



ETC Laboratories

Measuring Up To Your Standards And More

Corporate Offices / Laboratories

297 Buell Road
Rochester, NY 14624
(585) 328-7668
Fax: (585) 328-7777

Fenestration Structural Test Report

Rendered To:

Dove Industries
767 Sans Souci Parkway
Wilkes Barre, PA 18702

Series / Model

6300 Picture Window

Report Number

ETC-07-1081-19148.0

Report Number: ETC-07-1081-19148.0

Original Report: ETC-05-054-16648.0

Test Start Date: 08/09/05

Test Finish Date: 08/15/05

Report Date: 08/16/05

Expiration Date: 08/15/09

Fenestration Structural Test Report

Rendered To

Dove Industries
767 Sans Souci Parkway
Wilkes Barre, PA 18702

Series / Model

6300 Picture Window

Summary Description: The tested product is a vinyl Fixed window with welded frame corners. The IG unit has a nominal thickness of 7/8 inches and is constructed using double strength annealed glass. Two units were tested, the frame size of unit 1 was 60 inches wide by 60 inches high and unit 2 was 48 inches wide by 48 inches high.

Specification: The test specimen(s) was evaluated in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-02 “Standard Specification for Windows, Doors and Unit Skylights”.

Summary of Results

Overall Design Pressure-	Unit 1	1680 Pa (35 psf)
	Unit 2	3360 Pa (70 psf)
Air Leakage Rate-	Units 1 & 2	<0.05 L/sec/m ³ (<0.01 scfm/ft ²)
Maximum Water Pressure	Unit 1	510 Pa (10.5 psf)
	Unit 2	540 Pa (11.25 psf)
Maximum Structural Pressure-	Unit 1	2520 Pa (52.5 psf)
	Unit 2	5040 Pa (105.0 psf)
<u>Product Designation</u> –	Unit 1	FW-C35 1524 x 1524 (60 x 60)
	Unit 2	FW-R70 1219 x 1219 (48 x 48)

Gateway Performance Test Results

<u>Specification Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
5.3.2	<u>Air Leakage Resistance – ASTM E283</u> Test Pressure - 75 Pa (1.57 psf)	<0.05L/sec/m ²	1.5 L/sec/m ²
	Units 1 & 2 The tested specimen exceeds the performance levels specified in NAFS-1 for air leakage resistance.	(<0.01 scfm/ft ²)	(0.30 scfm/ft ²)
5.3.3	<u>Water Penetration Resistance – ASTM E547: Unit 1</u> 204 L/hr/m ² (5 gal/hr-ft ²) – 4 Test cycles – 24 Minutes Design Pressure - 1440 Pa (30.0 psf) Test Pressure – 220 Pa (4.5 psf)	Pass	No Leakage
	<u>Water Penetration Resistance – ASTM E547: Unit 2</u> 204 L/hr/m ² (5 gal/hr-ft ²) – 4 Test cycles – 24 Minutes Design Pressure - 720 Pa (15.0 psf) Test Pressure – 150 Pa (3.0 psf)	Pass	No Leakage
5.3.4.2	<u>Uniform Load Deflection - ASTM E330: Unit 1</u> Design Pressure - 1440 Pa (30 psf) Test Pressure Positive Load – 1440 Pa (30 psf) Negative Load – 1440 Pa (30 psf)	0.28 mm (0.011 in.) 0.13 mm (0.005 in.)	6.02 mm (0.305 in.) 6.02 mm (0.305 in.)
	Note: Measurements taken under load from the jamb, between fasteners.		
	<u>Uniform Load Deflection - ASTM E330: Unit 2</u> Design Pressure - 1440 Pa (30 psf) Test Pressure Positive Load – 1440 Pa (30 psf) Negative Load – 1440 Pa (30 psf)	0.848 mm (0.033 in.) 0.56 mm (0.022 in.)	7.75 mm (0.237 in.) 7.75 mm (0.237 in.)
	Note: Measurements taken under load from the jamb, between fasteners.		
5.3.4.3	<u>Uniform Load Structural - ASTM E330: Unit 1</u> Design Pressure - 1440 Pa (30 psf) Test Pressure Positive Load – 2160 Pa (45.0 psf) Negative Load – 2160 Pa (45.0 psf)	0.00 mm (0.000 in.) 0.00 mm (0.000 in.)	5.43 mm (0.214 in.) 5.43 mm (0.214 in.)
	Note: Measurements taken after load from the jamb, between fasteners.		

