

# Test Report 8209216.


## Rapid Frame Limited

## Introduction.

This report has been prepared by A Pearce and relates to the activity detailed below:

Job/Registration Details	Client Details
<b>Job number:</b> 8209216 Job type: Testing Samples Submitted Start Date: 01/09/2014 Test type: Type retest Sample ID: 10150704 10154863 <b>Registration:</b> KM 569232 Scheme: BS 7412 Protocol: PCP 519 Scheme Mgr: Lorraine Balch Quality system: ISO 9001:2008	Rapid Frame Limited Unit 6-8 & 33 Landywood Enterprise Park Holly Lane Great Wryley Walsall WS6 6BD United Kingdom

The report has been approved for issue by Mark Manito – Team Manager

Approved For Issue	
	Issue Date: 19 May 2015

## Objectives.

Retest for product certification

## Product Scope.

Aluplast Ideal 70 PVC-U window

## Report Summary.

The samples were received on 10 October 2014 and the testing was started on 20 October 2014.

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

## Test Samples.

Sample Id	ER Number	Description
1	10150704	T/T PVC-U Windows

## Description of Test Samples.

Sample Description
2 off T/T windows

## Test Requirements.

Weather Audit BS6375-2

Clause	Requirements
<b>As required</b>	<b>Test and assessment</b> <i>See Table A – BS6375-2</i>

## Summary of Test Comments.

Clause	Comments
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## 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.

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Table A – BS6375-2

Product Description. (sample 1)

<b>Sample type -</b>	T/T		
<b>Glazing system -</b>	Internal beads and gaskets		
<b>Fittings -</b>	Locking:	A six point locking (three mushroom bolts and three roller cams) Roto tilt/turn gearing operated by a key locking handle 2 of run up blocks	
<b>Manufacturing sizes:</b>	Overall size:	Length: 1500mm	Height: 1690mm
	Sash size:	Length: 1440mm	Height: 1620mm
<b>Glass thickness:</b>	Double glazed, 4-20-4mm sealed unit		
<b>Date of test -</b>	29 April 2015 – 08 May 2015		
<b>Laboratory temperature -</b>	19.1°C		
<b>Laboratory humidity -</b>	42.4%		
<b>Equipment Record No -</b>	10150704		

Test Results.

Repeated opening and closing	10,000 Turn, Tilt 5,000
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## BS 6375-2:2009.

### Clause 5 Performance characteristics and requirements for windows

### Assessment

Tilt Mode 10,000 cycles

#### Clause 5.5 Repeated opening and closing

The sample was opened and closed 5 times before testing started  
A procedure was followed

Key rotation of key to unlock: 90 degrees

#### Clause 6.2 Operating Forces: EN12046-1 and EN12217 (pre test operation)

The sample was tested three times, unlocking the key, handle opening force, sash opening force, sash closing force, handle closing force, key force to lock, and average of the three results were then recorded.

Key force to unlock – 0.10N (maximum 50N)	Pass
Handle opening force – 25.20N (maximum 100N)	Pass
Sash opening force – 22.05N (maximum 100N)	Pass
Sash closing force – 59.95N (maximum 100N)	Pass
Handle closing force – 38.85N (maximum 100N)	Pass
Key force to lock – 0.10N (maximum 50N)	Pass

At 25% of the complete cycles the Operating forces were taken again

Key force to unlock – 0.10N (maximum 50N)	Pass
Handle opening force – 24.97N (maximum 100N)	Pass
Sash opening force – 21.97N (maximum 100N)	Pass
Sash closing force – 60.62N (maximum 100N)	Pass
Handle closing force – 38.63N (maximum 100N)	Pass
Key force to lock – 0.10N (maximum 50N)	Pass

Before the testing was restarted the sample was lubricated and no visible movement from the datum points were detected

## BS 6375-2:2009.

### Clause 5 Performance characteristics and requirements for windows

### Assessment

#### Clause 5.5 Repeated opening and closing

At 50% of the complete cycles the Operating forces were taken again

Key force to unlock – 0.10N (maximum 50N)	Pass
Handle opening force – 25.60N (maximum 100N)	Pass
Sash opening force – 22.20N (maximum 100N)	Pass
Sash closing force – 262.45N (maximum 100N)	Pass
Handle closing force – 39.15N (maximum 100N)	Pass
Key force to lock – 0.10N (maximum 50N)	Pass

Before the testing was restarted the sample was checked and no visible movement from the datum points were detected

At 75% of the complete cycles the Operating forces were taken again

Key force to unlock – 0.10N (maximum 50N)	Pass
Handle opening force – 26.60N (maximum 100N)	Pass
Sash opening force – 23.40N (maximum 100N)	Pass
Sash closing force – 62.10N (maximum 100N)	Pass
Handle closing force – 39.05N (maximum 100N)	Pass
Key force to lock – 0.10N (maximum 50N)	Pass

