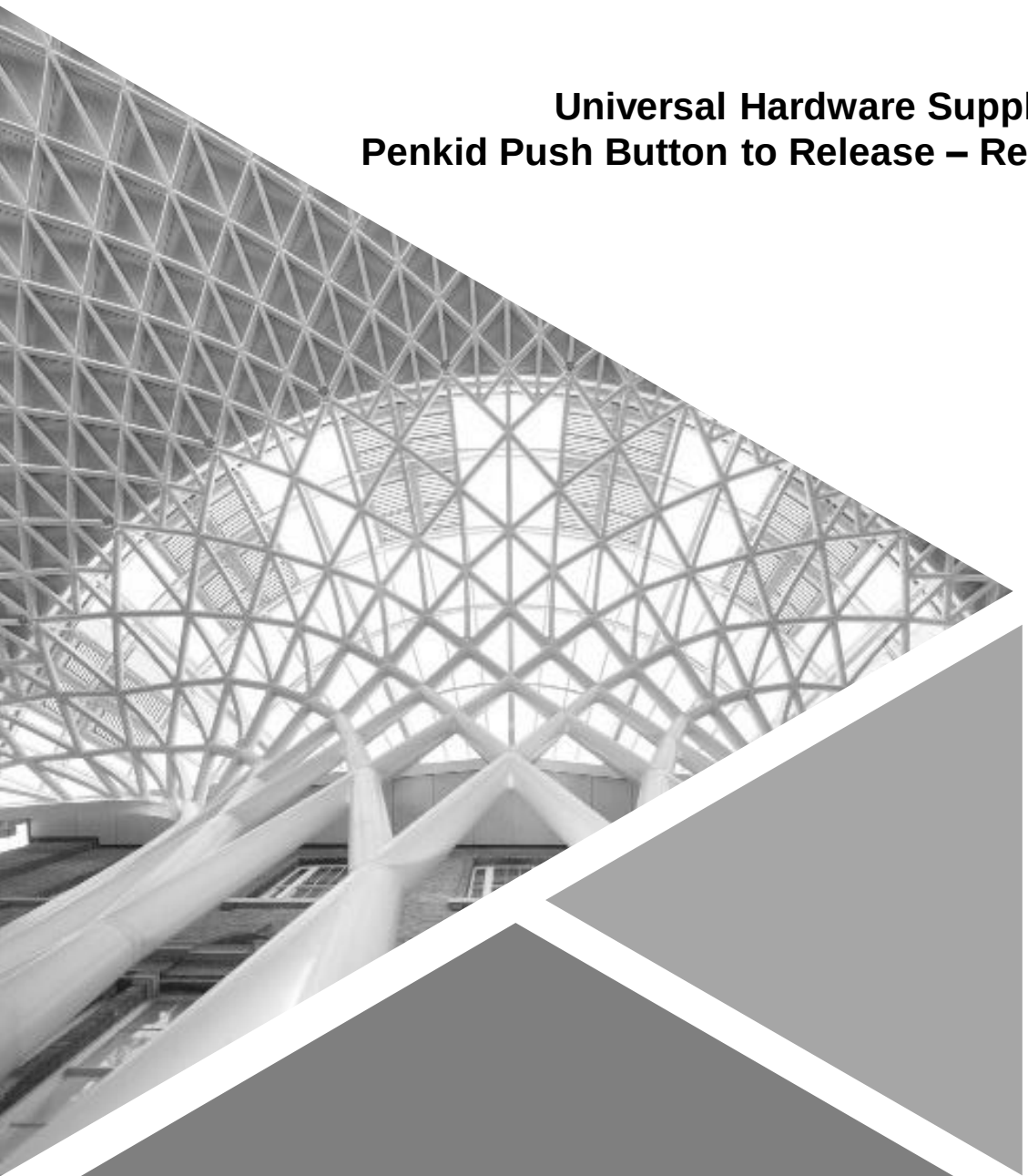
UKAS TESTING
5772

Technical Report – R21027-2 Rev 1
BS EN 14351-1:2006 Load-bearing capacity of safety devices

Universal Hardware Supplies Ltd
Penkid Push Button to Release – Restrictor



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Contents

Rev 1 (Revised Report) – this report has been amended as shown in Section 8 and it replaces previous report No. R21027-2 dated 10th November 2020.

