



SUBMITTAL PACKAGE

DH57 – Double-Hung Window

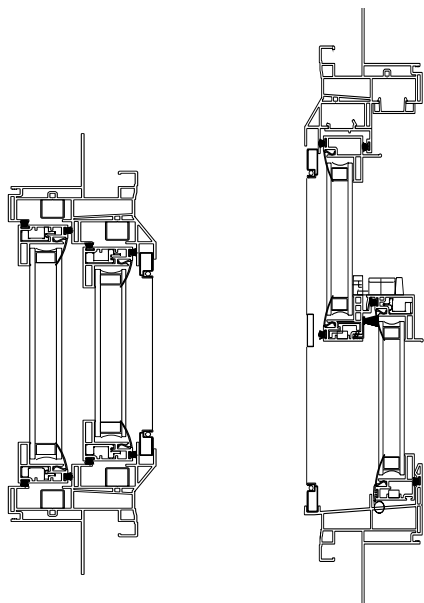
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DH57 Double Hung

New Construction

FEATURES and BENEFITS

- Made in the USA of 100% U.S. components
- Lead free
- EnergyStar® rated and labeled
- Aesthetically-pleasing exterior frame design
- All-welded frame and sash, sloped sill, brick-mould look J-channel
- Constant force balance system
- DP50 performance levels
- Dual weatherstripping
- Full complement of accessory profiles
- Full 1 3/4" integral nail fin
- FlexScreen available
- Impact-rated grade 50 performance available
- Optimum designed aluminum sash reinforcement
- Sloped sill designed for efficient water evacuation
- Long reach interlock. No colliding or missing
- Exterior frame bevel



Top View

Side View

PERFORMANCE

THERMAL INSULATION

GLASS	Uc Value	R Value	SHGC
Low-E 270	0.30	3.33	0.26
Low-E 366	0.30	3.33	0.19
Low-E 366 w/ i89	0.27	3.70	0.19

STRUCTURAL DATA

Air Infiltration @ 25mph	0.19 cfm/ft ²
Water Penetration	7.50 psf
Uniform Loads	+/- 75.00 psf

AAMA RATING: PG50-H





KEYSTONE CERTIFICATIONS, INC.
564 OLD YORK ROAD, SUITE 5
ETTERS, PA 17319 / PHONE 717-932-8500

Notice of Product Certification Authorization

National Fenestration Rating Council

Issued To:

Manufacturer: Custom Vinyl Products LLC
Address: 260 Enterprise Drive
New Port News VA 23603
Man'f Code CST
Cert Date: 6/14/2012

Certification Number

8429

Product Line Number

CST - K - 009

Revision Date

8/31/2015

The Following NFRC Product Line Has Been Authorized For Certification:

Model / Series: DH55/ DH57 Double Hung
Operator Type: VSDH
Frame Type: VY
Sash Type: VI
Exp. Date: 8/27/2017

Ratings Authorized For Certification:

Rating	Property	Authorized
NFRC 100	U-factor	<input checked="" type="checkbox"/>
NFRC 200	Solar Heat Gain Coefficient	<input checked="" type="checkbox"/>
NFRC 200	Visible Light	<input checked="" type="checkbox"/>
NFRC 400	Air Leakage	<input checked="" type="checkbox"/>
NFRC 500	Condensation Resistance	<input checked="" type="checkbox"/>

Fenestration products are not NFRC Certified unless manufactured and labeled in accordance with the current version of NFRC-700, Product Certification Program requirements.

This is a cover sheet for an NFRC Certification Authorization Report (CAR)

the corresponding CAR may be downloaded for printing at www.nfrc.org.

The Manufacturer is authorized to label the options listed in the corresponding CAR

Please notify Keystone of any errors or omissions within 10 days of receipt.

Due diligence was used in authorizing these products for certification. By accepting this report the licensee agrees to hold harmless and indemnify Keystone Certifications, Inc. from all claims or liabilities which may arise based on this certification authorization. Certification authorization is based on NFRC program requirements and simulation and test reports from accredited laboratories.

NFRC Product Certification Authorization Report



Manufacturer: Custom Vinyl Products, LLC
Street: 260 Enterprise Drive
City/State/Zip: Newport News, VA 23603
Print Date: 08/31/2015
Product Series: DH55/DH57 Double Hung
Product Type: VSDH
Air Leakage: ≤ 0.3
Simulation Lab: SATI
Sim. Report #: C9495.08-116-45
Sim. Report Date: 06/30/2015
Test Date: 08/27/2013
Initial Cert. Date: 06/14/2012
Re-Certification Date: 08/31/2015
Revised Date: 06/30/2015
Expiration Date: 08/27/2017

IA: KeyStone Certifications, Inc.															
Status	Product Num.	Manufacturer Code	Frame/ Sash	Glaz Lyrs	Low-E (Surface)	Gap Width(s)	Spacer	Gap Fill	Grids	Dividers	Tint	U-Factor	SHGC	VT	Cond. Res.
	00037-00001	DH55: E270 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.037(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.30	0.29	0.55	56
	00037-00002	DH55: E270 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.037(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.30	0.26	0.49	56
	00037-00003	DH55: E270 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.037(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.30	0.26	0.49	56
	00038-00001	DH55: E366 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.30	0.22	0.51	57
	00038-00002	DH55: E366 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.30	0.19	0.45	57
	00038-00003	DH55: E366 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.30	0.19	0.45	57
	00039-00001	DH55: E270 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.037(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.30	0.29	0.54	56
	00039-00002	DH55: E270 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.037(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.30	0.26	0.48	56
	00039-00003	DH55: E270 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.037(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.30	0.26	0.48	56
	00040-00001	DH55: E366 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.30	0.22	0.50	57
	00040-00002	DH55: E366 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.30	0.20	0.45	57
	00040-00003	DH55: E366 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.30	0.20	0.45	57
	00041-00001	DH55: E366 / ARG90 / i89 (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.27	0.21	0.49	46
	00041-00002	DH55: E366 / ARG90 / i89 (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.27	0.19	0.44	46
	00041-00003	DH55: E366 / ARG90 / i89 (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.27	0.19	0.44	46
	00042-00001	DH55: E366 / ARG90 / i89 (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.27	0.21	0.49	46
	00042-00002	DH55: E366 / ARG90 / i89 (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.27	0.19	0.44	46



NFRC Product Certification Authorization Report

Manufacturer: Custom Vinyl Products, LLC
Street: 260 Enterprise Drive
City/State/Zip: Newport News, VA 23603
Print Date: 08/31/2015

Product Series: DH55/DH57 Double Hung
Product Type: VSDH
Air Leakage: ≤ 0.3

Simulation Lab: SATI
Sim. Report #: C9495.08-116-45
Sim. Report Date: 06/30/2015
Test Date: 08/27/2013

Initial Cert. Date: 06/14/2012
Re-Certification Date: 08/31/2015
Revised Date: 06/30/2015
Expiration Date: 08/27/2017

CPD Number: CST-K-8															IA: Keystone Certifications, Inc.														
Status	Product Num.	Manufacturer Code	Frame/ Sash	Glaz Lyrs	Low-E (Surface)	Gap Width(s)	Spacer	Gap Fill	Grids	Dividers	Tint	U-Factor	SHGC	VT	Cond. Res.														
	00042-00003	DH55: E366 / ARG90 / I89 (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.27	0.19	0.44	46														
	00043-00001	DH57: E270 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.037(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.30	0.29	0.54	56														
	00043-00002	DH57: E270 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.037(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.30	0.26	0.48	56														
	00043-00003	DH57: E270 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.037(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.30	0.26	0.48	56														
	00044-00001	DH57: E366 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.30	0.21	0.50	57														
	00044-00002	DH57: E366 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.30	0.19	0.45	57														
	00044-00003	DH57: E366 / ARG90 / CLR (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.30	0.19	0.45	57														
	00045-00001	DH57: E270 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.037(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.30	0.29	0.54	56														
	00045-00002	DH57: E270 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.037(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.30	0.26	0.48	56														
	00045-00003	DH57: E270 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.037(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.30	0.26	0.48	56														
	00046-00001	DH57: E366 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.30	0.21	0.49	57														
	00046-00002	DH57: E366 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.30	0.19	0.44	57														
	00046-00003	DH57: E366 / ARG90 / CLR (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.30	0.19	0.44	57														
	00047-00001	DH57: E366 / ARG90 / I89 (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.27	0.21	0.49	46														
	00047-00002	DH57: E366 / ARG90 / I89 (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.27	0.19	0.43	46														
	00047-00003	DH57: E366 / ARG90 / I89 (2MM/2MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.563	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.27	0.19	0.43	46														
	00048-00001	DH57: E366 / ARG90 / I89 (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	N		CL	0.27	0.21	0.48	46														



NFRC Product Certification Authorization Report

Manufacturer: Custom Vinyl Products, LLC
Street: 260 Enterprise Drive
City/State/Zip: Newport News, VA 23603
Print Date: 08/31/2015
Product Series: DH55/DH57 Double Hung
Product Type: VSDH
Air Leakage: ≤ 0.3
Simulation Lab: SATI
Sim. Report #: C9495.08-116-45
Sim. Report Date: 06/30/2015
Test Date: 08/27/2013
Initial Cert. Date: 06/14/2012
Re-Certification Date: 08/31/2015
Revised Date: 06/30/2015
Expiration Date: 08/27/2017

CPD Number: CST-K-9														
IA: Keystone Certifications, Inc.														
Status	Product Num.	Manufacturer Code	Frame/ Sash	Glaz Lyrs	Low-E (Surface)	Gap Width(s)	Spacer	Gap Fill	Grids	Dividers	Tint	U-Factor	SHGC VT	Cond. Res.
	00048-00002	DH57: E366 / ARG90 / i89 (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	G	0.75	CL	0.27	0.19 0.43	46
	00048-00003	DH57: E366 / ARG90 / i89 (3MM/3MM) - 3/4" IG	VY/VI	2	0.022(2),0.149(4)	0.500	SS-D	Fill 1: ARG/AIR (90/10)	S	0.75	CL	0.27	0.19 0.43	46

Baseline Information

Test Lab	Test Date	Test Size	Tested U-Value	Standard U-Value	Test Report Number
TATI	08/27/2013	1200mm x 1499mm	0.312	0.305	C9496.08-116-46

Comments: 90% Argon, Single probe.

