



Test Report No: WTH2519#1-1

Date: 15/01/2026

Testing of: Single top hung casement window

Tested to: PAS 24 : 2022

Prepared for: Nico Manufacturing Ltd

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TEST REQUESTED BY

Origin of test request

Company Name	Nico Manufacturing Ltd
Company Address	Oxford Road Clacton on Sea Essex CO15 3TJ
Contact	Ian Harrison
Contact position	Sales & Marketing Director

Quotation Details

Quotation No.	WTH2519
Dated:	20/08/2025

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DETAILS OF TEST

Description	Projecting casement window
Model / type	Single top hung
Make / Brand	Eurocell logic
Any special requirements	

Test Specification	PAS24:2022 Enhanced security performance requirements for doorsets and windows in the UK
Date sample received	22/08/2025
Date testing started	15/01/2025
Date testing finished	19/01/2026
Job No.	WTH2519
Any special requirements	

C.4.3 Manipulation test. - Shall be conducted prior to the infill medium removal test.

Maximum overall attack time shall be 15 minutes although no single technique shall be used for more than than 3 minutes. The total rest time which is taken between techniques is unlimited for this test.

If fixings are exposed, repeat the manipulation test after the additional mechanical loading test. If the additional mechanical loading test is not required and the fixings are exposed, repeat the manipulation test after the mechanical loading test. The overall attack time shall be 3 minutes with the primary intention of releasing fasteners exposed as a result of the mechanical load tests.

Using the limitations in A.2 and the tools listed in A.2.2 and where applicable A.2.3.3, A.2.3.5, A.2.3.6 and A.2.3.7 attempt various methods of manipulation such as: removal of trim sections, removal of any hinge pin, insertion of a tool to disengage locking devices, undoing/manipulation of fasteners in accessible hardware and applying a physical force by hand to dislodge locking devices.

C.4.4.2 Infill medium removal test, Manual. - Using a variety of tools as detailed in Annex A of PAS24:2022 attempts are made to remove gaskets, beads, security devices and then infill medium from the exterior face of the glazing system. Test duration is 3 minutes.

C.4.4.3 Infill medium removal test, Mechanical. - A load of 2000N is applied to each corner of the infill medium in turn via a plywood block 150mm x 150mm (±5mm) of 25mm thickness and each load is held for 10 seconds. If failure is exhibited at the corners loading is continued along each section in an attempt to deglaze the window.

C.4.5 Mechanical loading test. - Loading consists of the application of a 1000N parallel to plane load which is held until a 3000N perpendicular to plane load has been applied and removed. Loads are applied to each corner and at each locking and hinge point of each opening sash. Loading cases (table C.1) and sequence of loading (figure C.14) are shown in PAS 24:2022.

C.4.6 Manual check test. - Using the tools specified in PAS 24:2022 B.4.6.2 attempts are made to gain entry by levering at any location and in any direction such that the combined location and direction of the force applied does not replicated the standard mechanical loading cases.

If entry is gained the new location and the direction of applied loads shall be noted and an additional mechanical loading test shall be performed.

Test duration 15 minutes with no single technique being used for more than 3 minutes

C.4.7 Additional mechanical loading test. - Carry out load test in accordance with C.4.5 using the loading configuration defined in C.4.6.

The samples were mounted in timber sub frames (nominal 100mm x 50mm in section).

The samples were mounted in the test rig without any twists or bends that might influence the test result.