1. Introduction

This report describes tests carried in order to determine the durability of the sample with respect to operating forces, mechanical strength and resistance to repeated operation of the test specimen supplied as follows:

Test Details	
Customer:	Universal Hardware Supplies Ltd Premier House 227 - 234 Neath Road Swansea SA1 2JG
Product Tested:	Top hung – open out (optima): Penkid restrictor - push button to release
Date of Test:	10th January 2020
Test Conducted at:	UL International (UK) Limited Halesfield 2 Telford Shropshire TF7 4QH
Test Conducted by:	D Knight Senior Laboratory Technician S Ward Laboratory Technician

Report Authorisation	
Report Compiled by:	R Cadwallader Project Handler
Authorised by:	M Witkowska Laboratory Leader

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2. Summary of Results

The following summarises the results of testing carried out, in accordance with the relevant testing and classification standards.

The performance of the sample tested has been assessed against the criteria described in below standards. The test will be conducted in accordance with the Standard and the pass/fail decision is defined by the Standard. Measurement of Uncertainty will not be accounted for in the decision rule.

Test Method & Classification Standard	***Description***	***Classification***
BS EN 14351-1:2006	Load-bearing capacity of safety devices	350 N

More comprehensive details are reported in Section 6.

These results are valid only for the conditions under which the test was conducted
All measurement devices, instruments and other relevant equipment were calibrated and traceable to National Standards.

3. Description of Test Sample

The description of the test sample in this section has been supplied by Universal Hardware Supplies Ltd and has not been verified by UL International (UK) Limited.

See Section 7 for test sample drawings as supplied by Universal Hardware Supplies Ltd.

Project number: (Please make reference to all projects applicable)	21027/2
Product range name:	PENKID PUSH BUTTON TO RELEASE
Project name to appear on front page of the test report:	PENKID PUSH BUTTON TO RELEASE
Configuration:	TOP HUNG
Opening direction:	OUTWARD
Product manufacturer:	Penkid Lock Manufacturing Limited Co.
Is the sample typical of normal production?	YES
Please define the closing condition of the sample: i.e. closed, fastened, latched, locked and secured etc.	CLOSED

Outer Frame

Outer frame width:	600	**Outer frame material:**	PVC
Outer frame height:	600	**Outer frame gasket**	
Outer frame Part Numbers		Gasket type:	POST EXTRUDED
Top:	TS841	Manufacturer:	SWISH
Bottom:	TS841	Product name:	OPTIMA
Lock side:	TS841	Product code:	1842
Hinge side:	TS841	**Threshold**	
Outer frame section size		Manufacturer:	N/A
Width:	60	Product name:	N/A
Depth:	70	Product code:	N/A
Reinforcing:		Material:	
Manufacturer:	N/A	**Outer frame joint method**	
Product name:	N/A	Head:	WELD
Product code:	N/A	Foot:	WELD
Material:	N/A	**Surface Finish**	

Leaf

Leaf/Casement width:	545	**Leaf/ Casement material:**	PVC
Leaf/ Casement height:	545	**Leaf/ Casement gasket**	
Leaf/ Casement Part Numbers		Gasket type:	POST EXTRUDED
Top:	TS834	Manufacturer:	SWISH
Bottom:	TS834	Product name:	OPTIMA
Lock side:	TS834	Product code:	1842
Hinge side:	TS834	**Leaf midrail:**	N/A
Leaf/ Casement section size		Manufacturer:	N/A
Width:	75	Product name:	N/A
Depth:	70	Product code:	N/A
Reinforcing:		Material:	
Manufacturer:	N/A	**Leaf/Casement joint method**	N/A
Product name:	N/A	Head:	N/A
Product code:	N/A	Foot:	N/A
Material:	N/A	**Surface Finish**	N/A

