



NATIONAL CERTIFIED TESTING LABORATORIES

FIVE LEIGH DRIVE • YORK, PENNSYLVANIA 17406 • TELEPHONE (717) 846-1200
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ALL SEASONS DOOR AND WINDOW, INC.
AAMA/WDMA/CSA 101/I.S.2/A440-05
TEST SUMMARY REPORT

Report No: *NCTL-110-12102-1S*
Expiration Date: *04/30/13*

Test Specimen

Manufacturer: All Seasons Door and Window, Inc.
Product Type: Dual Action Aluminum Prime Window
Series/Model: Series "A700 Tilt and Turn"
Primary Product Designation: DAW-HC80 1524 x 2514.6 (60x99)
Optional Product Designation: Not Applicable
Test Completion Date: 04/21/09

Reference should be made to Structural Performance Test Report Number NCTL-110-12102-1 for complete specimen description and test data.

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JAY LEADER
Technician



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STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-110-12102-1
Test Date: 04/21/09
Report Date: 05/18/09
Expiration Date: 04/30/13

Client: All Seasons Door and Window, Inc.
28 Edgeboro Road
East Brunswick, NJ 08816

Test Specimen: All Seasons Door and Window, Inc.'s Series "A700 Tilt and Turn" Dual Action Aluminum Prime Window DAW-HC80 1524 x 2514.6 (60x99).

Test Specification: AAMA/WDMA/CSA 101/I.S.2/A440-05, "Standard/Specification for Windows, Doors and Unit Sky Lights."

TEST SPECIMEN DESCRIPTION

General: The test specimen was an inswinging dual action aluminum prime window measuring 1524 mm (60") wide by 2514.6 mm (99") high overall. The vent measured 1476.4 mm (58-1/8") wide by 2467 mm (97-1/8") high. The frame and vent were thermally broken using poured urethane thermal barriers. A metal single handle multipoint lock/ lock handle was located at 1231.9 mm (48-1/2") from the bottom of the lock stile employing thirteen (13) lock points. Four (4) lock points were located on the hinge stile, five (5) lock points were located on the lock stile and two (2) lock points were located at the top and bottom rails, with the keepers located on the frame. A metal pin-type hinge was located at the top and bottom of the hinge jamb. The frame and vent were of mitered corner construction with staked-in-place metal corner gussets.

Glazing: The vent was interior glazed using sealed insulating glass with a foam-tape back-bedding and a snap-in extruded aluminum glazing bead with a vinyl wedge gasket. The overall insulating glass thickness was 25.4 mm (1") consisting of two (2) lites of 5 mm (3/16") thick tempered glass and one (1) space created by a desiccant-filled aluminum spacer system (A1-D).

Weatherseals: One (1) strip of single-leaf weatherstrip was located at the vent and frame perimeters. One (1) strip of single-leaf goose-neck vinyl weatherstrip was located at the frame perimeter.

Weeps: Two (2) weep holes measuring 31.8 mm (1-1/4") x 7.9 mm (5/16") and employing a plastic weep cover were located at 127 mm (5") from each end and at midspan of the exterior sill face.

Interior & Exterior Surface Finish: Mill finish aluminum.

Sealant: The frame and vent corners were sealed with a silicone sealant. The glazing employed a silicone heel bead and the exterior employed a cap bead.

Installation: The specimen was installed into a standard grade 50.8 mm (2") x 254 mm (10") lumber test buck. The specimen was secured to the buck with #8 x 50.8 mm (2") screws located at 228.6 mm (9") and 736.6 mm (29") from each end and midspan of each jamb, 228.6 mm (9") from each end and midspan of the head and sill. Wood blind stops measuring 38.1 mm (1-1/2") x 19 mm (3/4") were utilized at the interior and exterior perimeter and were secured with #8 x 41.3 mm (1-5/8") drywall screws at 76.2 mm (3") from each end and 228.6 mm (9") on center. The exterior perimeter was sealed with a silicone sealant.

