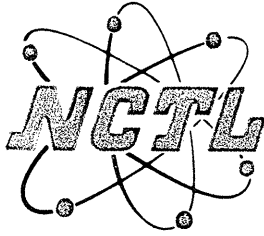


NATIONAL CERTIFIED TESTING LABORATORIES

Regency Plus, Inc.
Structural Performance Test Report
NCTL 210-2661-1
Model "Tech 2000" Double Hung
Vinyl Prime Window
Test Date: 11/114/01

Paula [Signature]
1/30/02



NATIONAL CERTIFIED TESTING LABORATORIES

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STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-210-2661-1
Test Date: 11/14/01
Report Date: 12/05/01

Client: Regency Plus Inc.
1024 Locust Gap Highway
Mount Carmel, PA. 17961

Test Specimen: Regency Plus Inc. Model "Tech 2000" Double Hung Vinyl Prime Window (H-LC40 53x77).

Test Specification: AAMA/NWWDA 101/I.S.2-97, "Voluntary Specifications for Aluminum, Vinyl (PVC), and Wood Windows and Glass Doors."

TEST SPECIMEN DESCRIPTION

General: The test specimen description was a one-over-one tilt double hung vinyl prime window measuring 53" wide by 77" high overall. The top sash measured 49 1/4" wide by 36 7/8" high with a daylight opening of 45 3/4" wide by 33 1/4" high. The bottom sash measured 50 1/4" wide by 36 7/8" high with a daylight opening of 46 1/2" wide by 33" high. Both sash were removable via a single spiral balance with locking tilt shoe located in each jamb track. One metal cam-type sweep lock was located at 12" from each end of the interior rail. The metal keepers were located on the exterior meeting rail at the lock positions. One plastic tilt latch was surfaced mounted at each end of the interior meeting rail and one plastic tilt latch was housed internally at each end of the top rail. One T-shaped metal pivot bar was fastened with three (3) tri-wing rivets at each end of the exterior meeting rail and bottom rail. A spring-loaded plastic security stop (night latch), was snap-fitted at 3 1/8" from the exterior meeting rail on the top sash stiles. A rigid vinyl balance cover was snap-fitted into the interior jamb tracks. A combination cap/weatherstrip holder/vertical leg was snap-fitted and cemented at the interior and exterior meeting rails. A rigid vinyl cap was snap fitted at the top rail. A rigid vinyl combination cover/weatherstrip holder/vertical leg was snap fitted at the sill and exterior track. One steel U-shaped reinforcement channel was fastened with 3 (three) evened spaced self-tapping screws and filled the length of all the sash rail hollows. The frame and sash were welded mitered corner construction.

Glazing: Both sash were interior glazed using sealed insulated glass with a two(2) leaf dual durometer back-bedding, and a snap-in two(2) leaf dual durometer glazing bead. The overall insulating glass thickness was 7/8" consisting of two (2) lites of double strength-tempered glass and one space created by a "intercept" spacer system.

PROFESSIONALS IN THE SCIENCE OF TESTING

Darryl Portner
1/30/02

Weatherseals: Two (2) strips of center fin weatherstrip (0.260" high) were located at all sash stiles. One (1) strip of center fin waetherstrip (0.260" high) was located at the interior meeting rail and bottom rail. One strip center fin weatherstrip (0.300" high) was located at the sill and exterior meeting rail. One (1) strip of bulb-vinyl weatherstrip was located at the head and bottom rail

Weeps: One (1) triangular weep hole measuring ½" wide by ½" high was located at each end of the center sill leg. One (1) weep hole measuring 1 ½" by ¼" and employing a plastic weep cover was located at 2 ¾" from each end of the exterior sill face. One (1) weep hole measuring ¾" by ¼" was located at each end of the exterior sill track and through the exterior horizontal sill face. One (1) weep hole measuring ½" by ¼" was located at each end of the glazing channels of the exterior meeting rail and bottom rail. One (1) weep hole measuring ¼" by ¼" was located at each end of the exterior horizontal surface of the exterior meeting rail and bottom rail.

Interior & Exterior Surface Finish: White vinyl (PVC).

Sealant: None Employed

Screen: An insect screen measuring 47 ¾" wide by 72" high was of mitered type corner construction with staked-in-place aluminum corner keys. The screen employed fiberglass mesh cloth with a solid vinyl spline and two jamb retainer springs. An aluminum horizontal cross member was located at mid-span and attached with a plastic-mounting bracket.