Glazing

Glass unit		**Glazing gasket**	
Manufacturer:	PILKINGTON	Gasket type:	POST EXTRUDED
Inner thickness:	4MM	Manufacturer:	SWISH
Spacer material:	ECO PANE 20MM	Product name:	
Outer thickness:	4MM	Product code:	
Unit sizes:	419 X 419	**Glazing clip**	
Bead		Manufacturer:	
Manufacturer:	SWISH	Product name:	
Product name:	28MM OVOLO	Product code:	
Product code:	TS838	**Glazing tape details**	
Bead size:		Manufacturer:	
Bead material:	PVC	Product name:	
		Product code:	

Hardware	Manufacturer:	Product description:	Product code:	Quantity:
Hinges:	SAFEWARE	12" TOP HUNG	7336	1 PR
Hinge fixing:	WINDOWMASTER	4.3 X 25 Z PH2	3501/25Z	12
Hinge protectors:	N/A			
Hinge protector fixings:	N/A			
Locking hardware:	N/A			
Locking hardware fixing:	N/A			
Cylinder:	N/A			
Cylinder fixing:	N/A			
Handle:	SPARTA	LOCKING ESPAGNOLETTE HANDLE	CERHW	1
Handle fixings:	M5X40	MACHINE SCREW		2
Touch Bar	N/A			
Cylinder Support	N/A			
Cylinder Escutcheon	N/A			
Keeps:	SAFEWARE	MUSHROOM STRICKER	59626	2
Keep fixings:	WINDOWMASTER	4.3 X 25 Z PH2	3501/25Z	4
Drip bar:	N/A			
Drip bar fixings:	N/A			
Additional Hardware:	SEZER PENKID PUSH BUTTON TO UNLOCK	RESTRICTOR USING PUSH BUTTON TO RELEASE SECURED WITH 4No 4.3 X 25	P9016-1	1

Confirmation

Customer is to confirm that the samples provided for testing are representative of standard production. *Please note: the details given above, as well as the drawings supplied by the customer as confirmed as typical of normal production are not verified by UL Wintech Engineering Limited.*	
Company:	UNIVERSAL HARDWARE SUPPLIES
Name:	JULIAN DAVIES
Position:	SERVICE ENGINEER
Date:	16/10/2020

4. Test Arrangement

4.1 Test Rig

The test sample was mounted in to a 100 x 75 mm timber sub-frame in accordance with manufacturer's installation requirements and was secured into the test rig ready for testing.

4.2 Instrumentation

4.2.1 Force Measurement

Calibrated force gauges and load cells were used to measure operation forces to +/- 5%.

4.2.2 Time

A calibrated stop watch was used to measure/record time

4.2.3 Measuring Tape

A measuring tape and rule accurate to +/- 0.5mm were used

4.2.4 Temperature & Humidity

A digital data logger capable of measuring temperature with an accuracy of ± 1°C and humidity with an accuracy of ± 5 %Rh was used.

5. Test Procedures

5.1 Load-bearing capacity of safety devices

The window was operated so that the safety device to be tested was fully engaged. A load of 350 N was then applied in the most unfavourable position and direction and was held for a period of 60 secs as required by BS EN 14351-1:2006 and in house document TP7.

6. Test Results

6.1 Lab Conditions

The conditions measured inside the laboratory were as follows:

