

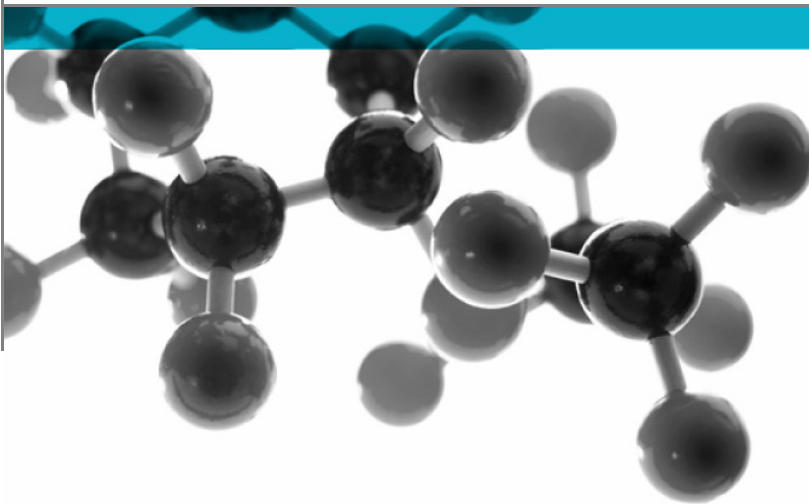
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BS EN 14351-1:2006

+A1:2010



Test of: side hung window fitted with the 6060 restrictor

Windows and doors – Product standard, performance characteristics

A Report To:
Nico Manufacturing Ltd
Oxford Road, Clacton-on-Sea, Essex. CO151 3TJ

Document Reference:
WIL 355411

Date: 24/08/2015

Copy: 1

Issue No.: 1

Page 1

**Testing
Advising
Assuring**



TEST CONCLUSIONS

Samples of:
 Manufacturer Nico Manufacturing Ltd
 Product Side hung window
 Model Side hung window fitted with the 6060 restrictor

have been tested in accordance with: BS EN 14351-1:2006 +A1:2010.
 By Exova Warringtonfire Willenhall, a UKAS accredited Testing Laboratory (No. 0621) and EC Notified
 Body number (No. 1104)

At Key Industrial Park, Fernside Rd, Willenhall, West Midlands, WV13 3YA.
 Results and comments as detailed below:

Clause No.	Description	Compliance
4.8	Load bearing capacity of safety devices – 350N	Yes

No inferences can be made regarding performance against other requirements of this standard

Tests marked "N/A" are not applicable to the sample under test.
 Tests marked "N/T" were not applied to the sample under test

AUTHORISATION

Tests performed by: Chris Bryan, Test Engineer

Report issued by: Chris Bryan, Test Engineer

Signed

Date 24th August 2015

For and on behalf of Exova Warringtonfire

Report authorised by: Mark West, Door & Window Laboratory Manager

Signed

Date 24th August 2015

For and on behalf of Exova Warringtonfire

Report issued: 24 August 2015



0621

NOTE.

Tests marked "Not UKAS Accredited" are not covered by the Laboratory UKAS accreditation schedule.

Tests marked NT were not tested

Tests marked NA are not applicable to the product on test.

The laboratory has tested the product supplied by the client as sampled in accordance with their own requirements

Exova Warringtonfire is an EC Notified Body Number 1104

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Document No.: WIL 355411

Page No.: 3 of 15

Author: C Bryan

Issue Date: 24/08/2015

Client: Nico Manufacturing Ltd

Issue No.: 1



CONTENTS	PAGE NO.
TEST CONCLUSIONS.....	2
AUTHORISATION.....	3
TEST DETAILS.....	5
TEST PROCEDURE.....	6
TEST SPECIMEN.....	7
SCHEDULE OF COMPONENTS.....	10
PERFORMANCE CRITERIA & TEST RESULTS.....	13
CONCLUSIONS.....	14
LIMITATIONS.....	14
REVISION HISTORY.....	15



TEST DETAILS

CLIENT DETAILS

Company name Nico Manufacturing Ltd
 Address Oxford Road
 Clacton-on-sea
 Essex
 CO15 3TJ

