Lock – 4.3 x 30 Gimlet Keep – 4.2 x 30 Drill Point
Cylinder:	ERA / Eurocell	EWS759	N/A
Handle:	ERA / Eurocell	EWS758 / EWS754	
Slider 1 Wheels	ERA / Eurocell	EWS7851	
Slider 2 Wheels	Ciilock / Eurocell	EWS7852	

**Note** – parts lists supplied by client but not verified by BSI

## BS EN 1191:2012.

### Clause 5.5 Repeated Opening and Closing

### Assessment

#### **Operated for 50,000 cycles – Active leaf**

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

Rotation of key to unlock - 180°

### Clause 6.2 Operating Forces: EN12046-2:2000 and EN12217:2015 (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 – 67.33N (maximum 75N)	Pass
Handle closing – N/A (maximum 100N)	N/A
Key force to lock – <1.00Nm (maximum 5Nm)	Pass
Key force to unlock – <1.00Nm (maximum 5Nm)	Pass
Handle opening – N/A (maximum 100N)	N/A
Force to maintain opening – 65.66N (maximum 75N)	Pass

After 50,000 cycles the operating forces were recorded again

Closing leaf force – 69.60N (maximum 75N)	Pass
Handle closing – N/A (maximum 100N)	N/A
Key force to lock – <1.00Nm (maximum 5Nm)	Pass
Key force to unlock – <1.00Nm (maximum 5Nm)	Pass
Handle opening – N/A (maximum 100N)	N/A
Force to maintain opening – 63.15N (maximum 75N)	Pass

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

## BS EN 1191:2012 (continued).

### Clause 5.5 Repeated Opening and Closing

### Assessment

#### **Operated for 50,000 cycles – Active leaf**

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

Rotation of key to unlock - 180°

### Clause 6.2 Operating Forces: EN12046-2:2000 and EN12217:2015 (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 – 55.98N (maximum 75N)	Pass
Handle closing – N/A (maximum 100N)	N/A
Key force to lock – <1.00Nm (maximum 5Nm)	Pass
Key force to unlock – <1.00Nm (maximum 5Nm)	Pass
Handle opening – N/A (maximum 100N)	N/A
Force to maintain opening – 58.96N (maximum 75N)	Pass

After 50,000 cycles the operating forces were recorded again

Closing leaf force – 59.48N (maximum 75N)	Pass
Handle closing – N/A (maximum 100N)	N/A
Key force to lock – <1.00Nm (maximum 5Nm)	Pass
Key force to unlock – <1.00Nm (maximum 5Nm)	Pass
Handle opening – N/A (maximum 100N)	N/A
Force to maintain opening – 60.95N (maximum 75N)	Pass

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

## Test Samples.

Sample Id	ER Number	Description
1	10183682	PVC-U Patio Sliding Doors

## Description of Test Samples.

Sample Description
2 off patio sliding doors full glass infill with a standard threshold
2 off patio sliding doors full glass infill with a low threshold

## Test Requirements.

PAS24 Door Type Test

Clause	Requirements
<b>Results table</b>	<i>PAS24 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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\*\*\* End of Report \*\*\*