Before the testing was restarted the sample was lubricated and no visible movement from the datum points were detected

**BS 6375-2:2009.****Clause 5 Performance characteristics and requirements for windows****Assessment****Clause 5.5 Repeated opening and closing**

Key force to unlock – 0.10N (maximum 50N)	Pass
Handle opening force – 23.80N (maximum 100N)	Pass
Sash opening force – 19.80N (maximum 100N)	Pass
Sash closing force – 54.60N (maximum 100N)	Pass
Handle closing force – 29.35N (maximum 100N)	Pass
Key force to lock – 0.10N (maximum 50N)	Pass

At 100% of the complete cycles the Operating forces were taken again

The sample met the requirements of the standard and remained within the forces for 10,000 cycles



## BS 6375-2:2009.

### Clause 5 Performance characteristics and requirements for windows

### Assessment

Turn Mode 5,000 cycles

#### Clause 5.5 Repeated opening and closing

The sample was opened and closed 5 times before testing started  
A procedure was followed

Key rotation of key to unlock: 90 degrees

#### Clause 6.2 Operating Forces: EN12046-1 and EN12217 (pre test operation)

The sample was tested three times, unlocking the key, handle opening force, sash opening force, sash closing force, handle closing force, key force to lock, and average of the three results were then recorded.

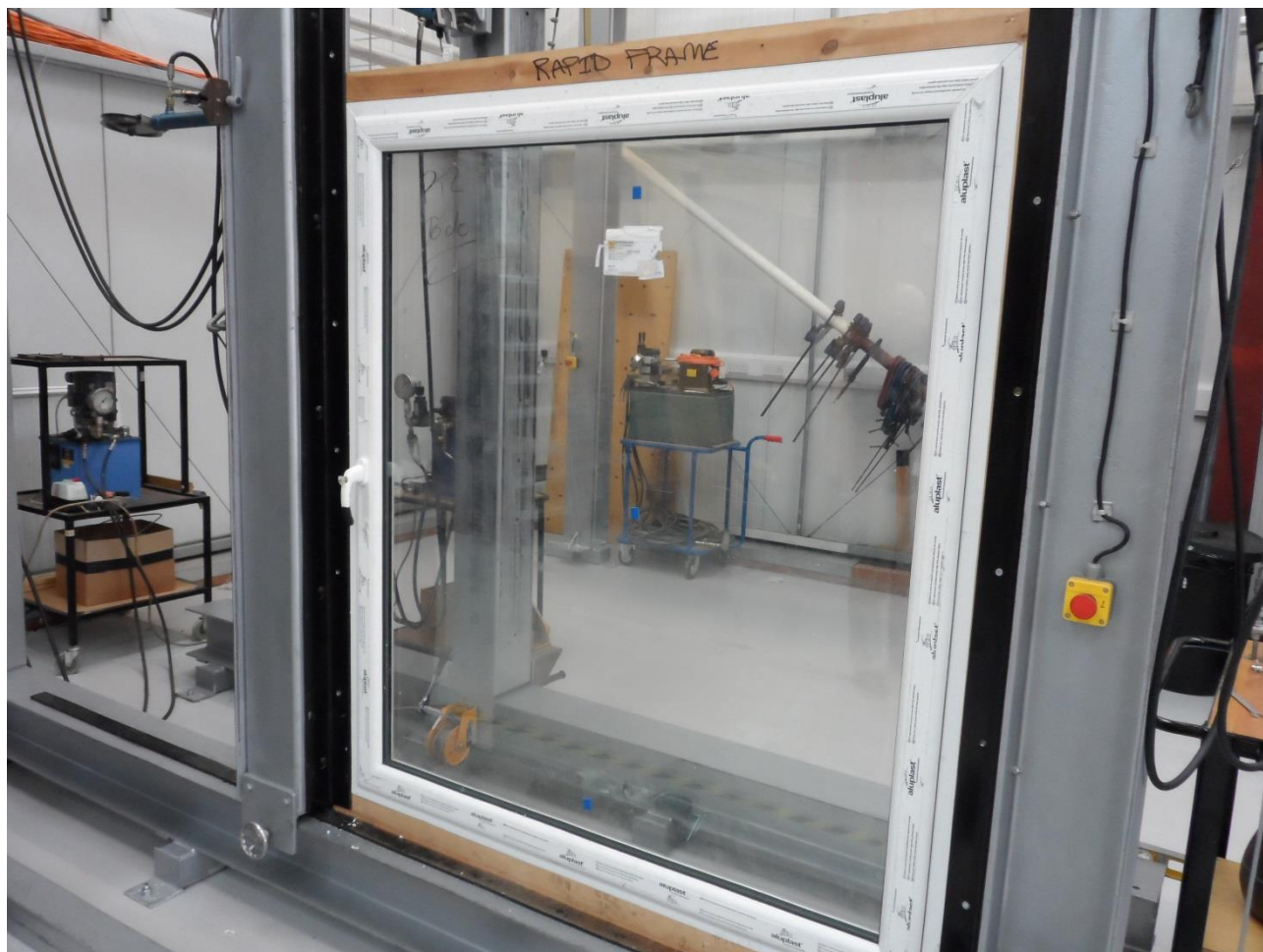
Key force to unlock – 0.10N (maximum 50N)	Pass
Handle opening force – 29.95N (maximum 100N)	Pass
Sash opening force – 213.61N (maximum 100N)	Pass
Sash closing force – 15.61N (maximum 100N)	Pass
Handle closing force – 49.65N (maximum 100N)	Pass
Key force to lock – 0.10N (maximum 50N)	Pass