DETAILS OF SAMPLE

Sample details	Eurocell Logic
Fabricator	Allen Installations
Material:	PVC-U Frame - EWS7020 55mm Frame Sash - EWS7005W 75mm T Section Sash Reinforcing - EWS 7604S Steel
Finish	White
Lock & keeps	Nico Wrap around gearing comprising Mk 1 gearbox, part no 94225 with Size 5 wrap around extensions, part no 939W545 keeps - Nico cast zinc, part no 9205L & R
Hinges & protectors	Nico 24" HD Top hung friction hinge, part no 8260HD Nico Xtra bolt hinge protectors, part no 8100
Handle	Total Hardware Quantum Mk3 Inline Window handle
Fixings	Lock - 4.3 x 25mm c'sk head pierce point Keeps - 4.3 x 25mm c'sk head pierce point Hinges - 4.3 x 25mm pan head pierce point to sash & frame Hinge protectors - 4.8 x 25mm pan head pierce point to sash & frame Weather wedges - 4.3 x 25mm c'sk head pierce point to sash & frame
Weather sealing	Weather wedges - GT Sash seal, part nos GTS10017
Glass (or infill)	4-20-4 Clear Tuff Low E : 20mm Silver Spacer
Glazing system	EWS7301WBG 28mm Glazing bead
Sample dimensions	1500 x 1500
Additional information	Face Drainage EWS 7202 Leading Ramp

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CONCLUSIONS OF TEST

Clause No.	Test Description	Test result
C.4.3	Manipulation test prior to infill removal test	Pass
C.4.3	Manipulation test if fixings are exposed after mechanical loading test or additional mechanical loading test	Not tested
C.4.4.2	Infill removal test - manual	Pass
C.4.4.3	Infill removal test - mechanical	Pass
C.4.5	Mechanical loading test	Pass
C.4.6	Manual check test	No entry gained
C.4.7	Additional mechanical loading test	N/A

Classification (As per clause 4.4)	W
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The results contained in this report apply only to the samples tested as received and to the specific tests carried out within this report.

Test specimen details

Details of the samples construction and hardware components is based on information supplied by the test client, while these details have been checked and verified where possible WTH accepts no responsibility for the accuracy of details supplied.