TEST RESULTS

<u>Par. No.</u>	<u>Title of Test & Method</u>	<u>Measured</u>	<u>Allowed</u>
5.3.2	Air Infiltration - ASTM E 283 300 Pa – (6.2 psf) (50 mph)	0.5 L/ (sec • m ²) (0.1 cfm/ft ²) (0.03 cfm/ft ²) measured	1.5 L/ (sec • m ²) (0.3 cfm/ft ²)
5.3.3	Water Penetration - ASTM E 331 ASTM E 547 3.4 L/ (min • m ²) 5.0 gph/ft ² WTP= 290 Pa (6.0 psf)	No Leakage	No Leakage
5.3.4.2	** Uniform Load Deflection - ASTM E 330 1920 Pa (40.0 psf) Exterior 1920 Pa (40.0 psf) Interior	0.03 mm (0.001") <0.025 mm (<0.001")	4.34 mm (0.171") 4.34 mm (0.171")
5.3.4.3	** Uniform Load Structural - ASTM E 330 2880 Pa (60.0 psf) Exterior 2880 Pa (60.0 psf) Interior	0.03 mm (0.001") 0.03 mm (0.001")	2.29 mm (0.090") 2.29 mm (0.090")
5.3.5	Forced Entry Resistance Test - ASTM F 588 Grade 10	Meets As Stated	
5.3.6.4.2	Sash/Leaf Torsion Test	105.66 mm (4.16")	189.23 mm (7.45")
5.3.6.4.4	Sash/Panel Concentrated Load Test Latch Rail Vertical	4.70 mm (0.185") 4.83 mm (0.190")	6.35 mm (0.250") 6.35 mm (0.250")
	Horizontal	1.24 mm (0.049") 1.30 mm (0.057")	1.52 mm (0.060") 1.52 mm (0.060")
5.3.6.6.3	Stabilizing Arm Load Test	Meets As Stated	

OPTIONAL PERFORMANCE

4.4.2.6	Water Penetration - ASTM E 331 ASTM E 547 3.4 L/(min • m ²) 5.0 gph/ft ² WTP= 580 Pa (12.0 psf)	No Leakage	No Leakage
4.4.2.6	** Uniform Load Deflection - ASTM E 330 4320 Pa (90.0 psf) Exterior 4320 Pa (90.0 psf) Interior	0.23 mm (0.009") <0.025 mm (<0.001")	4.34 mm (0.171") 4.34 mm (0.171")
4.4.2.6.2	** Uniform Load Structural - ASTM E 330 5760 Pa (120.0 psf) Exterior 5760 Pa (120.0 psf) Interior	0.05 mm (0.002") 0.03 mm (0.001")	2.29 mm (0.090") 2.29 mm (0.090")

** No glass breakage or permanent damage causing the unit to be inoperable.

TEST COMPLETED 04/21/09


The tested specimen meets (or exceeds) the performance level specified in AAMA/WDMA/CSA 101/I.S.2/A440-05 for air leakage resistance. The listed results were secured by using the designated test methods and indicate compliance with the performance requirements of the referenced specification paragraphs for the DAW-HC80 1524 x 2514.6 (60x99) product designation.

This test report was prepared by National Certified Testing Laboratory (NCTL), for the exclusive use of the above named client and it does not constitute certification of this product. The results are for the particular specimen tested and do not imply the quality of similar or identical products manufactured or installed from specifications identical to the tested product. The test specimen was supplied to NCTL by the above named client. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen are to be drawn from the ASTM E 330 test. Foam tape is mounted to the perimeter of the test buck prior to clamping to the test wall. NCTL is a testing lab and assumes that all information provided by the client is accurate and does not guarantee or warranty any product tested or installed.

Detailed drawings were available for laboratory records and compared to the test specimen at the time of this report. Component drawings were reviewed for product verification. The bill of materials contains details with any deviations noted. Ambient conditions during the referenced testing are available upon request. A copy of this report along with representative sections of the test specimen will be retained by NCTL. This report does not constitute certification or approval of the product, which may only be granted by a certification program validator or recognized approval entity. All tests were conducted in full compliance with the referenced specifications and/or test methods. This report may not be reproduced, except in full, without the written consent of NCTL.

NATIONAL CERTIFIED TESTING LABORATORIES


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Technician


ROBERT H. ZEIDERS, P.E.
Vice-President Engineering & Quality

JL/anm

APPENDIX A
Forced Entry Resistance Test Results

Test Method: ASTM F 588-07, "Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact".