At 75% of the complete cycles the Operating forces were taken again

Key force to unlock – 0.10N (maximum 50N)	Pass
Handle opening force – 29.96N (maximum 100N)	Pass
Sash opening force – 14.97N (maximum 100N)	Pass
Sash closing force – 15.39N (maximum 100N)	Pass
Handle closing force – 49.61N (maximum 100N)	Pass
Key force to lock – 0.10N (maximum 50N)	Pass

The sample met the requirements of the standard and remained within the forces for 5,000 cycles

Photograph of Sample.



## Product Description. (sample 2)

<b>Sample type -</b>	T/T		
<b>Glazing system -</b>	Internal beads and gaskets		
<b>Fittings -</b>	Locking:	A six point locking (three mushroom bolts and three roller cams) Roto tilt/turn gearing operated by a key locking handle 2 of run up blocks	
<b>Manufacturing sizes:</b>	Overall size:	Length: 1500mm	Height: 1685mm
	Sash size:	Length: 1445mm	Height: 1625mm
<b>Glass thickness:</b>	Double glazed, 4-20-4mm sealed unit		
<b>Date of test -</b>	12 January 2015		
<b>Laboratory temperature -</b>	21.3°C		
<b>Laboratory humidity -</b>	49.7%		
<b>Equipment Record No -</b>	10150704		

## SUMMARY OF RESULTS.

### Classification for Operational strength

Operating forces	Class 1
Resistance to Static torsion	Class 3
Racking	Class 3
Load bearing	350N
Impact resistance	Class 0

## Operation and strength.

**(BS 6375-2:2009)**

### **Clause 5 Performance characteristics and requirements for windows**

#### **Clause 5.1 Operating Forces: EN13115 and EN12046**

The sample was tested three times, operating the key, handle opening, sash closing, handle closing, then key to lock, and average of the three results were then recorded.

#### **Tilt mode**

Key Unlock – 0.10Nm (maximum 5Nm)	Pass
Handle opening – 39.01N (maximum 100N)	Pass
Sash opening – 11.40N (maximum 100N)	Pass
Sash closing – 61.30N (maximum 100N)	Pass
Handle closing – 54.96N (maximum 100N)	Pass
Key lock – 0.10Nm (maximum 5Nm)	Pass

#### **Turn mode**

Key Unlock – 0.10Nm (maximum 5Nm)	Pass
Handle opening – 27.31N (maximum 100N)	Pass
Sash opening – 24.80N (maximum 100N)	Pass
Sash closing – 65.60N (maximum 100N)	Pass
Handle closing – 71.11N (maximum 100N)	Pass
Key lock – 0.10Nm (maximum 5Nm)	Pass

## Operation and strength. (continued)

**(BS 6375-2:2009)**

### **Clause 5 Performance characteristics and requirements for windows**

#### **Clause 5.2.1 Resistance to static torsion BS EN 14609 and BS EN 13115**

The sample was open and closed 5 times before the test, all loads were applied in accordance with BS EN 14609:2004, maximum increments of 100N in minimum 1 second intervals.

The window was opened 90° or its maximum opening position and blocked, and the 30N pre load applied for 60 seconds.

300(N) was applied in 1second min intervals, for 5 minutes, measuring the max deformation and finally the Residual deformation after 1 min rest

Maximum deformation – 2.51mm

Residual deformation – 1.00mm

After Resistance to static torsion the Performance characteristics were tested again

The sample was tested three times, operating the key, handle opening, sash closing, handle closing, then key to lock, and average of the three results were then recorded.