I hereby certify that all requirements for NFRC Certification Authorization have been met and that the above information is true and correct, to the best of my knowledge.

Authorized IA
Signature:  2015.09.01 07:51:18 -04'00'



TEST REPORT

Report No.: E0595.01-501-47

Rendered to:

VEKA INC.
Fombell, Pennsylvania

PRODUCT TYPE: PVC Double Hung Window
SERIES/MODEL: DH57WW/DH54WW/DH55WW

SPECIFICATION(S): AAMA/WDMA/CSA 101/1.S.2/A440-11, *NAFS 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

AAMA/WDMA/CSA 101/1.S.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

Test Date(s): 07/18/14
Through: 03/27/15
Report Date: 03/13/15



SUMMARY OF RESULTS

Title	Summary of Results	
	Test Specimen #1	Test Specimen #2
AAMA/WDMA/CSA 101/IS.2/A440-08 and -11	Class R-PG40 1016 x 1829 (40 x 72) - H	Class R-PG50 914 x 1829* (36 x 72*) - H
Design Pressure	±1920 Pa (±40.10 psf)	±2400 Pa (±50.13 psf)
Air Infiltration	1.0 L/s/m ² (0.19 cfm/ft ²)	N/A
Water Penetration Resistance Test Pressure	360 Pa (7.52 psf)	N/A

Title	Summary of Results
	Test Specimen #3
AAMA/WDMA/CSA 101/IS.2/A440-08 and -11	Class R-PG50 1016 x 1676 (40 x 66) - H
Design Pressure	±2400 Pa (±50.13 psf)
Air Infiltration	N/A
Water Penetration Resistance Test Pressure	N/A

Test Completion Date: 02/27/15

Reference must be made to Report No. E0595.01-501-47, dated 03/13/15 for complete test specimen description and detailed test results.

1.0 Report Issued To: Veka Inc.
100 Veka Drive
Fombell, Pennsylvania 16123-0250

2.0 Test Laboratory: Architectural Testing, Inc., a subsidiary of Intertek (Intertek-ATI)
1140 Lincoln Avenue
Springdale, Pennsylvania 15144
724-275-7100

3.0 Project Summary:

3.1 Product Type: PVC Double Hung Window

3.2 Series/Model: DH57WW /DH54WW/DH55WW

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method(s). The specimen tested successfully met the performance requirements. The specimens tested successfully met the performance requirements for the following ratings:

Test Specimen(s)	Title	Summary of Results
1	101/I.S.2/A440-08 and -11	Class R-PG40 1016 x 1829 (40 x 72) - H
2	101/I.S.2/A440-08 and -11	Class R-PG50 914 x 1829* (36 x 72*) - H
3	101/I.S.2/A440-08 and -11	Class R-PG50 1016 x 1676 (40 x 66) - H

General Note: An asterisk (*) next to the size designation indicates that the size tested for optional performance was smaller than the Gateway test size for the product type and class.

3.4 Test Dates: 07/18/14 - 02/27/15

3.5 Test Record Retention End Date: All test records for this report will be retained until February 27, 2019.

3.6 Test Location: Veka Inc. test facility in Fombell, Pennsylvania. Calibration of test equipment was performed by Intertek-ATI in accordance with AAMA 205-01 "In-Plant Testing Guidelines for Manufacturers and Independent Laboratories".

3.7 Test Specimen Source: The test specimen(s) were provided by the client. Representative samples of the test specimen(s) will be retained by Intertek-ATI for a minimum of four years from the test completion date.

3.8 Drawing Reference: The test specimen drawings have been reviewed by Intertek-ATI and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek-ATI per the drawings located in Appendix C. Any deviations are documented herein or on the drawings.

3.0 Project Summary: (Continued)

3.9 List of Official Observers:

<u>Name</u>	<u>Company</u>
Doug Merry	Veka Inc.
Cornell Charles	Veka Inc.
Joe Allison	Intertek-ATI

4.0 Test Specification(s):

AAMA/WDMA/CSA 101/I.S.2/A440-11, *NAFS 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

AAMA/WDMA/CSA 101/I.S.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

5.0 Test Specimen Description:

5.1 Product Sizes:

Test Specimen #1:

Overall Area: 1.9 m ² (20.0 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	1016	40	1829	72
Exterior sash size	930	36-5/8	876	34-1/2
Interior sash size	962	37-7/8	908	35-3/4
Screen size	921	36-1/4	1759	69-1/4

Test Specimen #2:

Overall Area: 1.7 m ² (18.0 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	914	36	1829	72
Exterior sash size	829	32-5/8	876	34-1/2
Interior sash size	860	33-7/8	908	35-3/4

5.0 Test Specimen Description: (Continued)

Test Specimen #3:

Overall Area: 1.5 m ² (16.7 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	1016	40	1524	66
Exterior sash size	930	36-5/8	800	31-1/2
Interior sash size	962	37-7/8	832	32-3/4

The following descriptions apply to all specimens.

5.2 Frame Construction:

Frame Member	Material	Description
Head, sill, jambs, and head insert	PVC	Extruded

	Joinery Type	Detail
All corners	Mitered	Thermally welded
Head insert	Square-cut	Snap fit

5.3 Sash Construction:

Sash Member	Material	Description
All rails and stiles	PVC	Extruded

	Joinery Type	Detail
All corners	Mitered	Thermally welded

5.0 Test Specimen Description: (Continued)

5.4 Weatherstripping:

Description	Quantity	Location
0.480" high center fin pile with kerf mount offset base	1 Row	Exterior meeting rail (interior)
0.187" backed by 0.300" high center fin pile	1 Row	Head, sill
0.187" backed by 0.270" high center fin pile	1 Row	Lock rail
0.187" backed by 0.270" high center fin pile	2 Rows	All stiles
0.350" diameter foam-filled vinyl bulb with offset base	1 Row	Bottom rail
1" long by 3/4" wide by 0.350" high adhesive backed pile pad	2	One at the each end of the lock rail

5.5 Glazing: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

Glass Type	Spacer Type	Interior Lite	Exterior Lite	Glazing Method
3/4" IG	Rectangular shaped steel, single sealed	1/8" annealed	1/8" annealed	The glass was set from the exterior against a silicone sealant and secured with rigid vinyl glazing beads.

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Specimen #1 exterior sash	1	870 x 816	34-1/4 x 32-1/8	1/2"
Specimen #1 interior sash	1	870 x 816	34-1/4 x 32-1/8	1/2"
Specimen #2 exterior sash	1	768 x 816	30-1/4 x 32-1/8	1/2"
Specimen #2 interior sash	1	768 x 816	30-1/4 x 32-1/8	1/2"
Specimen #3 exterior sash	1	870 x 740	34-1/4 x 29-1/8	1/2"
Specimen #3 interior sash	1	870 x 740	34-1/4 x 29-1/8	1/2"

5.0 Test Specimen Description: (Continued)

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weepslot with flap	1" wide by 1/4" high	2	Exterior sill face, one 3-1/2" from each end
Weepslot	1" wide by 3/16" high	2	Intermediate sill wall, one at each end.
Weephole	1-1/4" deep by 3/4" wide	2	Sill/jamb intersection, one at each end
Weephole	3/8" wide by 1/8" deep	4	Bottom rail and exterior meeting rail, one at each end

5.7 Hardware:

Description	Quantity	Location
Composite cam lock	2	Lock stile, one 10" from each end, with mating keeper on the exterior meeting rail
Constant force balance system with locking pivot shoe	4	Two per jamb
Flush mount plastic tilt latch	4	Lock rail and top rail, one at each end
Interlocking metal pivot bar	4	Bottom rail and exterior meeting rail, one at each end

5.8 Reinforcement: .

Drawing Number	Location	Material
RF SE4545 AOM	Bottom sash stiles, and bottom rail	Extruded aluminum
RF SE4546 AOM	Lock rail	Extruded aluminum
S-050	Top sash stiles and rails	Extruded aluminum

5.9 Screen Construction:

Frame Material	Corner Construction	Mesh Type	Mesh Attachment Method
Formed aluminum	Miter-cut and keyed	Metal	Flexible vinyl spline

6.0 Installation:

The specimen was installed into a Spruce-Pine-Fir wood buck. The rough opening allowed for a 1/8" shim space. The nail fin perimeter of the window was sealed with a silicone sealant.