TEST RESULTS
Operable Panel

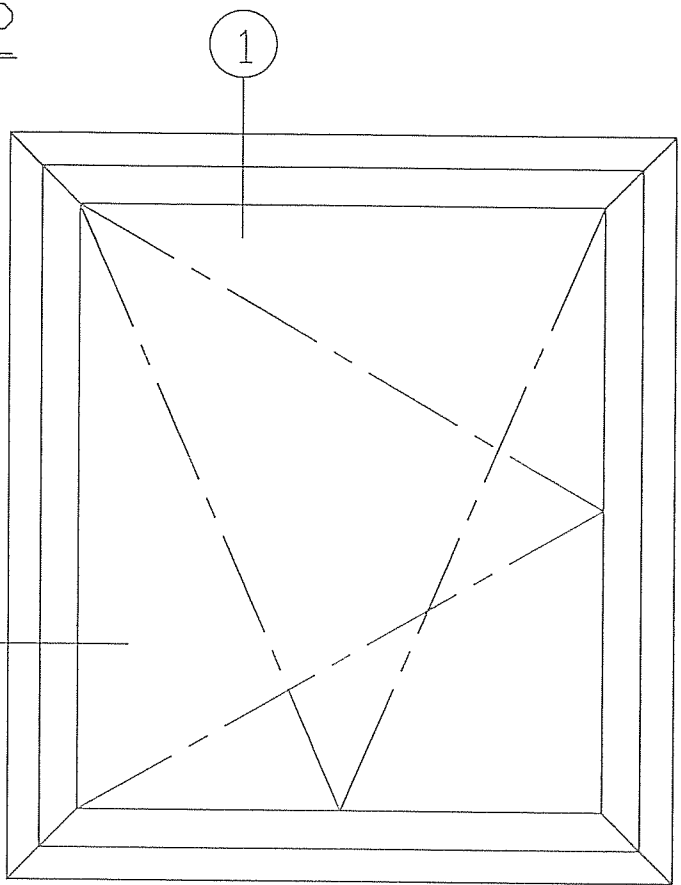
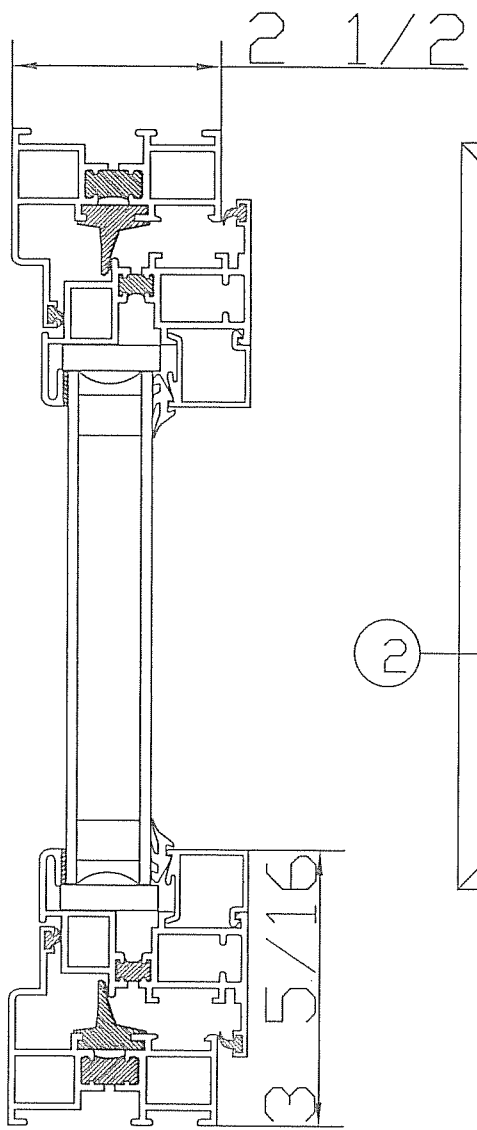
<u>Paragraph No.</u>	<u>Loads</u>	<u>Duration</u>	<u>Measured</u>	<u>Allowed</u>
<i>A2.1 –Disassembly Test</i>	<i>N/A</i>	<i>5 Minutes</i>	<i>No Entry</i>	<i>No Entry</i>
<i>A2.2 -Lock Manipulation</i>	<i>N/A</i>	<i>5 Minutes</i>	<i>No Entry</i>	<i>No Entry</i>
<i>A2.3 –Sash Manipulation</i>	<i>N/A</i>	<i>5 Minutes</i>	<i>No Entry</i>	<i>No Entry</i>
<i>A2.6.2 -Test B1</i>	<i>L2= 667 N (150 lbf)</i>	<i>1 Minute</i>	<i>No Entry</i>	<i>No Entry</i>
<i>A2.6.3 -Test B2</i>	<i>L1=150 lbf L2= 333 N (75 lbf)</i>	<i>1 Minute</i>	<i>No Entry</i>	<i>No Entry</i>
<i>A2.6.4 -Test B3</i>	<i>L1= 667 N (150 lbf) L2= 333 N (75 lbf)</i>	<i>1 Minute</i>	<i>No Entry</i>	<i>No Entry</i>
<i>A2.2 - Lock Manipulation</i>	<i>N/A</i>	<i>5 Minutes</i>	<i>No Entry</i>	<i>No Entry</i>
<i>A2.3 -Sash Manipulation</i>	<i>N/A</i>	<i>5 Minutes</i>	<i>No Entry</i>	<i>No Entry</i>