TEST RESULTS

<u>Par. No.</u>	<u>Title of Test & Method</u>	<u>Measured</u>	<u>Allowed</u>	
2.2.1.6.1	Operating Force			
	Top Sash	Up	30 lbf	45 lbf
		Down	1 lbf	45 lbf
	Bottom Sash	Up	14 lbf	45 lbf
		Down	12 lbf	45 lbf
	2.2.1.6.2	Deglazing - ASTM E987		
Exterior Sash				
Top Rail (70 lbf)		0.6 % (0.003")	<100%	
Meeting Rail (70 lbf)		0.4 % (0.002")	<100%	
Left Hand Stile (50 lbf)		1.0 % (0.005")	<100%	
Right Hand Stile (50 lbf)		1.4 % (0.007")	<100%	
Interior Sash				
Meeting Rail (70 lbf)		0.2 % (0.001")	<100%	
Bottom Rail (70 lbf)		0.4 % (0.002")	<100%	
Left Hand Stile (50 lbf)		0.6 % (0.003")	<100%	
Right Hand Stile (50 lbf)	12.0 % (0.060")	<100%		

Daniel B. ...
1/30/02

2.1.2	Air Infiltration - ASTM E283 1.57 psf (25 mph)	0.19 cfm/ft ²	0.3 cfm/ft ²
2.1.3 *	Water Resistance - ASTM E547 & ASTM E331 5.0 gph/ft ² WTP= 2.86 psf	No Leakage	No Leakage
2.1.4.2 **	Uniform Load Structural - ASTM E330 52.5 psf Exterior 52.5 psf Interior	0.170" 0.050"	0.196" 0.196"
2.1.8	Forced Entry Resistance - ASTM F588 Grade 10 (See Appendix A for test results)	Meets As Stated	

OPTIONAL PERFORMANCE


<u>Par. No.</u>	<u>Title of Test & Method</u>	<u>Measured</u>	<u>Allowed</u>
4.3 *	Water Resistance - ASTM E547 & ASTM E331 5.0 gph/ft ² WTP= 7.5 psf	No Leakage	No Leakage
4.4.2 **	Uniform Load Structural - ASTM E330 60.0 psf Exterior 60.0 psf Interior	0.130" 0.095"	0.196" 0.196"
*	Tested with and without screen		
**	No glass breakage or permanent damage causing the unit to be inoperable		

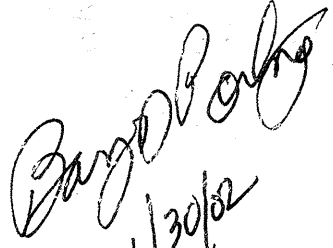
TEST COMPLETED 11/14/01

The tested specimen meets (or exceeds) the performance levels specified in Table 2.1 of AAMA/NWWDA 101/I.S.2-97 for air infiltration. 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 H- LC40 53x77 product designation.

Detailed drawings were available for laboratory records and comparison to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by NCTL for a period of four (4) years. The results obtained apply only to the specimen tested. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen may be drawn from this test. This report does not constitute certification of the product which may only be granted by a certification program validator.

NATIONAL CERTIFIED TESTING LABORATORIES


DANIEL D. CONYERS
Laboratory Manager

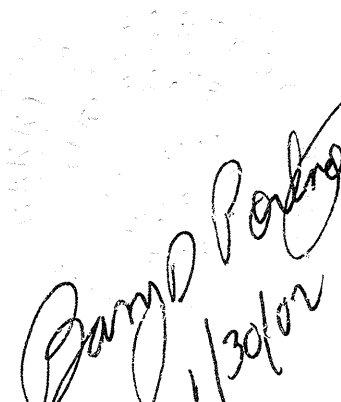

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APPENDIX A
Forced Entry Resistance Test Results

Test Method: ASTM F588-97, "Standard Test Method for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact".

TEST RESULTS

<u>Paragraph No.</u>	<u>Loads</u>	<u>Duration</u>	<u>Measured</u>	<u>Allowed</u>
10.1-Lock Manipulation		5 Minutes	No Entry	No Entry
10.2.1.1-Test A1	L1=150 lbf	1 Minute	No Entry	No Entry
10.2.1.2-Test A2	L1=150 lbf L2= 75 lbf interior	1 Minute	No Entry	No Entry
10.2.1.3-Test A3	L1=150 lbf L2= 75 lbf exterior	1 Minute	No Entry	No Entry
10.2.1.4-Test A4	L1=150 lbf L2= 75 lbf interior	1 Minute	No Entry	No Entry
10.2.1.5-Test A5	L1=150 lbf L2= 75 lbf exterior	1 Minute	No Entry	No Entry
10.2.1.7-Test A7	L1=150 lbf L2= 75 lbf interior L3= 25 lbf interior	1 Minute	No Entry	No Entry
10.2.1.8 Lock Manipulation		5 Minutes	No Entry	No Entry


 Barry Perkins
 1/30/02