Location	Anchor Description	Anchor Location
Integral nail fin	#8 x 2" truss head screw	Nominally spaced at 8" on center, and beginning in each corner
Jambs	#8 x 2" long truss head screw	One at midspan of each jamb (2)

7.0 Test Results: The temperature during testing was 21°C (70°F). The results are tabulated as follows:

Test Specimen #1:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 133 N (30 lbf) Maintain motion: 120 N (27 lbf) Latches: 89 N (20 lbf) Locks: 36 N (8 lbf)	Report Only 155 N (35 lbf) max. 100 N (22.5 lbf) max. 100 N (22.5 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.0 L/s/m ² (0.19 cfm/ft ²)	1.5 L/s/m ² (0.3 cfm/ft ²) max.	1
Water Penetration, per ASTM E 547	N/A	N/A	3
Uniform Load Deflection, per ASTM E 330	N/A	N/A	3
Uniform Load Structural, per ASTM E 330	N/A	N/A	3
Forced Entry Resistance, per ASTM F 588, Type: A - Grade: 10	Pass	No entry	
Thermoplastic Corner Weld	Pass	Meets as stated	
Deglazing, per ASTM E 987 Operating direction, 320 N (72 lbf) Remaining direction, 230 N (52 lbf)	Pass Pass	Meets as stated Meets as stated	

7.0 Test Results: (Continued)

Test Specimen #1: (Continued)

Title of Test	Results	Allowed	Note
Optional Performance			
Water Penetration, per ASTM E 547 at 360 Pa (7.52 psf)	Pass	No leakage	2
Uniform Load Deflection, per ASTM E 330 Deflections taken at the exterior meeting rail +1920 Pa (+40.10 psf) -1920 Pa (-40.10 psf)	11.8 mm (0.46") 10.0 mm (0.40")	Report Only	4, 5, 6
Uniform Load Structural, per ASTM E 330 Permanent sets taken at the exterior meeting rail +2880 Pa (+60.15 psf) -2880 Pa (-60.15 psf)	1.0 mm (0.04") 1.3 mm (0.05")	3.8 mm (0.15") max. 3.8 mm (0.15") max.	5, 6

Test Specimen #2:

Title of Test	Results	Allowed	Note
Optional Performance			
Uniform Load Deflection, per ASTM E 330 Deflections taken at the exterior meeting rail +2400 Pa (+50.13 psf) -2400 Pa (-50.13 psf)	9.8 mm (0.38") 6.8 mm (0.27")	Report Only	4, 5, 6
Uniform Load Structural, per ASTM E 330 Permanent sets taken at the exterior meeting rail +3600 Pa (+75.19 psf) -3600 Pa (-75.19 psf)	1.8 mm (0.07") 1.5 mm (0.06")	3.6 mm (0.14") max. 3.6 mm (0.14") max.	5, 6

7.0 Test Results: (Continued)

Test Specimen #3: (Continued)

Title of Test	Results	Allowed	Note
Optional Performance			
Uniform Load Deflection, per ASTM E 330 Deflections taken at the exterior meeting rail +2400 Pa (+50.13 psf) -2400 Pa (-50.13 psf)	16.3 mm (0.64") 10.5 mm (0.41")	Report Only	4, 5, 6
Uniform Load Structural, per ASTM E 330 Permanent sets taken at the exterior meeting rail +3600 Pa (+75.19 psf) -3600 Pa (-75.19 psf)	1.3 mm (0.05") 1.5 mm (0.06")	3.8 mm (0.15") max. 3.8 mm (0.15") max.	5, 6

Note 1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.

Note 2: With and without insect screen.

Note 3: The client opted to start at a pressure higher than the minimum required. Test results are reported under Optional Performance.

Note 4: The deflections reported are not limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation. The deflection data is recorded in this report for special code compliance and information only.

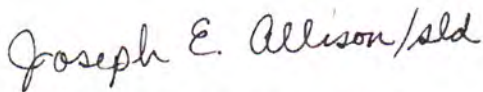
Note 5: Loads were held for 10 seconds.

Note 6: 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.

Intertek-ATI will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

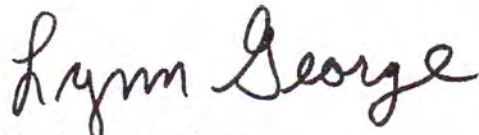
This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For INTERTEK-ATI



Digitally Signed for: Joseph E. Allison by Sandy L. DiCaro

Joseph E. Allison
Senior Technician



Digitally Signed by: Lynn George

Lynn George
Director – Regional Operations

JEA:sld

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Alteration Addendum (1)

Appendix-B: Location of Air Seal (1)

Appendix- C: Drawing(s) (1) Complete drawings packet on file with Intertek-ATI, Inc.



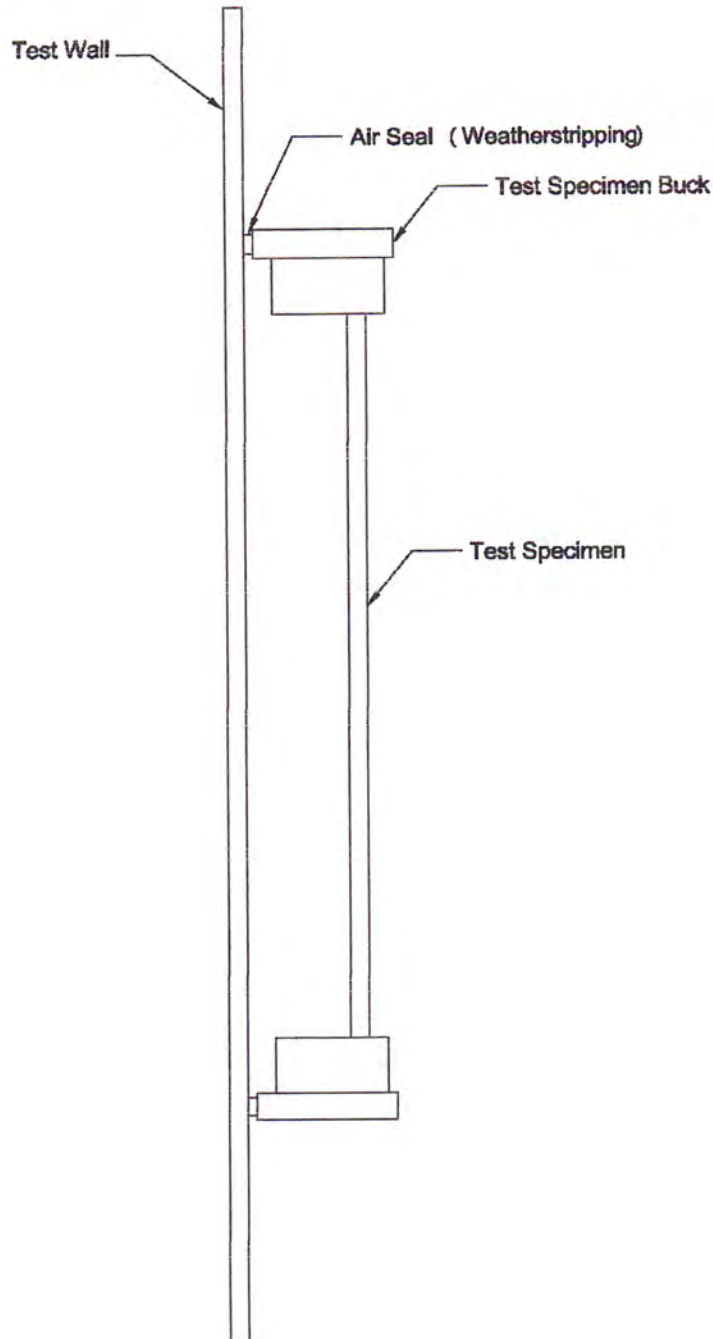
Appendix A

Alteration Addendum

Note: No alterations were required.

Appendix B

Location of Air Seal: The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping and creating a seal.





Appendix C

Drawing(s)

***Note:** Complete drawings packet on file with Intertek-ATI.*



AAMA 506 TEST REPORT

Report No.: G0434.01-501-44

Rendered to:

VEKA INC.
Fombell, Pennsylvania

PRODUCT TYPE: PVC Double Hung Window
SERIES/MODEL: DH57WW/AL-Insert

Test Date(s): 06/28/16

Report Date: 07/12/16

Test Record Retention End Date: 06/28/20



1.0 Report Issued To: Veka Inc.
100 Veka Drive
Fombell, Pennsylvania 16123-0250

2.0 Test Laboratory: Architectural Testing, Inc.,
a subsidiary of Intertek (Intertek-ATI)
1140 Lincoln Avenue
Springdale, Pennsylvania 15144
724-275-7100

3.0 Project Summary:

3.1 Product Type: PVC Double Hung Window

3.2 Series/Model: DH57WW/AL-Insert

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method(s). The samples tested met the performance requirements set forth in the referenced test procedures for a ± 2400 Pa (± 50.13 psf) Design Pressure with missile impacts corresponding to Missile Level D and Wind Zone 3.