APPENDIX B

*Component Drawings were Reviewed for Product Verification
(Reference: NCTL-110-12102-1)*

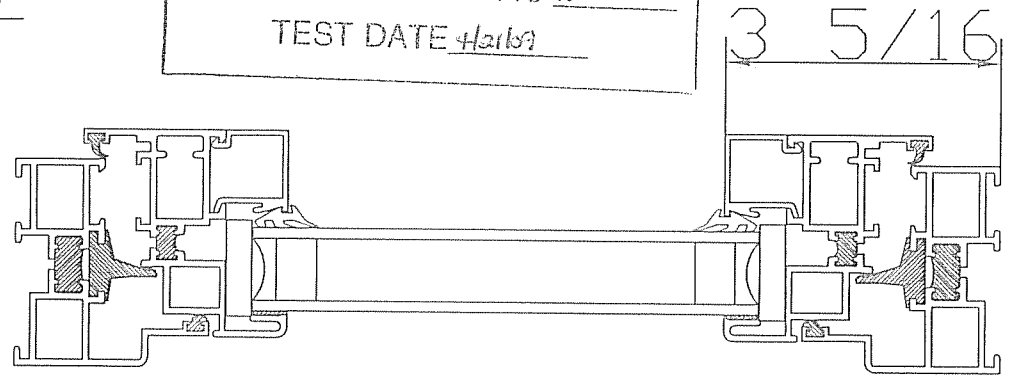
*Attached Bill of Materials contains details;
Any deviations are noted.*

Note: The above referenced component drawings along with representative sections of the test specimen will be retained per procedure by NCTL.

