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LUX ARCHITECTURAL PRODUCTS
TEST REPORT

SCOPE OF WORK
ASTM E1592 TESTING ON LUX FOLDED WALL

REPORT NUMBER
Q4601.01-109-44

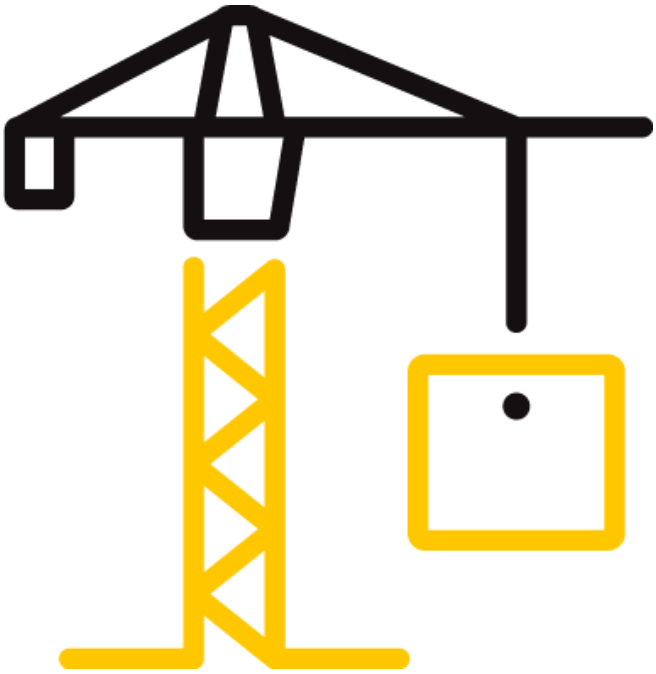
TEST DATE
11/08/23

ISSUE DATE
01/05/24

RECORD RETENTION END DATE
11/08/27

PAGES
15

DOCUMENT CONTROL NUMBER
RT-R-AMER-Test-2805 (10/12/23)



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TEST REPORT FOR LUX ARCHITECTURAL PRODUCTS
Report No.: Q4601.01-109-44
Date: 01/05/24

REPORT ISSUED TO

LUX ARCHITECTURAL PRODUCTS
14525 112ave Street NW
Edmonton, Alberta T5M 2V5
CANADA

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Lux Architectural Products to perform testing in accordance with ASTM E1592, on their Lux Folded Wall. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at Intertek B&C test facility in York, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends four years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

For INTERTEK B&C:

COMPLETED BY:	Christopher E. Sartalis	**REVIEWED BY:**	Timothy J. McGill
TITLE:	Technician – Product Testing	**TITLE:**	Senior Project Engineer – Product Testing
SIGNATURE:	Digitally Signed by: Christopher Sartalis	**SIGNATURE:**	Digitally Signed by: Timothy J. McGill
DATE:	01/05/24	**DATE:**	01/05/24

CES:mas

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SECTION 2
SUMMARY OF TEST RESULTS

Ultimate Test Load Achieved: -140 psf

SECTION 3
TEST METHOD

The specimen was evaluated in accordance with the following:

> **ASTM E1592-05(2017),** *Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference*

SECTION 4
MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Installation was performed by Intertek B&C per Manufacturer's Instructions. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of four years from the test completion date. Installation was performed by Intertek B&C.

SECTION 5
EQUIPMENT

Control Panel: 005644
Weather Station: 63316
Tape Measure Verification: 63788
Linear Transducers: 64461, INT03252, INT03251, INT03248, 62189

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Timothy J. McGill	Intertek B&C
Christopher E. Sartalis	Intertek B&C

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SECTION 7
TEST SPECIMEN DESCRIPTION

Series/Model: Lux Folded Wall

Product Sizes:

OVERALL AREA:	**WIDTH**		**HEIGHT**	
9.3 m^2 (100.0 ft^2)	**millimeters**	**inches**	**millimeters**	**inches**
Overall size	3048	120	3048	120
Panel size	3048	120	305	12

Test Wall Construction: The 10' x 10' test wall was constructed of 2x6, 18-gauge galvanized steel studs, spaced 24" on center. The wall utilized a 2x8 Spruce-Pine-Fir wood wrap around the perimeter to facilitate testing.

Test Specimen Installation: The J-trim with a nominal thickness of 0.045" was installed around the top, left side, and right side of the test wall. The starter strip was centered and fastened, leaving a 1/2" gap at the bottom of the assembly. 120" x 12" Folded Wall panel with a nominal thickness of 0.050" was slid into the starter strip and centered between the J-trim. The Folded Wall panel was mounted with folded wall clips in the hem of the panel placed 24" on center using a #8 x 1" self-tapping screw through the clip into the studs of the test wall. A total of ten folded wall panels were utilized until the top of the J-trim was met. Holes were pre-drilled through the J-Trim and Folded Wall panels and riveted into place approximately 4-5" on center around the perimeter of the wall assembly.