3.4 Test Date(s): 06/28/16

3.5 Test Record Retention End Date: All test records for this report will be retained until June 28, 2020.

3.6 Test Location: Intertek-ATI test facility in Springdale, Pennsylvania.

3.7 Test Specimen Source: The test specimen(s) were provided by the client. Representative samples of the test specimen(s) will be retained by Intertek-ATI for a minimum of four years from the test completion date.

3.8 Drawing Reference: The test specimen drawings have been reviewed by Intertek-ATI and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Architectural Testing per the drawings located in Appendix B. Any deviations are documented herein or on the drawings.

3.9 List of Official Observers:

<u>Name</u>	<u>Company</u>
Cornell Charles	Veka Inc.
Joe Allison	Intertek-ATI
Joshua Barone	Intertek-ATI

4.0 Test Specification(s):

AAMA 506-11, *Voluntary Specifications for Impact and Cycle Testing of Fenestration Products.*

ASTM E 1886-05, *Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials*

ASTM E 1996-12, *Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes*

5.0 Test Specimen Description:

5.1 Product Sizes:

Test Specimens #1 - #3:

Overall Area: 1.9 m ² (20.2 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	1016	40	1854	73
Exterior sash size	930	36-5/8	891	35-1/16
Interior sash size	962	37-7/8	924	36-3/8

5.2 Frame Construction:

Frame Member	Material	Description
Head, sill, jambs, and head insert	PVC	Extruded
Sill insert	Aluminum	Extruded

	Joinery Type	Detail
All corners	Mitered	Thermally welded
Head insert	Square-cut	Snap-fit
Sill insert	Square-cut	Sealed with silicone sealant and secured with four #8 x 2" long truss head screws, evenly spaced through the sill and into the wood buck.

5.0 Test Specimen Description: (Continued)

5.3 Sash Construction:

Sash Member	Material	Description
All rails and stiles	PVC	Extruded

	Joinery Type	Detail
All corners	Mitered	Thermally welded

5.4 Weatherstripping:

Description	Quantity	Location
0.480" high center fin pile with kerf mount offset base	1 Row	Exterior meeting rail (interior)
0.187" backed by 0.300" high center fin pile	1 Row	Head, sill
0.187" backed by 0.270" high center fin pile	1 Row	Lock rail
0.187" backed by 0.270" high center fin pile	2 Rows	All stiles, bottom rail

5.5 Glazing: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

Glass Type	Spacer Type	Interior Lite	Exterior Lite	Glazing Method
3/4" IG	Rectangular-shaped aluminum, single sealed	1/8" annealed glass / 0.090" thick Solutia Saflex® PVB inner layer / 1/8" annealed glass	1/8" annealed glass	The glass was set from the exterior against a PECORA® 896-HIS silicone sealant and secured with rigid vinyl glazing beads.



5.0 Test Specimen Description: (Continued)

5.5 Glazing: (Continued)

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Exterior sash	1	870 x 832	34-1/4 x 32-3/4	1/2"
Interior sash	1	872 x 832	34-5/16 x 32-3/4	1/2"

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weepslot with flap	1" wide by 1/4" high	2	Exterior sill face, one 3-1/2" in from each end
Weepslot	1" wide by 3/16" high	2	Intermediate sill wall, one at each end.
Weepslot	1" wide by 3/16" deep	2	Exterior sill track, one at each end
Weepslot	1" wide by 3/16" high	2	Exterior sill face at screen track, one at each end
Weephole	3/8" wide by 1/8" deep	2	Exterior meeting rail bottom surface, one at each end

5.7 Hardware:

Description	Quantity	Location
Composite cam lock	2	Lock stile, one 7-1/4" from each end, with mating keeper on the exterior meeting rail
Constant force balance system with locking pivot shoe	4	Two per jamb
Composite top mount tilt latch	2	Lock rail, one at each end
Flush mount plastic tilt latch	2	Top rail, one at each end
Interlocking metal pivot bar	4	Bottom rail and exterior meeting rail, one at each end
Metal tilt latch hook	2	Midspan of jambs, one at each end at the lock rail



5.0 Test Specimen Description: (Continued)

5.8 Reinforcement:

Drawing Number	Location	Material
RF SE4545 AOM	Bottom sash stiles, and bottom rail	Extruded aluminum
RF SE4546 AOM	Lock rail	Extruded aluminum
S-050	Top sash stiles, and rails	Extruded aluminum

5.9 Screen Construction: No screen was utilized.

6.0 Installation:

The specimen was installed into a Spruce-Pine-Fir wood buck. The rough opening allowed for a 1/8" shim space. The nail fin perimeter of the window was sealed with a silicone sealant.

Location	Anchor Description	Anchor Location
Integral nail fin	#8 x 2" truss head screw	Nominally spaced at 9" on center, and beginning in each corner
Jambs	#8 x 2" long truss head screw	One at midspan of each jamb (2)

7.0 Test Results: The results are tabulated as follows:

ASTM E 1886, Large Missile Impact

Conditioning Temperature: 26°C (78°F)
Missile Weight: 4037 g (8.90 lbs)
Missile Length: 2.4 m (94")
Muzzle Distance from Test Specimen: 5.2 m (17' 0")

Test Unit #1: Orientation within $\pm 5^\circ$ of horizontal

Impact #1: Missile Velocity: 15.4 m/s (50.4 fps)	
Impact Area:	Exterior center of bottom sash
Observations:	Missile hit target area, broke exterior annealed lite and fractured interior laminated lite
Results:	Pass

Note: See Architectural Testing Sketch #1 for impact locations.

Test Unit #2: Orientation within $\pm 5^\circ$ of horizontal

Impact #1: Missile Velocity: 15.4 m/s (50.6 fps)	
Impact Area:	Exterior lower left corner of bottom sash
Observations:	Missile hit target area, broke exterior annealed lite and fractured interior laminated lite
Results:	Pass

Note: See Architectural Testing Sketch #2 for impact locations.

7.0 Test Results: (Continued)

ASTM E 1886, Large Missile Impact

Conditioning Temperature: 26°C (78°F)

Missile Weight: 4037 g (8.90 lbs)

Missile Length: 2.4 m (94")

Muzzle Distance from Test Specimen: 5.2 m (17'0")

Test Unit #3: Orientation within $\pm 5^\circ$ of horizontal

Impact #1: Missile Velocity: 15.5 m/s (50.9 fps)	
Impact Area:	Exterior upper right corner of bottom sash
Observations:	Missile hit target area, broke exterior annealed lite and fractured interior laminated lite
Results:	Pass

Note: See Architectural Testing Sketch #3 for impact locations.

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Unit #1

Design Pressure: ± 2400 Pa (± 50.13 psf)

POSITIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Observations
480 to 1200 (10.03 to 25.06)	3500	1.38	No additional deformation observed
0 to 1440 (0.0 to 30.08)	300	1.43	
1200 to 1920 (25.06 to 40.10)	600	1.31	
720 to 2400 (15.04 to 50.13)	100	1.73	

NEGATIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Observations
720 to 2400 (15.04 to 50.13)	50	1.74	No additional deformation observed
1200 to 1920 (25.06 to 40.10)	1050	1.40	
0 to 1440 (0.0 to 30.08)	50	2.07	
480 to 1200 (10.03 to 25.06)	3350	1.36	

Result: Pass

Note: Test Specimens #1, #2, and #3 were cycled in a common chamber.

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Unit #2

Design Pressure: ± 2400 Pa (± 50.13 psf)

POSITIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Observations
480 to 1200 (10.03 to 25.06)	3500	1.38	No additional deformation observed
0 to 1440 (0.0 to 30.08)	300	1.43	
1200 to 1920 (25.06 to 40.10)	600	1.31	
720 to 2400 (15.04 to 50.13)	100	1.73	

NEGATIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Observations
720 to 2400 (15.04 to 50.13)	50	1.74	No additional deformation observed
1200 to 1920 (25.06 to 40.10)	1050	1.40	
0 to 1440 (0.0 to 30.08)	50	2.07	
480 to 1200 (10.03 to 25.06)	3350	1.36	

Result: Pass

Note: Test Specimens #1, #2, and #3 were cycled in a common chamber.

7.0 Test Results: (Continued)

ASTM E 1886, Air Pressure Cycling

Test Unit #3

Design Pressure: ± 2400 Pa (± 50.13 psf)

POSITIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Observations
480 to 1200 (10.03 to 25.06)	3500	1.38	No additional deformation observed
0 to 1440 (0.0 to 30.08)	300	1.43	
1200 to 1920 (25.06 to 40.10)	600	1.31	
720 to 2400 (15.04 to 50.13)	100	1.73	

NEGATIVE PRESSURE

Pressure Range Pa (psf)	Number of Cycles	Average Cycle Time (seconds)	Observations
720 to 2400 (15.04 to 50.13)	50	1.74	No additional deformation observed
1200 to 1920 (25.06 to 40.10)	1050	1.40	
0 to 1440 (0.0 to 30.08)	50	2.07	
480 to 1200 (10.03 to 25.06)	3350	1.36	

Result: Pass

Note: Test Specimens #1, #2, and #3 were cycled in a common chamber.