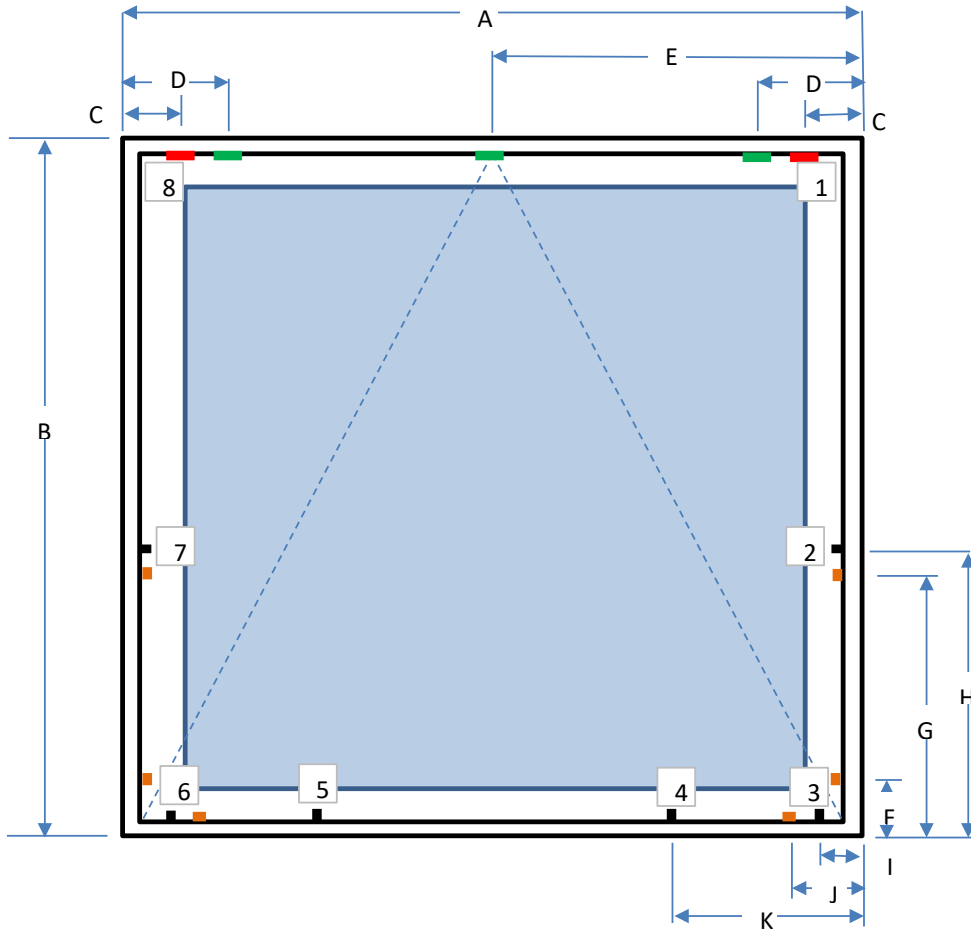
Test Specimen setup

The test specimen was mounted at a height of 800 mm from the working floor level to the underside of the sill or sub-sill.

Note : The test specimens were kept in the test laboratory for a minimum of 12 hours at environmental conditions of between 15°C to 30°C, and 25% to 75% RH before each test was undertaken as specified in PAS 24:2022 Clause C.4.1



TEST WINDOW DRAWING



- Hinge protector
- Weather wedge
- Leading ramp
- Locking point

A	=	1500	mm
B	=	1500	mm
C	=	125	mm
D	=	220	mm
E	=	750	mm
F	=	120	mm
G	=	560	mm
H	=	625	mm
I	=	90	mm
J	=	150	mm
K	=	390	mm

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MANIPULATION TEST

Sample No	Temperature		Measured Humidity		Adjusted humidity		Date
WTH2519A	21.1	°C	46.1	%RH	44.0	%RH	19/01/2026

Clause 4.3 Manipulation test prior to infill removal test. (Maximum overall time limit 15 minutes)

Craft knife used to cut away sash profile adjacent to lock point on L/H side of sash, paint scraper used in attempt to disengage cam from keep and to attempt to lever lock from sash - No entry gained
 Craft knife used to cut away sash profile adjacent to lock point on R/H side of sash, paint scraper used in attempt to disengage cam from keep - No entry gained
 Craft knife used to cut away sash profile adjacent to L/H intermediate lock point, 3mm flat blade screwdriver used in attempt to disengage cam/remove keep - No entry gained
 Craft knife used to cut away sash profile adjacent to R/H intermediate lock point - No entry gained
 Craft knife used to cut away sash profile adjacent to gearbox coupler - No entry gained
 Paint scraper and 3mm flat blade screwdriver used in attempt to disengage lock bar from gearbox
 No entry gained

INFILL MEDIUM REMOVAL TEST

Sample No	Temperature		Measured Humidity		Adjusted humidity		Date
WTH2519A	21.1	°C	46.1	%RH	44.0	%RH	19/01/2026

Clause 4.4.2 Infill manual test

6mm chisel used to bore hole through sash and attempt to dislodge glazing bead - No entry gained

MANUAL CHECK TEST

Sample No	Temperature		Measured Humidity		Adjusted humidity		Date
WTH2519A	21.1	°C	46	%RH	43.9	%RH	19/01/2026

Clause 4.6 Manual check test (note tools used and time taken)

2 off nail bars used to lever between lock point on L/H side of sash and L/H lock corner - No entry gained
 2 off nail bars used to lever at centre of sash adjacent to gearbox - No entry gained
 2 off Nail bars used to lever between lock point on R/H side of sash and R/H lock corner - No entry gained
 2 off Nail bars used to lever between L/H lock corner and L/H intermediate lock point - No entry gained
 2 off Nail bars used to lever between lock point von L/H side of sash and L/H hinge corner - No entry gained

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INFILL MEDIUM REMOVAL TEST

Sample No	Temperature	Measured Humidity	Adjusted humidity	Date
WTH2519B	20.8 °C	44.7 %RH	42.6 %RH	15/01/2026

Clause 4.4.3 Infill mechanical test

Glazing area	Load position	Load applied	Applied for (s)	Entry gained
T/H sash	Top R/H corner	2002N	10	No
	Top LH corner	2008N	10	No
	Bottom L/H corner	2003N	10	No
	Bottom R/H corner	2006N	10	No