Contact Duncan Kury

ORDER DETAILS

Order number PO034676
 Dated 30/07/2015

SAMPLE DETAILS

Outer frame 711 x 1305 mm
 Opening casements 645 x 1241 mm
 Material PVC
 Details of Hardware
 Hinges Nico Standard Friction hinges
 Hinge protection None
 Lock None
 Cylinder None
 Handles None
 Seals Co-extruded

TEST DETAILS

Test specification BS EN 14351:2006 +A1 :2010
 Full test No
 Test to clauses 4.8
 Test Method BS EN 14609:2004 and documented in house method EX-FI-OP-BH-WL-SOP-056

Sample received 05/08/2015
 Test started 05/08/2015
 Test completed 05/08/2015

Special Test requirements None
 Other reports to be used in conjunction with this report None

Document No.: WIL 355411

Page No.: 5 of 15

Author: C Bryan

Issue Date: 24/08/2015

Client: Nico Manufacturing Ltd

Issue No.: 1

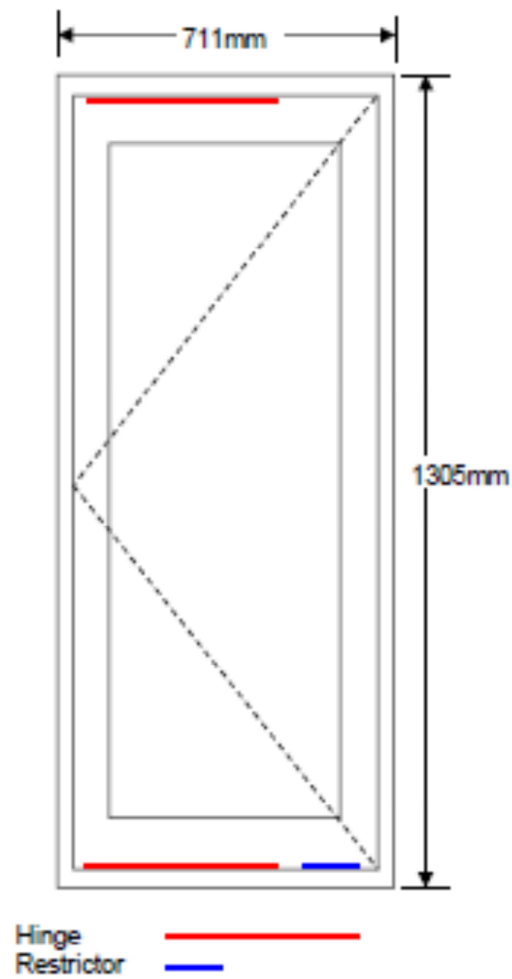


TEST PROCEDURE

Introduction	<p>This test report should be read in conjunction with the Standard BS EN 14351-1:2006 +A1:2010 Windows and doors – Product standard, performance characteristics – Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics.</p> <p>The specimens were judged on their ability to comply with the performance criteria as required in BS EN 14351-1:2006 +A1:2010, with test methods BS EN 14609:2004 and documented in house method EX-FI-OP-BH-WL-SOP-056.</p> <p>This test report should also be read in conjunction Health Building Note 00-10 Part D: Windows and associated hardware which references strength Data for Design Safety Phase 2, issued by Department of trade and industry, dated June 2002.</p>
Instruction To Test	<p>Initial requirement was as defined in BS6375-2, requiring a performance of a threshold value of 350N for load-bearing capacity of safety devices.</p> <p>The additional requirement was based on the maximum loads detailed in strength Data for Design Safety Phase 2 of 1000N.</p>
Test Specimen Construction	<p>A description of the test construction is given in the Schedule of Components. The description is based on a detailed survey of the specimens and information supplied by the sponsor of the test.</p>
Installation	<p>The window was supplied mounted within a timber sub-frame of nominal section 75mm x 100mm fitted flush with the exterior face, in accordance with the clients fitting instructions.</p> <p>Mr Duncan Kury, a representative of Nico Manufacturing Ltd witnessed the test.</p>
Sampling	<p>The samples were not independently witnessed or selected and were provided direct from the test sponsor.</p>
Test Climate	<p>The sample was conditioned in the laboratory in the range 10-30 °C and 25-75% humidity.</p> <p>The temperature and humidity in the lab was maintained in the range 19.9-22.0°C and 51.0-56.0% humidity for the duration of the test.</p>

TEST SPECIMEN

Figure 1- General Elevation of Test Specimen (External Face)