Gateway Performance Test Results (Con't)

<u>Specification Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
	<u>Uniform Load Structural - ASTM E330: Unit 2</u>		
	Design Pressure - 720 Pa (15 psf)		
	Test Pressure		
	Positive Load – 1080 Pa (22.5 psf)	0.00 mm (0.000 in.)	4.32 mm (0.170 in.)
	Negative Load – 1080 Pa (22.5 psf)	0.00 mm (0.000 in.)	4.32 mm (0.170 in.)
	Note: Measurements taken after load from the jamb, between fasteners.		
5.3.5	<u>Forced Entry Resistance – ASTM F588</u>		
	Tool/Lock Manipulation Test	Pass	No Entry

Optional Performance Test Results

The manufacturer specified herein has successfully achieved all the required criteria in section 8 of the referenced specification for the Gateway size of the achieved Performance Rating and has further successfully tested the product to higher performance levels as indicated below.

<u>Specification Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
4.4.2.6	<u>Water Resistance - ASTM E 547: Unit 1</u>		
	204 L/hr/m ² (5 gal/hr-ft ²) – 4 Test cycles – 24 Minutes		
	Design Pressure – 3360 Pa (70 psf)		
	Test Pressure – 510 Pa (10.5 psf)	Pass	No Leakage
	<u>Water Resistance-ASTM E 331: Unit 1</u>		
	5 gal/hr-ft ² –15 Minutes, 1 cycle		
	Design Pressure – 3360 Pa (70.0 psf)		
	Test Pressure –510 Pa (10.5 psf)	Pass	No Leakage
	<u>Water Resistance - ASTM E 547: Unit 2</u>		
	204 L/hr/m ² (5 gal/hr-ft ²) – 4 Test cycles – 24 Minutes		
	Design Pressure – 3600 Pa (75 psf)		
	Test Pressure – 540 Pa (11.25 psf)	Pass	No Leakage

Optional Performance Test Results (Con't)

Specification

ParagraphTitle of TestResultsAllowed

4.4.2.6

Uniform Load Deflection - ASTM E330: Unit 1**Design Pressure -1680 Pa (35 psf)**

Test Pressure

Positive Load – 1680 Pa (35 psf) 0.79 mm (0.031 in.) 6.02 mm (0.305 in.)

Negative Load – 1680 Pa (35 psf) 0.66 mm (0.026 in.) 6.02 mm (0.305 in.)

Note: Measurements taken under load from the jamb, between fasteners.

Uniform Load Deflection - ASTM E330: Unit 2**Design Pressure -3360 Pa (70 psf)**

Test Pressure

Positive Load – 3360 Pa (70 psf) 1.80 mm (0.071 in.) 7.75 mm (0.237 in.)

Negative Load – 3360 Pa (70 psf) 1.70 mm (0.067 in.) 7.75 mm (0.237 in.)

Note: Measurements taken under load from the jamb, between fasteners.

Uniform Load Structural - ASTM E330: Unit 1**Design Pressure - 1680 Pa (35 psf)**

Test Pressure

Positive Load – 2520 Pa (52.5 psf) 0.03 mm (0.001 in.) 5.44 mm (0.214 in.)

Negative Load – 2520 Pa (52.5 psf) 0.00 mm (0.000 in.) 5.44 mm (0.214 in.)

