



Farabaugh Engineering and Testing, Inc.

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PERFORMANCE TEST REPORT

GORELL MODEL G5305  
TILT DOUBLE HUNG WINDOW

H-R50  
(DOWNSIZE)  
(2'-8" X 5'-0")

GORELL ENTERPRISES, INC  
1380 WAYNE AVE  
INDIANA, PA 15701

Project No. T105-01

1/22/01

PERFORMANCE TEST REPORT


Manufacturer: GORELL ENTERPRISES, INC  
1380 WAYNE AVE  
INDIANA, PA 15701

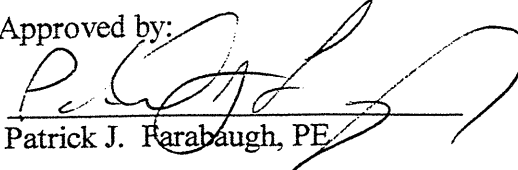
Product Identification

Product Type: Double Hung Window  
Series/Model #: G5305  
Specification: AAMA/NWWDA 101/I.S.2-97  
Designation: H-R50 DOWNSIZE (32" X 60") AAMA/NWWDA 101/I.S.2-97  
GRADE 50  
Test Reference: See Test Report No. ETC-94-132-1472-1 (dated: 8/24/94) by ETC  
Laboratories for full size test report.  
Product Description: Attached  
Test Results: Attached  
Test Equipment: FET  
Testing Date: 11/27/00

Detailed assembly drawings showing wall thickness of all members, corner construction and hardware application are on file and have been compared to the sample submitted. A copy of this report and test sample will be retained at FET for a period of 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.

The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the referenced specification. This report does not constitute certification of this product, which may only be granted by the certification program administrator.

Prepared by:  
  
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Approved by:  
  
Patrick J. Farabaugh, PE

**Product Description****General:**

Test sample was comprised of Gorell Model "G5305" Tilt Double Hung Vinyl Prime, one-over-one (tilt loading type) double hung window, with an overall master frame size measuring 32" wide X 60" high X 4-1/4" wide. The bottom sash measured 28-1/16" wide X 29-1/2" high overall. The top sash measured 27-1/4" wide X 28-11/16" high overall. The frame corners were of welded mitered with on screw in bottom corners construction. The sash corners were of welded mitered type corner construction. Bottom sash had an exterior screen.

**Weather-stripping:**

Single strips of center fin pile seal (0.187" w x 0.23" h) at side face and exterior face of both sashes stile's. Single strips of center fin pile seal (0.187" w x 0.23" h) at head enclosure and at exterior face of the top rails of both sashes and at the interior face of the bottom rail of the top sash. Single strip of center fin pile seal (0.187" w x 0.23" h) and one (1/4" dia.) bulb seal at bottom of the bottom rail of the bottom sash.

**Operators and Other Hardware:**

Each sash had two sets of constant force balance shoes, one per jamb. One cam-type sweep lock were attached to the center of the bottom sash meeting rail with keeper on top sash meeting rail. One plastic tilt latch with thumb actuator was housed at each end of the top rail and interior meeting rail of the bottom sash. One die-cast pivot bar was fastened with (1) screw at each end of the bottom horizontal rails of the top and bottom sash.

**Glazing System:**

Each sash was exterior drop glazed with 0.85" thick insulated glass using double-sided foam glazing tape. The sash utilized two (0.09") thick clear annealed glass lites with a 0.67" continuous metal spacer. An exterior snap-in single leaf dual durometer rigid vinyl-glazing bead secured the glass.

**Weep Holes:**

Two (3/8" x 1/8") weep slots were located through the bottom of the top sash bottom horizontal rail, one 4-1/8" from each end. Two (1/4" x 3/32") weep slots were located at the glazing track of the bottom sash bottom horizontal rail, one 2" from each end. Two (3/8" x 3/16") weep slots were located just above the pivot bars on the ends of the bottom sash rail of the bottom sash. Two (5/8" x 1/4") weep slots were located on the exterior bottom of the sill and through one of the inner wall chambers of the sill, each one 1-5/8" from each end. Four (5/8" x 1/8") weep slots were located on the inner chamber wall of the sill, two on very end of each side. Two (1/2" x 3/16") weep slots were located on the interior of the sill, one 1-1/2" from each end. The frame sill was a sloped sill.