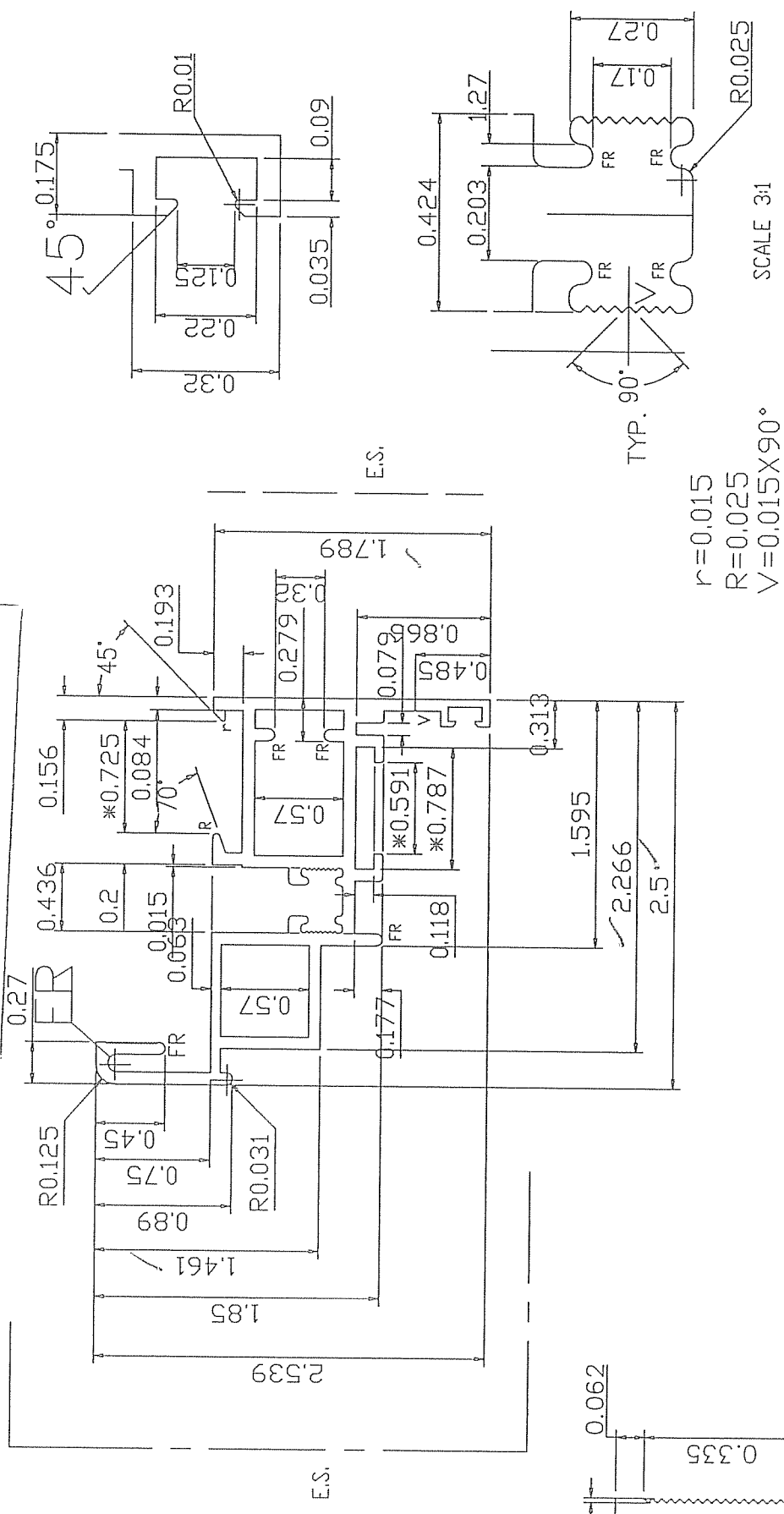


TEST SPECIMEN COMPLIES
 WITH THESE DETAILS.
 ANY DEVIATION IS NOTED
 REPORT NO. NCTL-110-12102-1
 TEST DATE 4/16/09

1



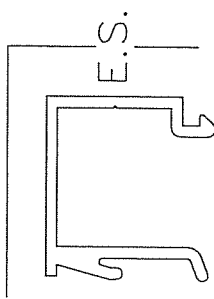
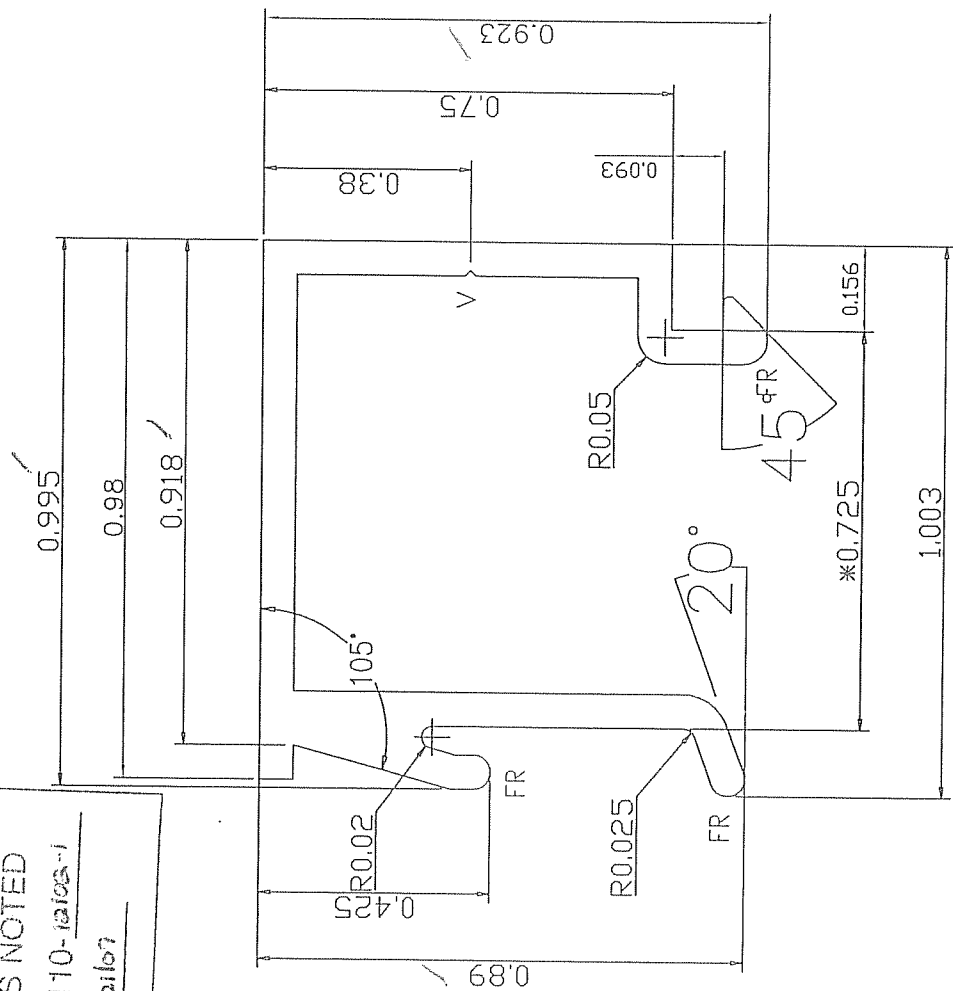
TEST SPECIMEN COMPLIES
WITH THESE DETAILS.
ANY DEVIATION IS NOTED
REPORT NO. NCTL-110-12102-1
TEST DATE 4/21/09



EST. AREA	0.903	UNSP. THICKNESS	0.008 ± 0.0005	STANDARD	ASME B5237-2	DRAWN	AWNTYJ	DATE	02.20.2006
EST. WEIGH	1.062	UNSP. RADIUS	R.02	ALLOY	TEMPER	063-T5	AUDITING	DATE	
PERIMETER	8.536	ALL SEASONS DOOR & WINDOW CHECKED							
SCALE	1:1	METROPOLITAN AVE. BROOKLYN, NY 11201 U.S.A.							
OUT ROUND	0.504	TEL: 001-718-418 8102							

CUSTOMER SEASONS
CUSTOMER DWG
DWG. NO. AL0199
SEC. NO. AL0199
SCALE 3:1

TEST SPECIMEN COMPLIES
 WITH THESE DETAILS.
 ANY DEVIATION IS NOTED
 REPORT NO. NCTL-110-12102-1
 TEST DATE 4/21/07



SCALE 1:1

V=0.012X90°

EST. AREA Inch ²	0.217	UNSP. THICKNESS Inch	0.062 ± .005	STANDARD	5237-2	DRAWN	Y.J.	DATE	10.20.2006
EST. WEIGHT Lbs./Foot	0.269	UNSP. RADIUS Inch	0.012	ALLOY/TEMPER	063-T5	AUDITING		DATE	
PERIMETER Inch	6.221	ALL SEASONS DOOR & WINDOW							
SCALE	3:1	METROPOLITAN AVE. BROOKLYN, NY 11207 U.S.A.							
OUT ROUND Inch	0.339	TEL: 001-718-418 8102							
CUSTOMER	AL0200	SEC. NO. AL0200							
CUSTOMER DWG									