Note: Measurements taken after load from the head between fasteners.

Uniform Load Structural - ASTM E330: Unit 2**Design Pressure - 3360 Pa (70 psf)**

Test Pressure

Positive Load – 5040 Pa (105.0 psf) 0.03 mm (0.001 in.) 4.32 mm (0.170 in.)

Negative Load – 5040 Pa (105.0 psf) 0.06 mm (0.002 in.) 4.32 mm (0.170 in.)

Note: Measurements taken after load from the head between fasteners.

Conditions, Terms, and General Notes Regarding These Tests

The product tested **Has Been** compared to the detailed drawings, bill of materials and fabrication information supplied by the client so named herein. Our analysis, which includes dimensional and component description comparisons, indicate the tested product and engineering information supplied by the client "**Are Equivalent**". The report and representative samples will be retained for four years from the date of initial test.

These test results were obtained by employing all requirements of the designated test methods with no deviations. The test results and specimen supplied for testing are in compliance with the referenced specifications. The test results are specific to the product tested by this laboratory and of the sample supplied by the client named herein, and they relate to no other product either manufactured by the client, a Fabricator of the client or of installed field performance.

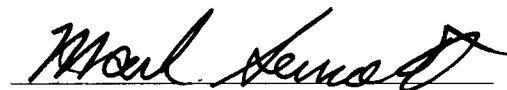
This report does not constitute a certified product. The program administrator may only grant certification. ETC Laboratories makes no opinions or endorsements regarding this product and its performance.

This report may not be reproduced or quoted in partial form without the expressed written approval of ETC Laboratories.

ETC Laboratories letters, reports, its name or insignia or mark are for the exclusive use of the client so named herein and any other use is strictly prohibited. The report, letters and the name of ETC Laboratories, its seal or mark shall not be used in any circumstance to the general public or in any advertising.

Limitation of Liability: Due diligence was used in rendering this professional opinion. By acceptance of this report, this client agrees to hold harmless and indemnify ETC Laboratories, its employees and offices and owners against all claims and demands of any kind whatsoever, which arise out of or in any manner connected with the performance of work referred to herein.

For ETC Laboratories



Mark Sennett, Testing Technician



Ben Meunier, Director of Testing
Person in Responsible Charge

Product Description of Test Specimen(s)**Specimen Item****Laboratory Verification**

Frame:	Specimen 1- 60 in. W x 60 in. H x 3-1/4 in. D Specimen 2- 48 in. W x 48 in. H x 3-1/4 in. D Vinyl, mitered and welded corners
Drainage	1/4 in. diameter holes, 1-7/8 in. on center from the interior corners of the sill under the I.G. unit, draining out oval slots, 5/16 in. W x 1/8 in. D 3 in. on center from the exterior corners of the sill
Method of Installation	Installation screws
Weather-stripping	None
Reinforcement	None

Sashes: N/A, Direct set unit

Glazing:

Overall Thickness	7/8 in. Nominal (0.905 in. actual)
Thickness of Glass(s)	2 – Double strength annealed (0.122/0.121 in. actual)
Spacer	Steel U shaped
Method of Glazing	Interior Drop-in
Interior	Dual durometer vinyl snap in glazing bead
Exterior	Wet glazed silicone

Anchorage of Window Frame to Test Buck:

Type	Wood screws
Size	#8 x 2 in.
Quantity	4
Location	Jambs- 3-1/4 in. from head and sill

Test Buck:

Mounting Gap	1/8 in.
Shims	None
Stops:	Pine- 3/4 in. x 3/4 in. centered on jambs, head and sill, 6 inches short of the corners, to the interior side, while the exterior was full perimeter stops of 3/4 x 3/4 pine