**Sealant:**

Silicone sealant was used at exterior perimeter of frame to buck intersection

**Anchorage:**

A 1/2" wide x 1/2" deep wood furring strip were located around the perimeter of the exterior and interior side of the frame. The (finishing) nail pattern for the interior and exterior furring strip was 6" on center (nominal).

**GORELL "G5305" DOUBLE HUNG WINDOW****Test Results**

<b><u>Paragraph</u></b>	<b><u>Test Title / Referenced Test Method</u></b>	<b><u>Test Results</u></b>	<b><u>Allowable</u></b>
<b><u>Gateway Performance Requirements</u></b>			
2.1.2	<b>Air Infiltration Test</b> (ASTM E-283-91) @ 1.57 psf <i>The test specimen meets the performance levels specified in AAMA/NWWDA 101/I.S.2-97 for Air Infiltration.</i>	0.10 cfm/sf	0.30 cfm/sf
2.1.3	<b>Water Resistance Test</b> (ASTM E547-96) @ 2.86 psf (with & without screen)	No penetration	No penetration
2.1.4.2	<b>Uniform Load Structural Test</b> (see optional performance results)		
2.1.7	<b>Welded Corner Test</b>	Meets	As Stated
2.1.8	<b>Forced Entry Resistance</b> (ASTM F588-97) Performance Level 10 Type A (Section 10)		
	Sec. 10.1 Lock Manipulation Test	No Failure	As Stated
	Sec. 10.2.1.1 Test A1	No Failure	As Stated
	Sec. 10.2.1.2 Test A2	No Failure	As Stated
	Sec. 10.2.1.3 Test A3	No Failure	As Stated
	Sec. 10.2.1.4 Test A4	No Failure	As Stated
	Sec. 10.2.1.5 Test A5	No Failure	As Stated
	Sec. 10.2.1.6 Test A6	No Failure	As Stated
	Sec. 10.2.1.7 Test A7	No Failure	As Stated
	Sec. 10.2.1.8 Lock Manipulation Test	No Failure	As Stated

**GORELL "G5305" DOUBLE HUNG WINDOW****Test Results (cont.)**

<b><u>Paragraph</u></b>	<b><u>Test Title / Referenced Test Method</u></b>	<b><u>Test Results</u></b>	<b><u>Allowable</u></b>
<b><i><u>Specific Window Performance Results</u></i></b>			
2.2.1.6.1	<b>Operating Force Test</b>		
	top sash	6 lb up, 11 lb dn	30 lb
	bottom sash	14 lb up, 11 lb dn	30 lb
2.2.1.6.2	<b>Deglazing Test</b> (ASTM E987-88, Method B)		
	<b><u>Top sash</u></b>		
	left stile @ 50 lbf	12 %	<100%
	right stile @ 50 lbf	12 %	<100%
	top rail @ 70 lbf	25 %	<100%
	bottom rail @ 70 lbf	25%	<100%
	<b><u>Bottom sash</u></b>		
	left stile @ 50 lbf	12 %	<100%
	right stile @ 50 lbf	12 %	<100%
	top rail @ 70 lbf	25 %	<100%
	bottom rail @ 70 lbf	12 %	<100%
<b><i><u>Optional Performance Results</u></i></b>			
4.3	<b>Water Resistance Test</b> (ASTM E547-96) @ 7.50 psf (with & without screen)	No penetration	No penetration
4.4.2	<b>Uniform Load Structural Test</b> (ASTM E-330-97)		(0.4% $\times$ L)
	@ 75 psf positive	0.003" *	0.112"
	@ 75 psf negative	0.018" *	0.112"

\* - Maximum Deflections.