Key Unlock – 0.10Nm (maximum 5Nm)	Pass
Handle opening – 22.13N (maximum 100N)	Pass
Sash opening – 24.11N (maximum 100N)	Pass
Sash closing – 64.12N (maximum 100N)	Pass
Handle closing – 45.13N (maximum 100N)	Pass
Key lock – 0.10Nm (maximum 5Nm)	Pass

## Operation and strength. (continued)

(BS 6375-2:2009)

### Clause 5 Performance characteristics and requirements for windows

#### Clause 5.2.2 Racking BS EN 14608 and BS EN 13115

The sample was opened and closed 5 times before the test, the loads were applied in accordance with BS EN 14608:2004, maximum increments of 100N in minimum 1 second intervals.

The window was opened at an angle of 90° or it's maximum opening position, and a 60N pre load was applied for 60 second.

600(N) was applied in 1second min intervals for 5 minutes, measuring the max deformation, then finally the Residual deformation after 1 min rest.

#### Tilt mode

Maximum deformation – 2.40mm

Residual deformation – 0.20mm

After Resistance to static torsion the Performance characteristics were tested again.

The sample was tested three times, operating the key, handle opening, sash closing, handle closing, then key to lock, and average of the three results were then recorded.

Key Unlock – 0.10Nm (maximum 5Nm)	Pass
Handle opening – 38.31N (maximum 100N)	Pass
Sash opening – 32.70N (maximum 100N)	Pass
Sash closing – 65.31N (maximum 100N)	Pass
Handle closing – 83.45N (maximum 100N)	Pass
Key lock – 0.10Nm (maximum 5Nm)	Pass

## Operation and strength. (continued)

(BS 6375-2:2009)

### Clause 5 Performance characteristics and requirements for windows

#### Clause 5.2.2 Racking BS EN 14608 and BS EN 13115

The sample was opened and closed 5 times before the test, the loads were applied in accordance with BS EN 14608:2004, maximum increments of 100N in minimum 1 second intervals.

The window was opened at an angle of 90° or it's maximum opening position, and a 60N pre load was applied for 60 second.

600(N) was applied in 1second min intervals for 5 minutes, measuring the max deformation, then finally the Residual deformation after 1 min rest.

#### Turn mode

Maximum deformation – 5.68mm

Residual deformation – 1.92mm

After Resistance to static torsion the Performance characteristics were tested again.

The sample was tested three times, operating the key, handle opening, sash closing, handle closing, then key to lock, and average of the three results were then recorded.

Key Unlock – 0.10Nm (maximum 5Nm)	Pass
Handle opening – 37.61N (maximum 100N)	Pass
Sash opening – 30.51N (maximum 100N)	Pass
Sash closing – 38.95N (maximum 100N)	Pass
Handle closing – 48.16N (maximum 100N)	Pass
Key lock – 0.10Nm (maximum 5Nm)	Pass

## Operation and strength. (continued)

**(BS 6375-2:2009)**

### **Clause 5 Performance characteristics and requirements for windows**

#### **Clause 5.3 Load bearing capacity of safety devices**

The sample was opened and closed 5 times before the test, the loads were applied in accordance with BS EN 14608:2004, maximum increments of 100N in minimum 1 second intervals.

The window was opened at an angle of 90° or it's maximum opening position

350(N) was applied in 1 second intervals and held for 1 minute.

After Load bearing capacity of safety devices the Performance characteristics were tested again.

The sample was tested three times, operating the key, handle opening, sash closing, handle closing, then key to lock, and average of the three results were then recorded.

#### **Turn mode**

Key Unlock – 0.10Nm (maximum 5Nm)	Pass
Handle opening – 49.95N (maximum 100N)	Pass
Sash opening – 13.91N (maximum 100N)	Pass
Sash closing – 66.55N (maximum 100N)	Pass
Handle closing – 51.75N (maximum 100N)	Pass
Key lock – 0.10Nm (maximum 5Nm)	Pass



## Operation and strength. (continued)

**(BS 6375-2:2009)**

### **Clause 5 Performance characteristics and requirements for windows**

#### **Clause 5.4 Impact resistance BS EN 13049 and BS EN 13115**

The sample was opened and closed 5 times before the test, the testing was carried out accordance with BS EN 13049.

The BS EN 12600 Impactor was used for the impact, and only one impact was carried out on one sample.

The maximum particle weight of any part of the sample that comes away may not be more than 50g, the sash, casement, hardware or infill retaining components may not disconnect, or become dislodged in a dangerous manner.

Impact height achieved: 200mm

Direction of impact: From outside

Point of impact: Centre of sample

Details of damage: None

Pass

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