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SECTION 8
TEST RESULTS

The temperature during testing was 18°C (65°F). The results are tabulated as follows:

Test Pressure	Observations	Result	Note
-20.0 psf (-958 Pa) - -140.0 psf (-6,703 Pa)	Visible stress to the wall system (Reference Table #1 for deflection and permanent set measurements)	Pass	1, 2
-145.0 psf (-6,943 Pa)	Twenty seconds into target load, folded wall clip bent releasing the panel causing the panel to override the perimeter L-Trim	Failed	--

***General Note**: All testing was performed in accordance with the referenced standard(s).*

Note 1: Loads were held for 60 seconds.

Note 2: Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

Table #1 – Deflection Data

Load (psf)	Measurement Type	Indicator Locations				
		#1 (In.)	#2 (In.)	#3 (In.)	#4 (In.)	#5 (In.)
-20.0	Deflection	0.03	0.16	0.17	0.16	0.03
0	Permanent Set	0.01	0.02	0.02	0.02	0.01
-40.0	Deflection	0.10	0.44	0.44	0.42	0.11
0	Permanent Set	0.01	0.04	0.05	0.05	0.02
-60.0	Deflection	0.24	0.73	0.73	0.71	0.22
0	Permanent Set	0.03	0.08	0.09	0.08	0.04
-80.0	Deflection	0.37	1.02	1.03	0.99	0.38
0	Permanent Set	0.07	0.10	0.12	0.10	0.08
-100.0	Deflection	0.42	1.29	1.30	1.26	0.46
0	Permanent Set	0.07	0.11	0.13	0.11	0.09
-120.0	Deflection	0.50	1.52	1.52	1.48	0.54
0	Permanent Set	0.08	0.17	0.19	0.15	0.09
-140.0	Deflection	0.53	2.11	2.19	2.13	0.65
0	Permanent Set	0.10	0.29	0.37	0.36	0.13
-145.0	Failed					

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SECTION 9
CHART


DEFLECTIONS AND PERMANENT SET
Permanent Set of Folded Wall
Deflection of Folded Wall
PERMANENT SET (INCHES)
DEFLECTION (INCHES)
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
20
40
60
80
100
120
140
PRESSURE (PSF)

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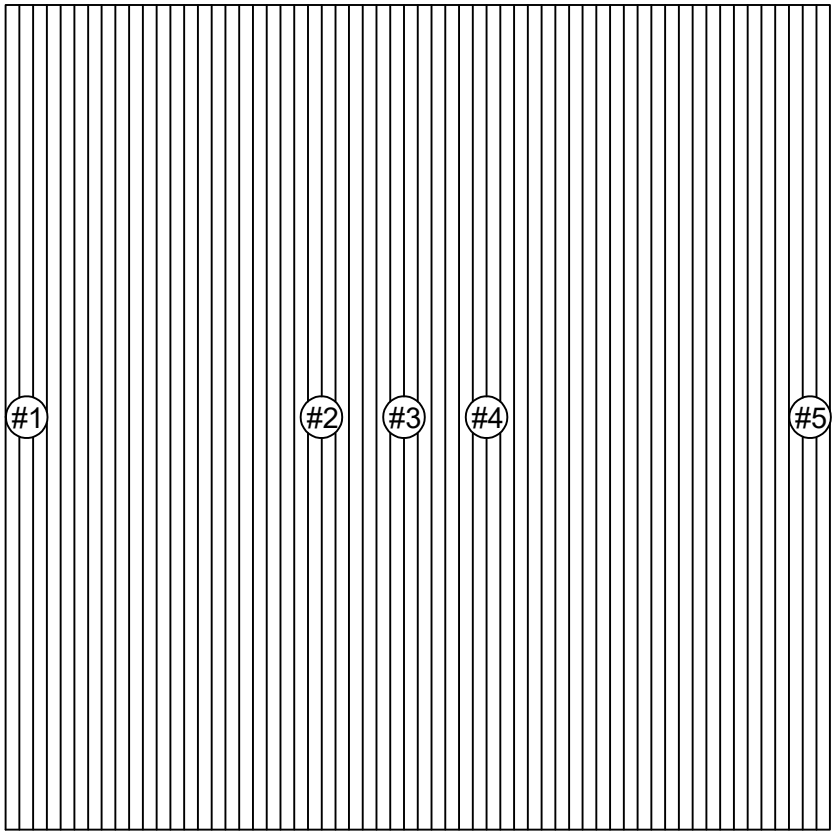
SECTION 10
SKETCH

REV	DATE	DESCRIPTION	BY



PROJECT NO.	PROJECT NAME:		DRAWING	DWG. BY:	SHEET
Q4601.01 109 – 44	ASTM E1592 CLIENT: LUX ARCHITECTURAL PRODUCTS	intertek Total Quality. Assured.	SKETCH #1 INDICATOR LOCATIONS	TJM DATE: 12/19/23	1 OF 1

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SECTION 11
PHOTOGRAPHS

Photo No. 1
Test Specimen Prior to Testing

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Photo No. 2
Failure Photo #1

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Photo No. 3
Failure Photo #2

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SECTION 12
DRAWING

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.