General Note: *Upon completion of testing, the specimens met the requirements of Section 7 of ASTM E 1996.*

8.0 Test Equipment:

Cannon: Constructed from steel piping utilizing compressed air to propel the missile

Missile: 2x4 Southern Pine

Timing Device: Electronic Beam Type

Cycling Mechanism: Computer controlled centrifugal blower with electronic pressure measuring device

Tape and film were used to seal against air leakage during structural testing.



Test Report No.: G0434.01-501-44
Architectural Testing Report Date: 07/12/16
Page 12 of 12

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For ARCHITECTURAL TESTING, Inc.

Digitally Signed by: Joshua Barone

Joshua Barone
Technician

Digitally Signed by: Lynn George

Lynn George
Director

JB:sld

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Sketch(es) (3)

Appendix-B: Drawing(s) (2) Complete drawings packet on file with Intertek-ATI

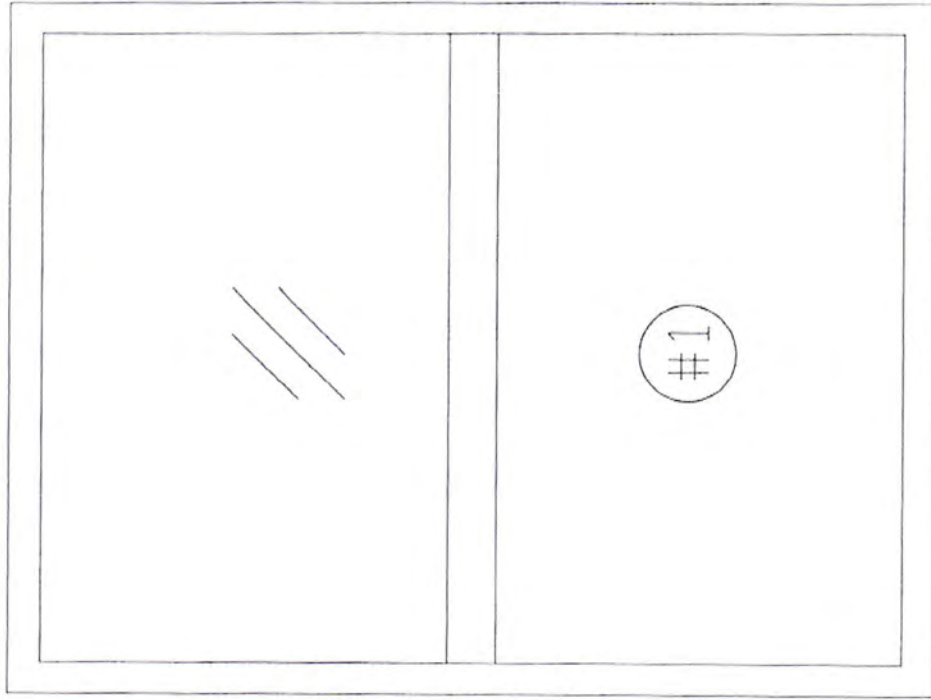


Test Report No.: G0434.01-501-44
Architectural Testing Report Date: 07/12/16

Appendix A

Sketch(es)

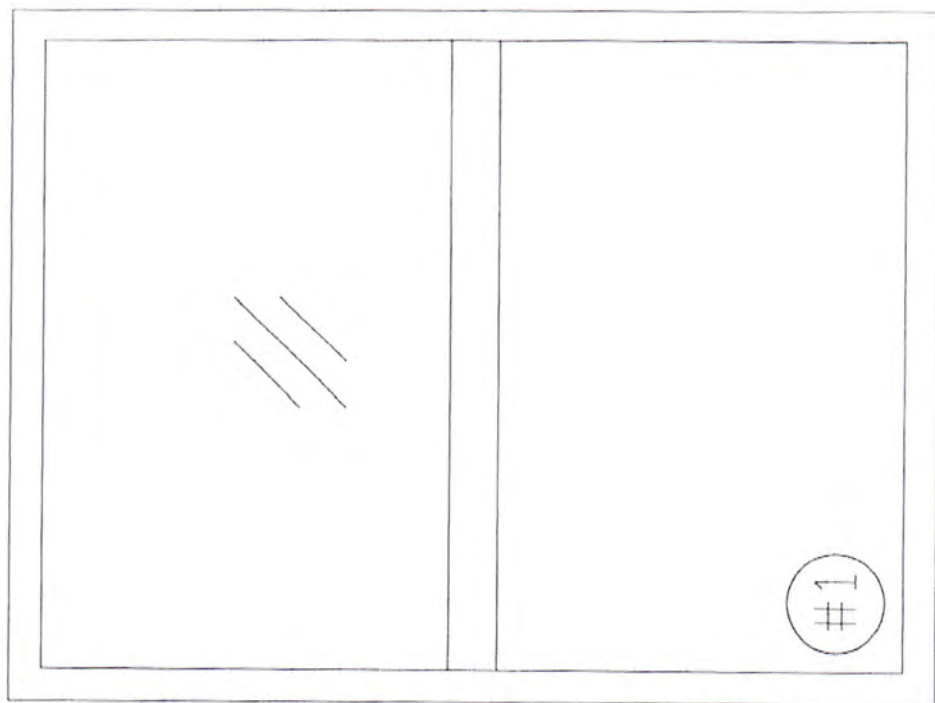
REV	DATE	DESCRIPTION	BY
			LG



Impact Locations

PROJECT NO. G0434 0101 501-44	PROJECT NAME: DH57WW CLIENT: Veka	DRAWING 	DWG. BY: LG DATE: 7-7-16	SHEET 1 OF 3
Sketch #1 (Impacts)				

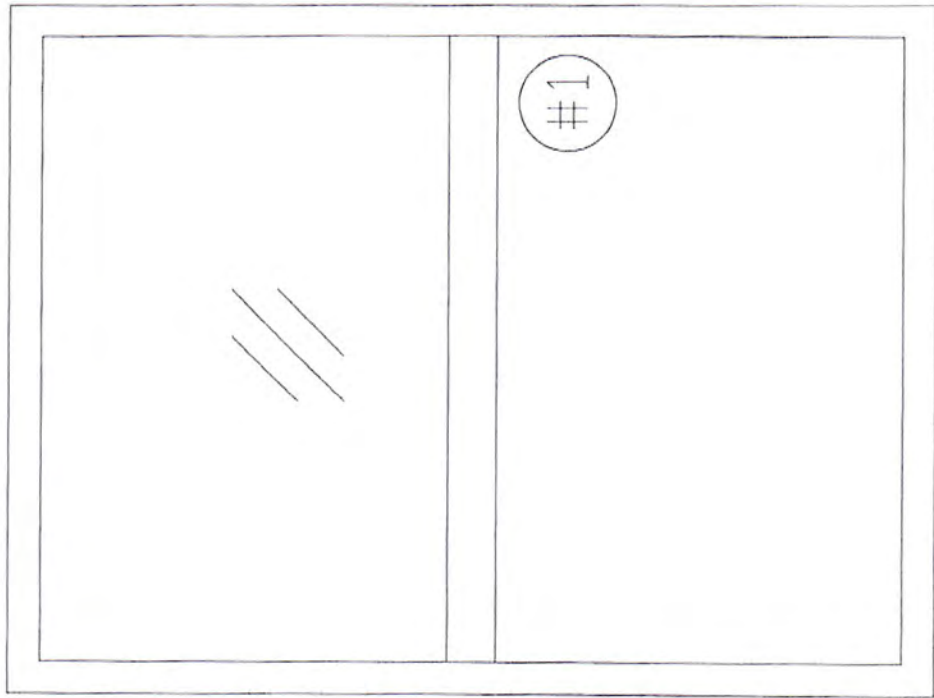
REV	DATE	DESCRIPTION	BY
			LG



Impact Locations

PROJECT NO. G0434.01 501-44	PROJECT NAME DH57WW CLIENT Veko	DRAWING Sketch 2 (Impact locations)	DWG. BY LG DATE 7-7-16	SHEET 2 OF 3
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REV	DATE	DESCRIPTION	BY
			LG



Impact Locations

PROJECT NO. G0434.01 501-44	PROJECT NAME DH57WW CLIENT: Veka	DRAWING 	Sketch #3 (Impacts)	DWG. BY: LG DATE: 7-7-16	SHEET 3 OF 3
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Test Report No.: G0434.01-501-44
Architectural Testing Report Date: 07/12/16

Appendix B

Drawing(s)

Note: Complete drawings packet on file with Intertek-ATI



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 1537
Date 4/20/15 Tech _____

S-047
A20115XX168.0000

BV162

S-050
A20118XX168.0000

V-717

V-717

V-724

V-712

SE4646

ALUMINUM BAR
188" X .875"

RFSE4646 ADM

3/4" IG

V-713

SE4647

RFSHA2105ADM

DH5701



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# _____
Date _____ Tech _____

NOTE:
FOR OTHER PROFILE, GLAZING BEAD,
& GLASS OPTIONS, PLEASE SEE THE
LINEAL PROFILE CHARTS FOR THIS
SYSTEM.