Sealant	Silicone
Buck Size	2 x 6
Material	SPF- #2

Specimen Alterations: None

Documentation Submitted: Drawing numbers –BOM, 8000, 8011, 8016

BILL OF MATERIALS
Model 8000-PW-T000
Replacement Picture Window
January 4, 2004

8000pwt000.doc

ITEM	DESCRIPTION	CBP PART#	QTY	MATERIAL/SOURCE	NOTES
1	Master Frame	8011 X	4	CBP	2
2	Glazing Bead	8016 8066 X	4	CBP	2
3	Weep Hole Cover		2	Ashland #60606 or #65605	1,2
4	Installation Hole Plug		4	Ashland #13034	2
5	Silicone Glazing Sealant		AR	Dow Corning #1199	1
6	Glazing Block (1" x 2" x 1/8")		AR	Tremco	1
SCREWS (#410 Stainless Steel or Zinc Plated)					
7	Installation		4	#8 x 2-1/2" PH Pan HD, Type AB, SMS	
OPTIONAL					
8	Transom Clip	727	AR	CBP	2
9	Head Expander	761	1	CBP	2
10	Sill Angle	765	1	CBP	2
11	1/2" Mullion Clip	749	AR	CBP	2
12	7/8" Glazing Bead	8016	8	CBP	2
13	Glazing Tape (1/16" x 3/8")		AR	Norton 992	1

NOTES:

- 1 = Or Approved Equivalent
- 2 = Specify color (White, Beige, Brown)
- 3 = For windows over 32" double amount used
- 4 = Standard tooling made for 2-1/16" hole spacing on lock and keeper

Completed by	Date	Checked by	Date	Approved by

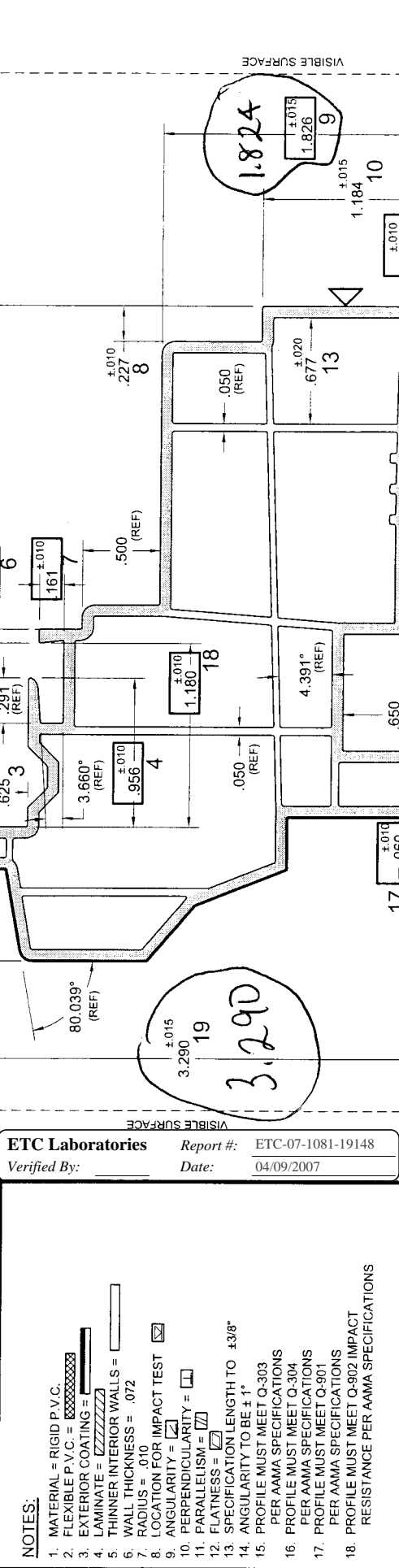
ETC Laboratories
 297 Buell Road
 Rochester, NY 14624
 (716) 328-7668

Date Verified: 8/16/05
 Verified By: MS
 Report No. 05-054-16648

PART NAME: 8011 DESCRIPTION: PW FRAME SUPPLIER/PLANT: CHELSEA BUILDING PRODUCTS

CHELSEA BUILDING PRODUCTS, INC.
 565 CEDAR WAY, OAKMONT PA 15139
 COPYRIGHT 2003
 THIS DRAWING AND ITS CONTENTS ARE THE SOLE PROPERTY OF CHELSEA BUILDING PRODUCTS, INC. ANY UNAUTHORIZED USE OR REPRODUCTION IS STRICTLY PROHIBITED.