Temperature °C	Humidity %rh
21.5	48.4

6.2 Load-bearing Capacity of Safety Devices

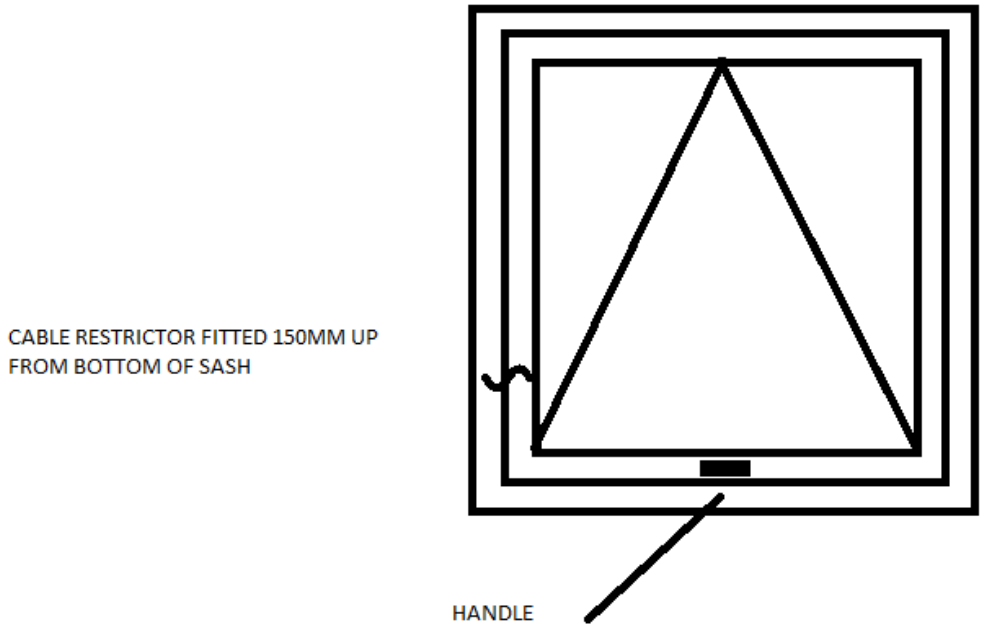
Table 1 – Load position

Load Number	Position of attachment	Test Load (N)	Time held (s)	Observations
1	LHS of window frame - where restrictor attaches to window	350	60	Load held
2	RHS of window frame - where restrictor attaches to window	350	60	Load held

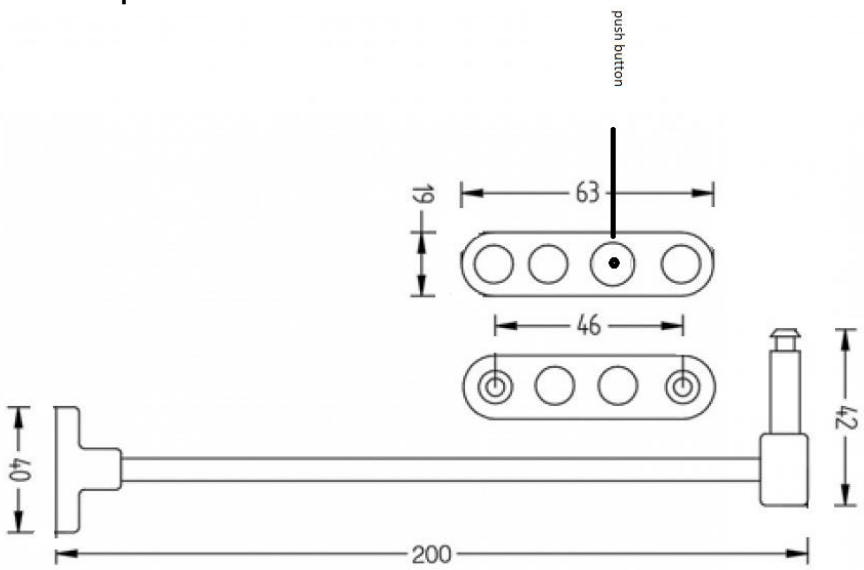
Following the test, there were no signs of any damage to the test sample and it remained functional.

7. System Drawings

7.1 Location of restrictor - (viewed internally)



7.2 Penkid push button to unlock restrictor



8. Amendments

Revision No.	Amendments	Date of Amendment
Rev 1	1. Various references to 'Universal Hardware Supplied Ltd' corrected to 'Universal Hardware Supplies Ltd' 2. Product description updated – manufacturer changed and restrictor fixing information updated	25th November 2020

----- END OF REPORT -----

UL International (UK) Limited is an independent UKAS accredited testing laboratory and certification body. We provide a comprehensive range of services to the building and construction industries, either onsite or at our own state-of-the-art test laboratory in Telford, Shropshire, in the heart of industrial England.

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