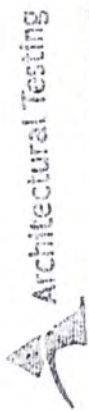
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REVISIONS	DATE



VEKA INC.
100 VEKA DRIVE
FOMBELL, PA 16123

DRAWN: T.J.F.	CHK'D:	APP'D:
DATE: 25 FEB 2015	DATE:	DATE:
TITLE: DOUBLE HUNG (DH57WV IMPACT) VERTICAL ASSEMBLY		DWG. # DH57WV Impact



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report#

Date

Tech

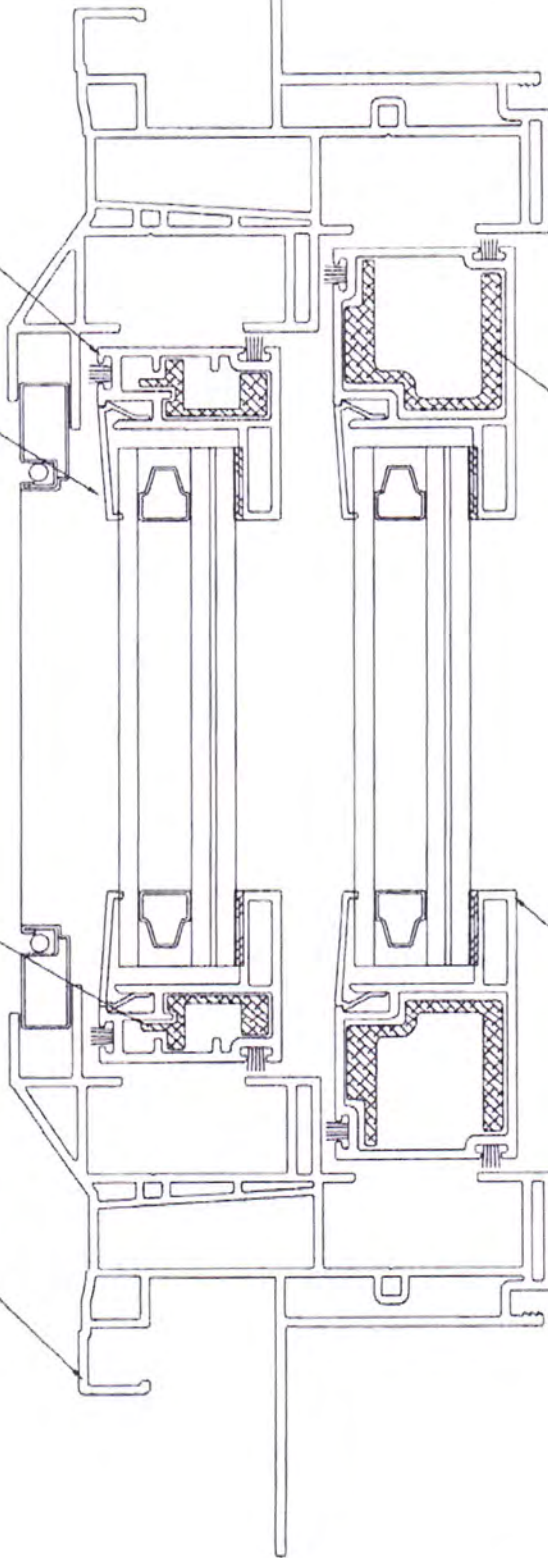
DH5701

S-047
A20115XX168.0000

S-047
A20115XX168.0000

BV162

V-705



SE 4645

Architectural Testing

NOTE:
FOR OTHER PROFILE, GLAZING BEAD,
& GLASS OPTIONS, PLEASE SEE THE
LINEAL PROFILE CHARTS FOR THIS
SYSTEM

Test sample complies with these details.
Deviations are noted.

Report#

Date

Tech



VEKA INC.
100 VEKA DRIVE
FOMBELL, PA 16123

DRAWN: T JF	CHK'D:	APP'VD:
DATE: 25 FEB 2015	DATE:	DATE:
TITLE: DOUBLE HUNG DH57MM IMPACT	DMG. #	DH57MM Impact
HORIZONTAL ASSEMBLY		

REVISIONS	DATE

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Limited Lifetime Warranty

Windows and sliding patio doors manufactured by **Custom Vinyl Products, LLC Windows and Doors** are guaranteed to be free of defects in material and workmanship under normal use and conditions. This Limited Warranty extends from the first date of purchase to the original owner and is subject to the terms and conditions stated herein:

- ❖ Vinyl components will be free from blistering, peeling, flaking, rotting, yellowing, or corrosion for the life of the product with the following exception:
 - Painted vinyl finishes – 10 years
 - Euroview vinyl products – 25 years
- ❖ There will be no material obstruction of vision on the internal surfaces of the insulated glass unit caused by seal failure for a period of 25 years with the following exceptions:
 - Laminated glass – 5 years
 - Architectural shaped glass – 10 years
 - Euroview product glass – 10 years
- ❖ Component parts will be covered for a period of 2 years with the following exceptions:
 - Motorized awning operators – 1 year
 - Screens – 90 days

The terms of this Limited Warranty exclude failures which are a result of or involve:

- ❖ Improper installation
- ❖ Accident, negligence, abuse, alteration, or improper use
- ❖ Excessive exposure to heat and cold outside of normal conditions
- ❖ Exposure to caustic agents
- ❖ Torn or damaged screens
- ❖ Glass breakage for any reason
- ❖ Corrosion of non-vinyl components in coastal areas, unless product is assembled with appropriate stainless steel hardware
- ❖ Condensation on external surfaces
- ❖ Failures caused by movement, expansion, or contraction of building or building components

This Limited Warranty covers materials only, and Custom Vinyl Products, LLC does not assume any expense or responsibility involved with the removal or reinstallation of replacement parts or any indirect, consequential, or incidental damage.



CUSTOM VINYL PRODUCTS, LLC

WINDOW INSTALLATION INSTRUCTIONS

- 1) Check that rough opening is between ½" to ¾" larger than the dimensions of the window, height and width.
- 2) Cut house wrap at 45 degree angle from top corners, about 6", and tack up out of the way.
- 3) Place wood shims in bottom right hand corner of the window opening.
- 4) Apply continuous ¼" bead of silicone based caulk to the inside of the nailing flange on the sides and top only.
- 5) Place window unit in the opening. **Sash must be locked during installation.** Rest window against shims in the right hand corner.
- 6) Attach the window using 1 ½" galvanized roofing nails through upper right side of nail fin. **Use pre-punched nail slots. Never use automated nailing devices.**
- 7) Place 2 foot level against left side of jamb and lift left side of window into level position.
- 8) Fasten head jamb.
- 9) Shim left and right side of jambs as to maintain a 1/16" continuous margin between sash and frame.
- 10) Fasten left side of jamb.
- 11) Attach the remainder of the unit approximately every other nail slot.
- 12) Check sash for easy operation. Check margins between sash and frame along the sides as well as top and bottom.
- 13) Apply 4" window flashing tape around the perimeter of the window, sides first then top. **Do not tape the bottom of the window.**

****FOR FURTHER FLASHING INSTRUCTIONS GO TO CUSTOMVINYL.NET**

CAUTION: GENERAL CONTRACTORS

- Keep sill area free of all debris. Do not allow brick or mortar to touch edges of window frame. Allow 1/8" gap and seal with caulk.
- Never use expandable foam insulation between window and rough opening. Use bat insulation.
- Window sash must always be locked during installation.

OPERATING INSTRUCTIONS

- 1) ALWAYS raise the sash before attempting to tilt.
- 2) Sash removal: Raise sash, tilt 90 degrees, and lift at each corner.
- 3) If the sash will not move up or down, remove sash as instructed above and repeat the process.

DuPont™ Flashing Systems Installation Guidelines

Installation Methods for DuPont™ Flashing System AFTER Water-Resistive Barrier (WRB) is Installed

Integral Flanged Window AFTER Water-Resistive Barrier (WRB)

Method applies to following product:

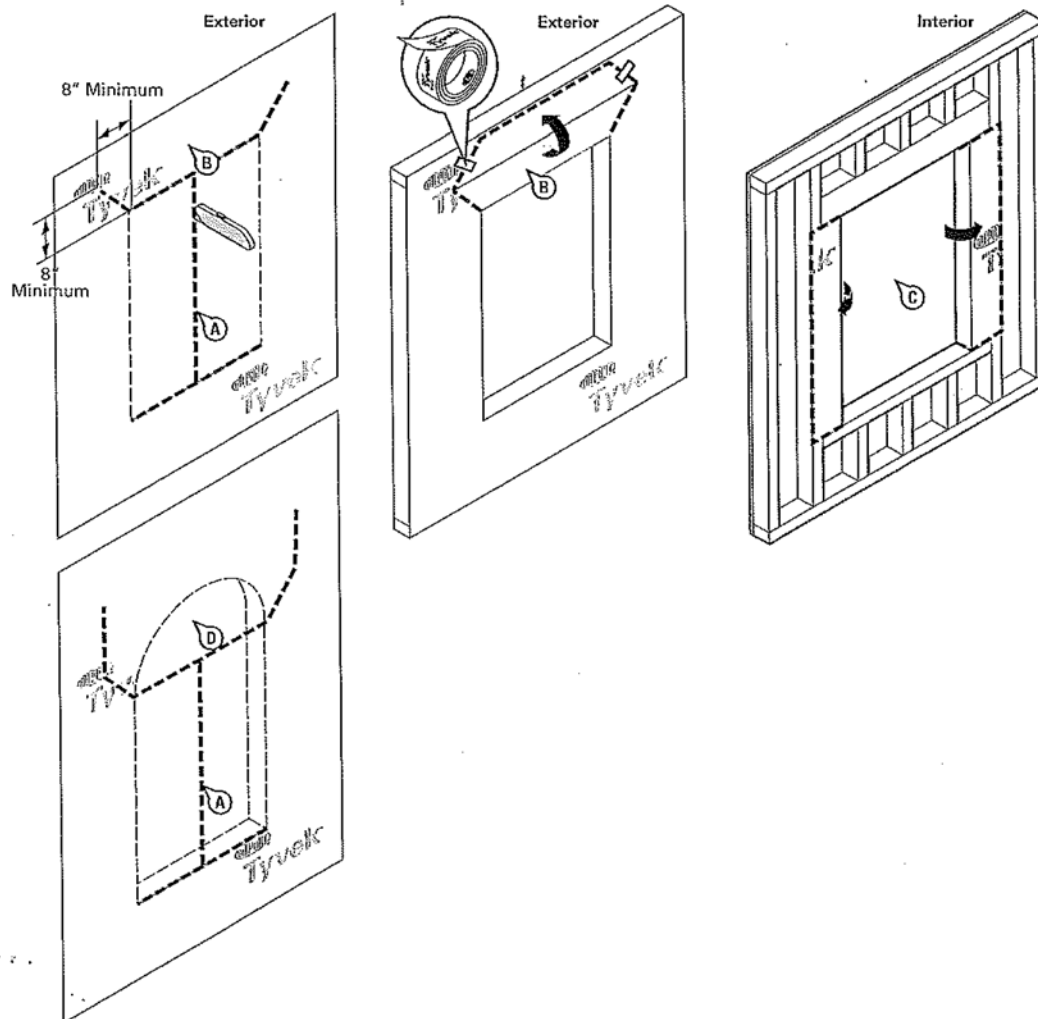
- DuPont™ StraightFlash™
- DuPont™ FlexWrap™

STEP 1

Prepare water-resistive barrier for window installation:

- Make an "I-Cut" (Standard I-Cut) in the WRB (modified I-Cut is also accepted). For an "I-Cut" begin with a horizontal cut across the bottom and the top of the window frame (for round top windows, the cut should begin 2" above the mull joint [see D]). From the center cut straight down to the sill.
- Cut two 45 degree slits a minimum of 8" from the corner of the header to create a flap above the rough opening to expose sheathing or framing members to allow head flashing installation (see step 5). Flip head flap up and temporarily secure with DuPont™ Tyvek® Tape. Some windows and flashing widths may require longer slits.
- Fold side flaps into rough opening, cut excess flaps, and secure.

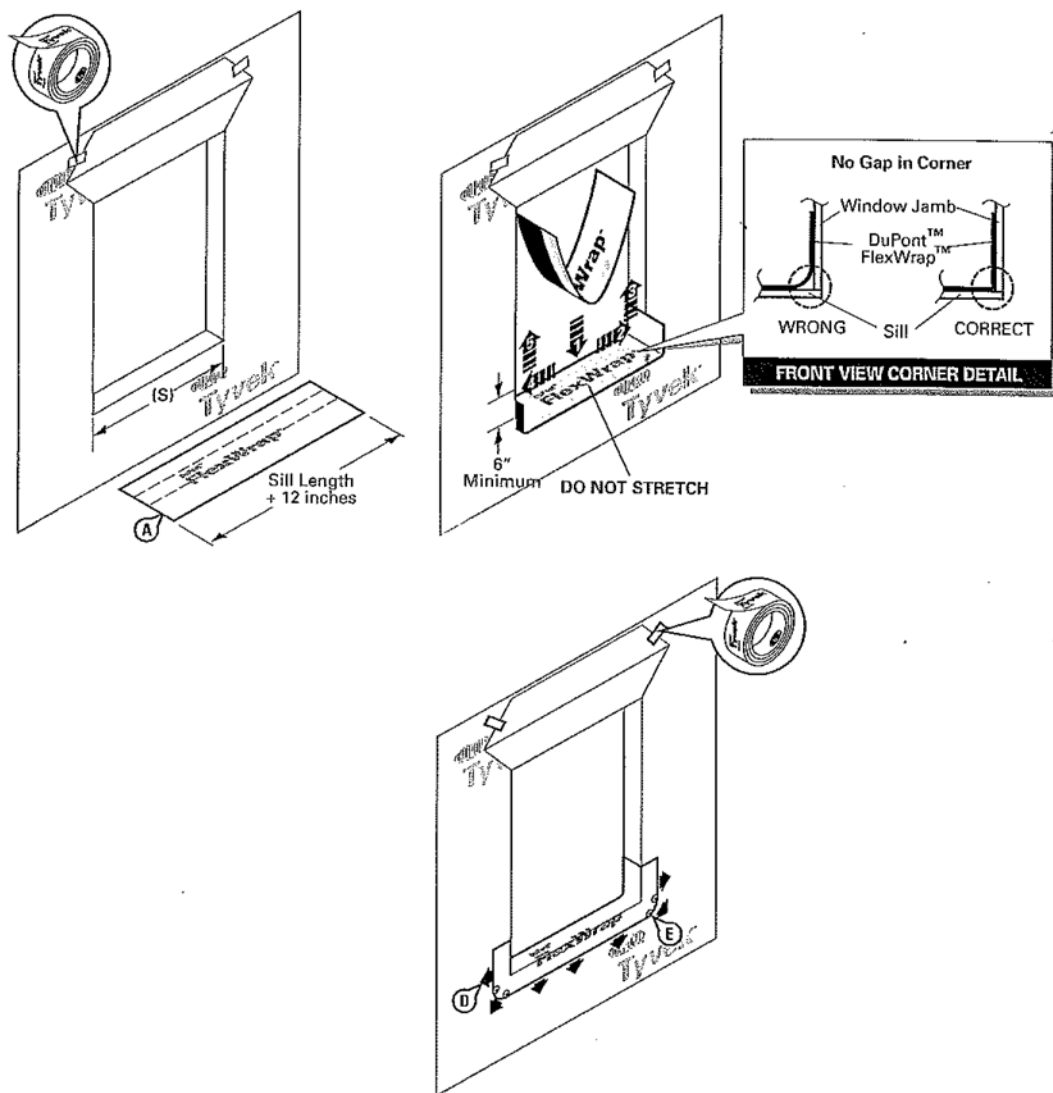
Note: Side flaps should cover interior facing framing stud.



STEP 2 (optional / not required)

- A. Cut DuPont™ FlexWrap™ at least 12" longer than width of rough opening sill (S).
- B. Remove first piece of release paper, cover horizontal sill by aligning inside edge of sill, and adhere into rough opening along sill and up jambs (min. 6" on each side).
- C. Remove second release paper.
- D. Flex DuPont™ FlexWrap™ at bottom corners onto face of wall.
- E. **SECURE EDGES OF DUPONT™ FLEXWRAP™ WITH MECHANICAL FASTENERS.** i.e., DuPont™ Tyvek® Wrap Caps (nails, screws, staples).

Note: Secure fastener along the bottom outer edge of the DuPont™ FlexWrap™ at flexed corners.

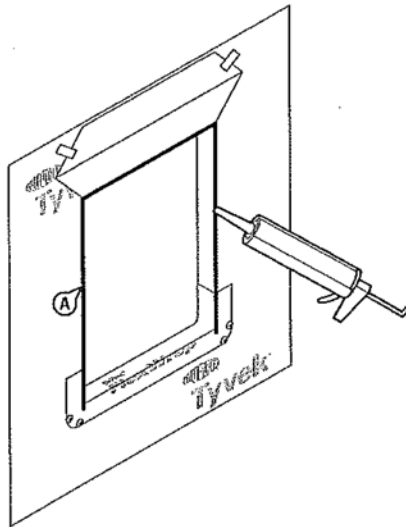


DuPont™ Flashing Systems Installation Guidelines

STEP 3

- A. Apply continuous bead of caulk at the window head and jambs to wall or back side of window mounting flange.

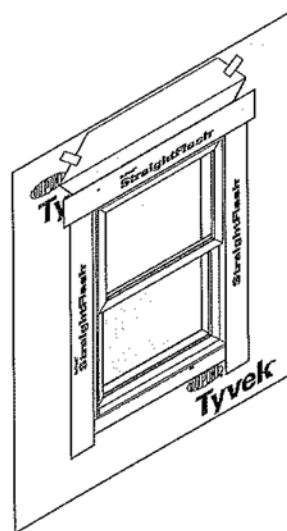
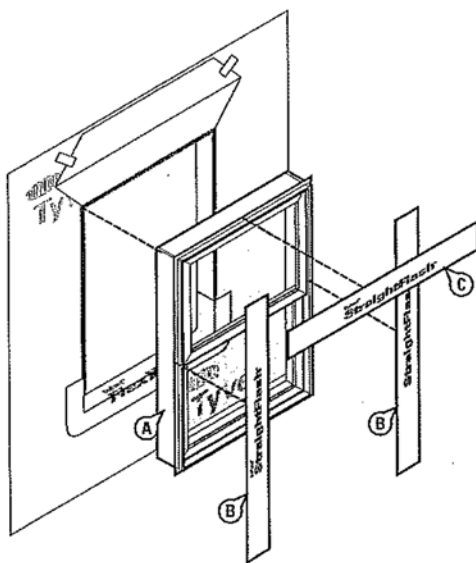
DO NOT APPLY CAULK ACROSS BOTTOM SILL FLANGE to allow for drainage.