ADDITIONAL MECHANICAL LOADING TEST

Sample No	Temperature	Measured Humidity	Adjusted humidity	Date
	°C	%RH	-2.9 %RH	

Clause 4.7 Additional mechanical loading test

MANIPULATION TEST

Sample No	Temperature	Measured Humidity	Adjusted humidity	Date
WTH2519B	21.2 °C	45.8 %RH	43.7 %RH	19/01/2026

Clause 4.3 Manipulation test if fixings exposed after mechanical loading test or additional mechanical loading test. (Test time 3 minutes)

No fixings visible

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MECHANICAL LOAD TEST

Clause 4.5 Mechanical Load test

Sample No	Temperature	Measured Humidity	Adjusted humidity	Date
WTH2519B	20.9 °C	47.1 %RH	45.0 %RH	19/01/2026
Load location	Parallel to plain load (1000N)	Perpendicular to plain load (3000N)	Observations / Assessment	
1 Top R/H hinge corner Hinge & hinge protector Horizontal	Load applied	Load applied	No entry gained	
	1007N	3007N		
	Applied for (s)	Applied for (s)		
	34s	10s		
1 Top R/H hinge corner Hinge & hinge protector Vertically down	Load applied	Load applied	No entry gained	
	1004N	2999N		
	Applied for (s)	Applied for (s)		
	36s	10s		
2 Lock point R/H side of sash Vertically down	Load applied	Load applied	No entry gained	
	1001N	3020N		
	Applied for (s)	Applied for (s)		
	34s	10s		
2 Lock point R/H side of sash Horizontal	Load applied	Load applied	No entry gained	
	1005N	3006N		
	Applied for (s)	Applied for (s)		
	36s	10s		
3 R/H opening corner of sash & R/H lock point Horizontal	Load applied	Load applied	No entry gained	
	1001N	3004N		
	Applied for (s)	Applied for (s)		
	32s	10s		
3 R/H opening corner of sash & R/H lock point Vertically up	Load applied	Load applied	No entry gained	
	1004N	3007N		
	Applied for (s)	Applied for (s)		
	32s	10s		
4 R/H interrrmediate lock point Horizontal	Load applied	Load applied	No entry gained	
	1004N	3010N		
	Applied for (s)	Applied for (s)		
	30s	10s		
4 R/H interrrmediate lock point Vertically up	Load applied	Load applied	No entry gained	
	1000N	3008N		
	Applied for (s)	Applied for (s)		
	35s	10s		
5 L/H intermediate lock point Horizontal	Load applied	Load applied	No entry gained	
	1008N	3002N		
	Applied for (s)	Applied for (s)		
	32s	10s		
5 L/H intermediate lock point Vertically up	Load applied	Load applied	No entry gained	
	1004N	3012N		
	Applied for (s)	Applied for (s)		
	33s	10s		
6 L/H opening corner of sash & L/H lock point Horizontal	Load applied	Load applied	No entry gained	
	1001N	2999N		
	Applied for (s)	Applied for (s)		
	30s	10s		