Do not scale. All dimensions are in mm

Document No.: WIL 355411

Page No.: 7 of 15

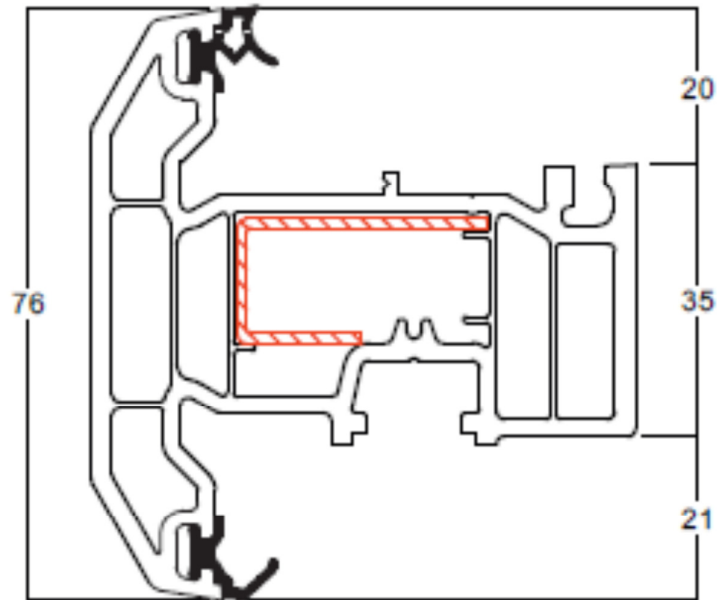
Author: C Bryan

Issue Date: 24/08/2015

Client: Nico Manufacturing Ltd

Issue No.: 1

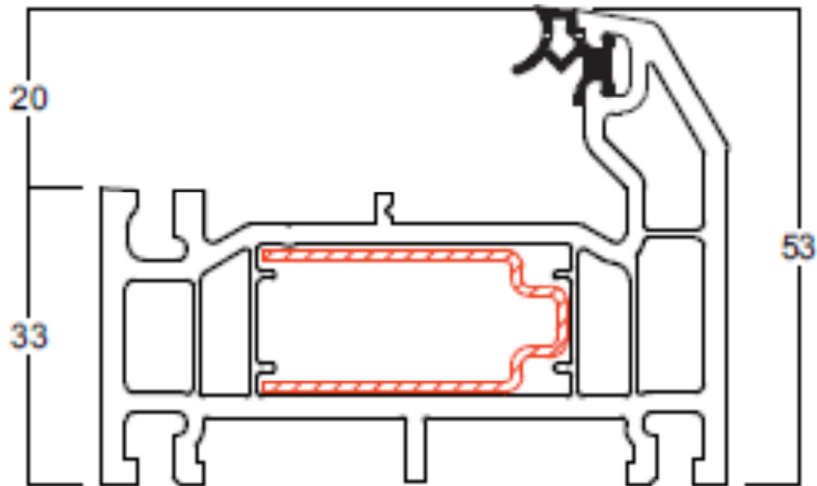
Figure 2 – Sash Cross section



76mm Casement Sash
Art No: 7581
Reinf 675
(alternative S7581, for hinge attachment)

Do not scale. All dimensions are in mm

Figure 3 – Frame Cross section



53mm Outer Frame
Art No: 7502
Reinf 676

Do not scale. All dimensions are in mm

SCHEDULE OF COMPONENTS

(Refer to Figures 1 to 3)

(All values are nominal unless stated otherwise)

(All other details are as stated by the sponsor)

Variants

None

<u>Item</u>	<u>Description</u>
1. Window frame head	
Supplier	: Kommerling
Profile code	: 7502-654
Material	: PVC
Fixing jamb to head joints	:
i. type	: Weld
Reinforcement	
i. position	: Central
ii. profile code	: 676
iii. material	: Steel
iv. density	: kg/m ³ (stated)
v. length	: 556
2. Window frame jamb	
Supplier	: Kommerling
Profile code	: 7502-654
Material	: PVC
Density	: kg/m ³ (stated)
Fixing jamb to sill joints	
i. type	: Weld
Reinforcement	
i. position	: Central
ii. profile code	: 676
iii. material	: Steel
iv. density	: Kg/m ³ (stated)
v. length	: 1156
3. Window frame sill	
Supplier	: Kommerling
Profile code	: 7502-654
Material	: PVC
Reinforcement	
i. position	: Central
ii. profile code	: 676
iii. material	: Steel
iv. length	: 556