NOTES:
 1. MATERIAL = RIGID P.V.C.
 2. FLEXIBLE P.V.C. = [diagonal lines]
 3. EXTERIOR COATING = [cross-hatch]
 4. LAMINATE = [zig-zag]
 5. THINNER INTERIOR WALLS = [thin line]
 6. WALL THICKNESS = .072
 7. RADIUS = .010
 8. LOCATION FOR IMPACT TEST [X]
 9. ANGULARITY = [square symbol]
 10. PERPENDICULARITY = [square symbol]
 11. PARALLELISM = [line symbol]
 12. FLATNESS = [line symbol]
 13. SPECIFICATION LENGTH TO ±3/8"
 14. ANGULARITY TO BE ±1°
 15. PROFILE MUST MEET Q-303 PER AAMA SPECIFICATIONS
 16. PROFILE MUST MEET Q-304 PER AAMA SPECIFICATIONS
 17. PROFILE MUST MEET Q-901 PER AAMA SPECIFICATIONS
 18. PROFILE MUST MEET Q-902 IMPACT RESISTANCE PER AAMA SPECIFICATIONS



WEATHERSTRIP SPECIFICATION	
POSITION	WEATHERSTRIP TYPE
FUNCTIONAL CHECK	
8066 GLAZING BEAD	
727 TRANSOM CLIP	
748 1/2" MULL CLIP	

ETC Laboratories
 297 Buell Road
 Rochester, NY 14624
 (716) 328-7658

DATE: 06-28-09

Date Verified: 8/16/05
 Verified By: MS
 Report No.: 05-054-1664P

1. REVISED & REMOVED GEOMETRIC TOOLS
 NO. REVISION

DRAWN DATE: 11-05-04

Use the caliper diagram as your guide to measure the following control points.
 Measure the following control points using #1 on the caliper diagram.
 Measure the following control points using #2 on the caliper diagram.
 Measure the following control points using #3 on the caliper diagram.
 Measure the following control points using #4 on the caliper diagram.

Frequency of sampling: Process Specialist- 3 samples per shift recorded every 4 hours.
 Auditor- 1 sample per shift recorded 1 hour after shift start.