FOLDED WALL
PROFILES & TRIMS

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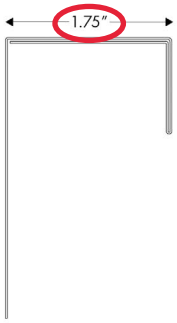
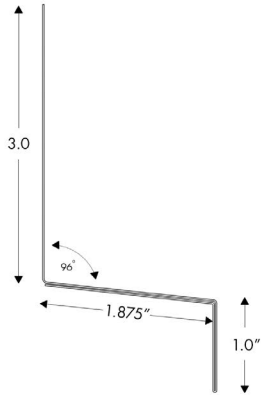
Report #:	q4601.01
Date:	11/20/23
Verified by:	

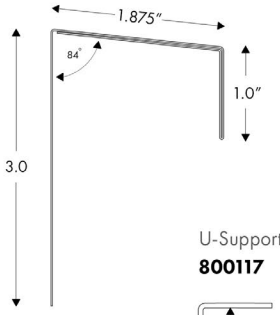
J-Trim
800112



Belt Line / Window Flashing
800110

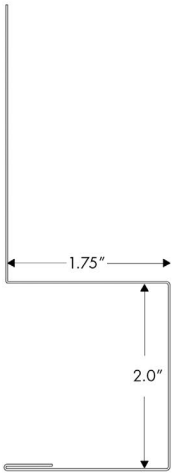


Reverse Window Flashing
800118

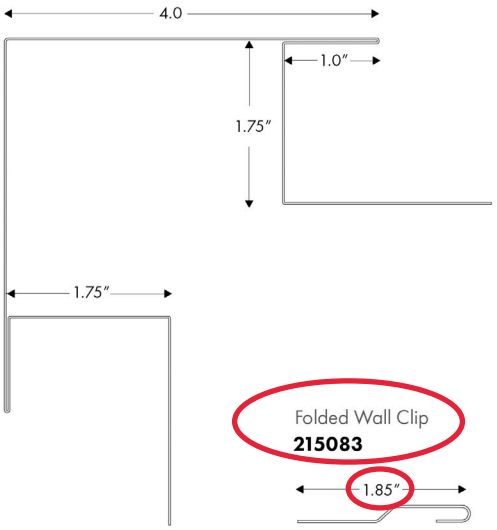


U-Support
800117

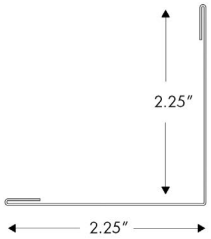
Box Base
800116



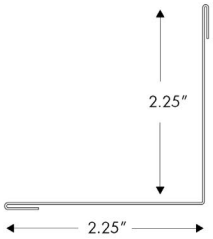
Corner Post
800204



Outside L Trim
800200



Inside L Trim
800202

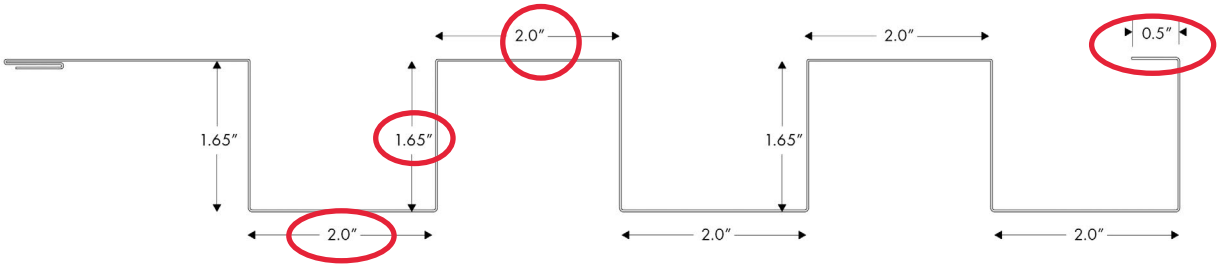


Folded Wall Clip
215083

Starter Strip
800210

Finish Trim
800208

Foded Wall (20′ - **800104** / 13′ - **800102** / 10′ - **800100**)



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SECTION 13
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	01/05/24	N/A	Original Report Issue