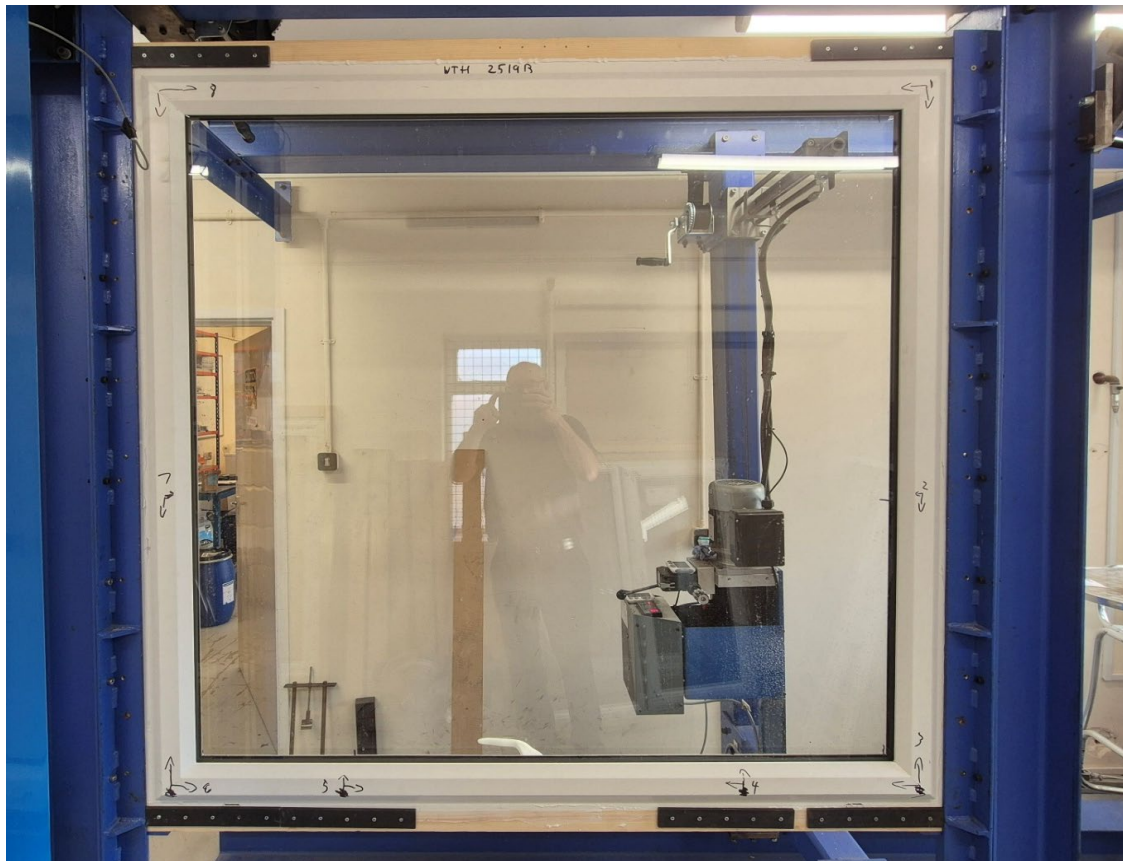
MECHANICAL LOAD TEST CONT.

Clause 4.5 Mechanical Load test

Sample No	Temperature	Measured Humidity	Adjusted humidity	Date
WTH2519B	21.1 °C	45.8 %RH	43.7 %RH	19/01/2026
Load location	Parallel to plain load (1000N)	Perpendicular to plain load (3000N)	Observations / Assessment	
6 L/H opening corner of sash & L/H lock point Vertically up	Load applied	Load applied	No entry gained	
	1006N	3001N		
	Applied for (s)	Applied for (s)		
	32s	10s		
7 Lock point L/H side of sash Vertically down	Load applied	Load applied	No entry gained	
	1010N	3009N		
	Applied for (s)	Applied for (s)		
	30s	10s		
7 Lock point L/H side of sash Horizontal	Load applied	Load applied	No entry gained	
	1003N	2998N		
	Applied for (s)	Applied for (s)		
	31s	10s		
8 Top L/H hinge corner Hinge & hinge protector Horizontal	Load applied	Load applied	No entry gained	
	999N	3006N		
	Applied for (s)	Applied for (s)		
	31s	10s		
8 Top L/H hinge corner Hinge & hinge protector Vertically down	Load applied	Load applied	No entry gained	
	1004N	3010N		
	Applied for (s)	Applied for (s)		
	31s	10s		
	Load applied	Load applied		
	Applied for (s)	Applied for (s)		
	Load applied	Load applied		
	Applied for (s)	Applied for (s)		
	Load applied	Load applied		
	Applied for (s)	Applied for (s)		
	Load applied	Load applied		
	Applied for (s)	Applied for (s)		



PICTURE OF TEST WINDOW



END OF REPORT