IF ANY CONTROL POINTS ARE NOT IN SPEC. CORRECTIVE ACTION REQUIRED

QC PRINT NUMBER: 8016QC DRAWN BY: JPP APPROVED BY: DATE: DEVELOP INPROCESS PRODUCTION

PART NAME: 8016 DESCRIPTION: GLAZING BEAD 7/8" GLASS SUPPLIER/PLANT: CHELSEA BUILDING PRODUCTS

ILLUSTRATION OF PART AND CONTROL POINTS

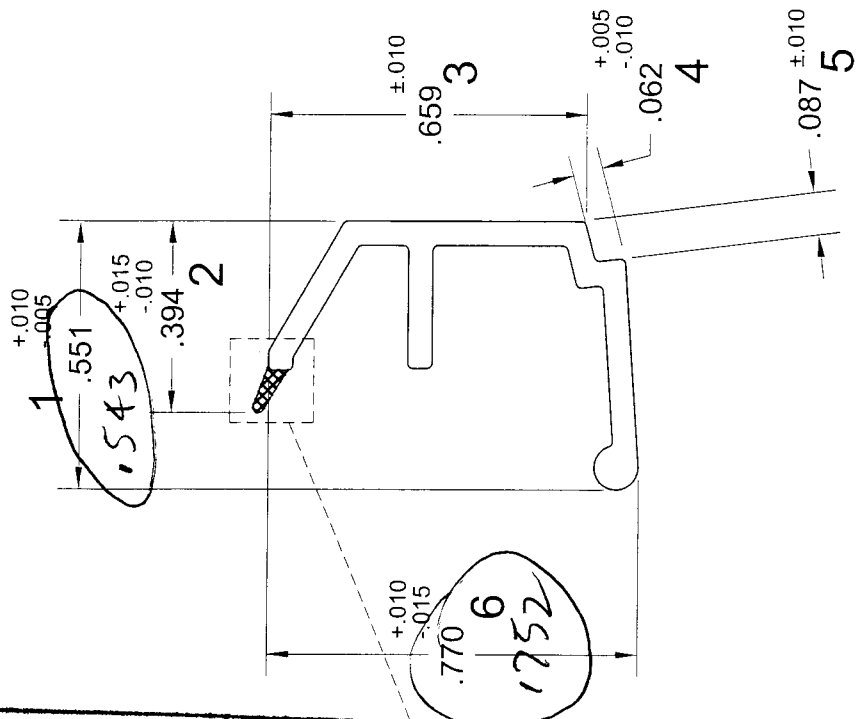
ETC Laboratories
 297 Buell Road
 Rochester, NY 14624
 (716) 328-7668

Date Verified: 8/16/05
 Verified By: MS
 Report No: 05-054-16648

CHELSEA BUILDING PRODUCTS, INC.
 565 CEDAR WAY, OAKMONT PA 15139

COPYRIGHT 2003
 THIS DRAWING AND ITS CONTENTS ARE THE SOLE PROPERTY OF CHELSEA BUILDING PRODUCTS, INC. UNAUTHORIZED USE OR REPRODUCTION IS STRICTLY PROHIBITED.

- NOTES:**
- MATERIAL = RIGID P.V.C.
 - FLEXIBLE P.V.C. = [diagonal hatching]
 - EXTERIOR COATING = [diagonal hatching]
 - LAMINATE = [diagonal hatching]
 - THINNER INTERIOR WALLS = [diagonal hatching]
 - WALL THICKNESS = .050
 - RADIUS = .010
 - LOCATION FOR IMPACT TEST
 - ANGULARITY =
 - PERPENDICULARITY =
 - PARALLELISM =
 - FLATNESS =
 - SPECIFICATION LENGTH TO ±3/8"
 - ANGULARITY TO BE ±1°
 - PROFILE MUST MEET Q-303 PER AAMA SPECIFICATIONS
 - PROFILE MUST MEET Q-304 PER AAMA SPECIFICATIONS
 - PROFILE MUST MEET Q-901 PER AAMA SPECIFICATIONS
 - PROFILE MUST MEET Q-902 IMPACT RESISTANCE PER AAMA SPECIFICATIONS



FLEX DETAIL
 SCALE = 4X

ETC Laboratories Report #: ETC-07-1081-19148
 Verified By: Date: 04/09/2007

NO.	REVISION	DATE	CUSTOMER LENGTH	CHELSEA CUT LENGTH	TOLERANCE
1	REVISED DIM. 1 AND 5	11/11/04			
	BY	DATE			
	BLG				

DRAWN DATE: 11-05-04	
Use the caliper diagram as your guide to measure the following control points. Measure the following control points using #1 on the caliper diagram: Measure the following control points using #2 on the caliper diagram: Measure the following control points using #3 on the caliper diagram: Measure the following control points using #4 on the caliper diagram: Frequency of sampling: Process Specialist- 3 samples per shift recorded every 4 hours. Auditor- 1 sample per shift recorded 1 hour after shift start.	
IF ANY CONTROL POINTS ARE NOT IN SPEC. CORRECTIVE ACTION REQUIRED	