<u>Item</u>	<u>Description</u>
4. Window frame weather seals	
Supplier	: Kommerling
Reference	: CO extruded
Material	: PCVU
Fixing method	: Co extruded
5. Window casement (s)	
Overall Size	
i. side hung sash	: 700 x 1`300
Supplier	: Kommerling C70
Profile codes	
i. stile profile code	: 7581-654
ii. rail profile code	: 7581-654
Sash framing section sizes	
i. rail	: 648
ii. stile	: 1247
Corner fixing method	:
i. type	: Weld
Reinforcement	
i. position	: Jambs
ii. profile code	: 675
iii. material	: Steel
iv. length	: 1127
6. Window casement glass	
Supplier	: Clayton Glass
Thickness	: 4 – 20 – 4
Overall size	
i. side hung sash	: 526 x 1126
7. Glazing setting blocks	
	No info supplied
8. Glazing gasket	
Supplier	: Kommerling
Reference	: No info supplied
Fixing method	: Co Extruded
9. Glazing beads	
Glazing method	: Internally beaded
Supplier	: Kommerling
Profile code	: No info given
Material	: PVC
Density	: kg/m ³ (stated)
Overall size	: 1135 x 540
Fixing method	:

<u>Item</u>	<u>Description</u>
10. Hinges	
Supplier	: Nico Manufacturing Ltd
Description	: 16" friction stay
Reference	: 8240
Quantity	: 2
Fixing hinge to sash	
i. type	: Drill point pan head
ii. size	: 4.3 x 25mm pan head
iii. quantity	: 3
Fixing hinge to frame	
i. type	: CS pan head
ii. size	: 4.8 x 25
iii. quantity	: 3
11. Restrictor	
Supplier	: Nico Manufacturing Ltd
Description	: centre fixed
Reference	: 6060
Fixing restrictor to sash	
i. type	: Drill point pan head
ii. size	: 4.3 x 25 mm
iii. quantity	: 2
Fixing restrictor to frame	
i. type	: CS Pan head
ii. size	: 4.8 x 16 mm
iii. quantity	: 2

PERFORMANCE CRITERIA & TEST RESULTS

Clause	Result	Pass/Fail
4.8 Load-bearing capacity of safety devices	The restrictor was engaged and a load of 350N was applied to the locking edge stile at the restricted position for 1 minute. The restrictor held the load and continued to operate correctly after the test.	PASS
Additional load	At the engaged position there was a 83mm clearance between the sash and frame. A load of 1000N was then applied to the locking edge stile at the restricted position for 5 minutes. Under load the clearance had increased to 97mm. The load was then removed and the clearance was re-measured at 88mm.	

CONCLUSIONS

Evaluation against objective The sample as provided by the client was subjected to operational & strength testing in accordance with BS EN 14351-1:2006 and achieved the requirements of clause 4.8 Load-bearing capacity of safety devices.

Observations & comments

LIMITATIONS

Limitations The results relate only to the behaviour of the specimens of the element of construction under the particular conditions of test. They are not intended to be the sole criteria for assessing the potential performance of the element in use, nor do they reflect the actual behaviour in use.

Range of window assemblies covered by this report It is our opinion that the range of window assemblies covered by this report are limited to the following

- Assemblies with identical hardware fitted no further apart than in the tested assembly
- Assemblies of the same or smaller overall dimensions to the tested assembly

Uncertainty of Measurement The uncertainties of measurements calculated for a confidence level of 95% throughout these tests are within the limits of these tolerances.

The standard specifies the following tolerances

- Forces: $\pm 2\%$
 - Distances: $\pm 1\text{mm}$ for tape measures $\pm 0.01\text{mm}$ for dial gauges
 - Times: $\pm 5\text{s}$
-

REVISION HISTORY

Issue No :	Re - Issue Date :
Revised By	Approved By:
Reason for Revision:	

Issue No :	Re - Issue Date :
Revised By:	Approved By:
Reason for Revision:	

END OF REPORT

Document No.: WIL 355411

Page No.: 15 of 15

Author: C Bryan

Issue Date: 24/08/2015

Client: Nico Manufacturing Ltd

Issue No.: 1