FOR RECTANGULAR WINDOWS

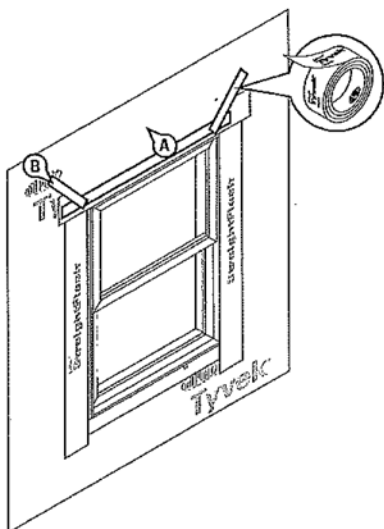
STEP 4

- A. Install window according to manufacturer's instructions.
- B. Cut two pieces of DuPont™ StraightFlash™ or DuPont™ FlexWrap™ for jamb flashing extending 1" above window head flange and below bottom edge of sill flashing. Remove release paper and press tightly along sides of window frame.
- C. Cut a piece of DuPont™ StraightFlash™ or DuPont™ FlexWrap™ for head flashing, which extends beyond outer edges of jamb flashings. Remove release paper and install completely covering mounting flange and adhering to exposed sheathing or framing members. (see C)



STEP 5

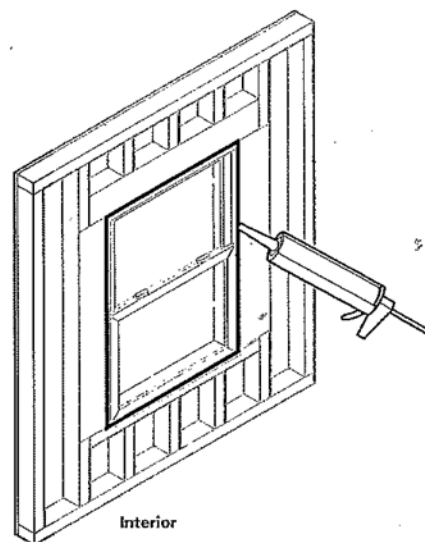
- A. Flip down upper flap of water-resistive barrier so it lays flat across head flashing.
- B. Tape along all cuts in water-resistive barrier and tape across head of the window with DuPont™ Tyvek® Tape.



STEP 6 (optional / not required)

Final Step

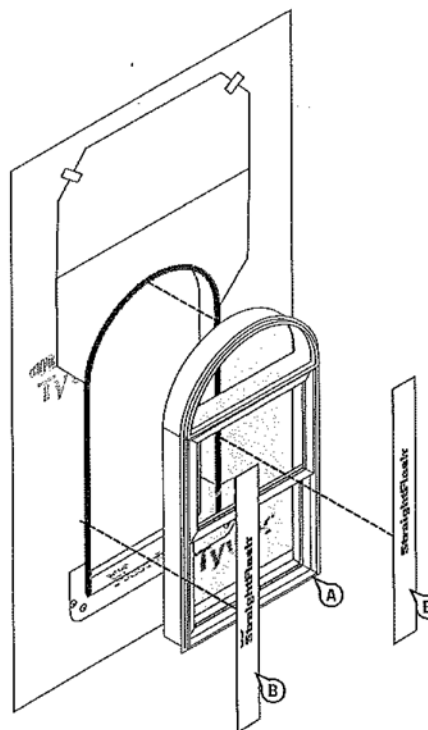
Seal around the window opening at the interior, using caulk (and backer rod as necessary). Caulk and backer rod will also serve as a back dam.



FOR ROUNDTOP WINDOWS

STEP 4

- A. Install window according to manufacturer's instructions.
- B. Cut two pieces of DuPont™ StraightFlash™ or DuPont™ FlexWrap™ for jamb flashing extending 1" above window head flange and below bottom edge of sill flashing. Remove release paper and press tightly along sides of window frame.

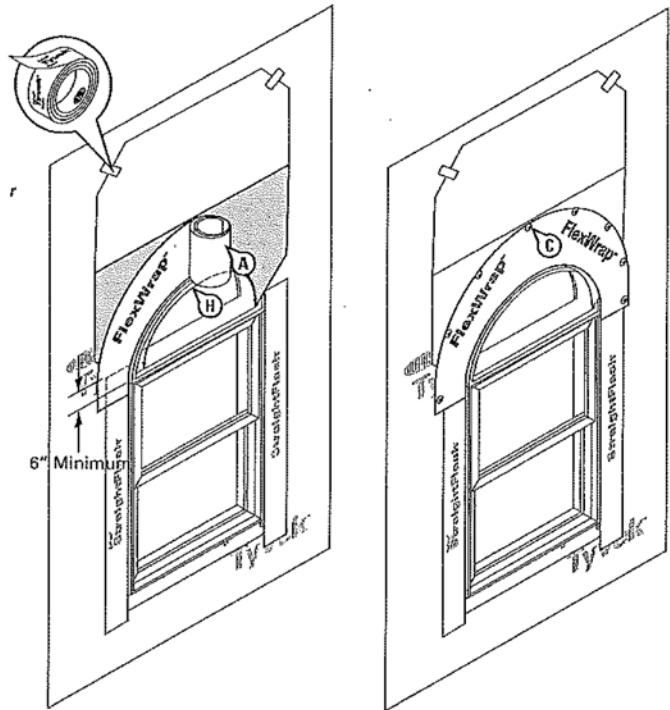


DuPont™ Flashing Systems Installation Guidelines

STEP 5

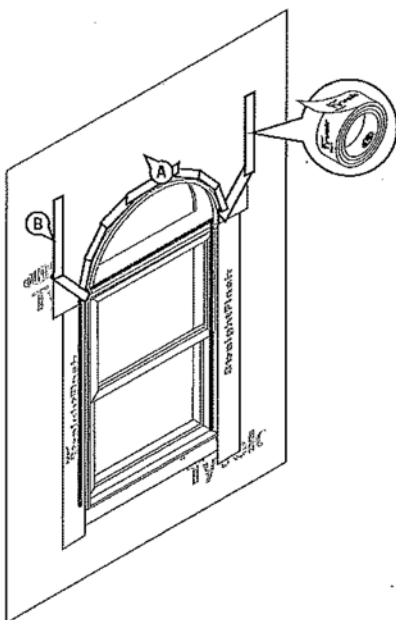
Install head flashing

- Cut head flashing at least 12" longer than the arc length (H) of round-top window.
- Remove both release papers and install to conform around top of window, covering entire mounting flange and adhering to exposed sheathing or framing members. Head flashing should overlap jamb flashings at least 6".
- Secure outer edges of head flashing using mechanical fasteners. e.g. DuPont™ Tyvek® Wrap Caps (nails, screws, staples). SECURE every 6" to 12" along outer perimeter.



STEP 6

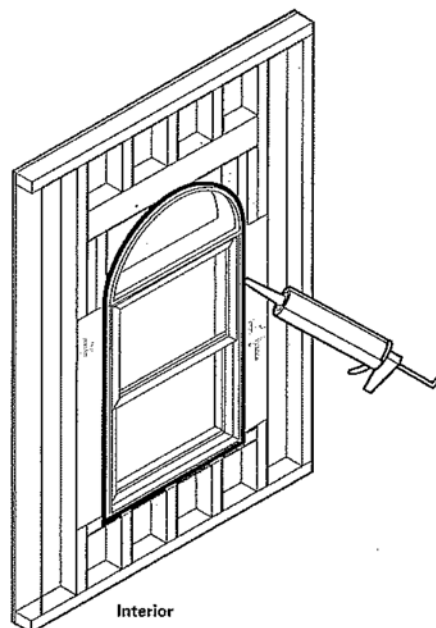
- Flip down upper flap of WRB so it lays flat across head flashing.
- Tape along all cuts in WRB and across head of the window with DuPont™ Tyvek® Tape.



STEP 7

Final Step

Seal around the window opening at the interior, using caulk (and backer rod as necessary). Caulk and backer rod will also serve as a back dam.





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Double Hung Operating Instructions

- 1) Make sure the sashes are unlocked.
- 2) At this point, the bottom sash will be able to be raised freely, and the top sash will be able to be lowered freely.
- 3) To clean: (use a mild soap and water on frames and any standard glass cleaner on glass. DO NOT use any kind of harsh cleaner on the vinyl frames and sashes. Use of such products can cause damage to the vinyl and WILL void the warranty.)
 - a. Raise the bottom sash up at least 2" (failure to do so will result in a damaged window and such damage will not be covered under warranty)
 - b. At the top corners of the sash there are spring loaded tilt latches. Pull in, towards the center of the window, on the tilt latches, and hold them.
 - c. While holding the tilt latches in the unlocked position, gently pull the sash towards you for cleaning and release the tilt latches.
 - d. To clean the top sash, pull down on the sash until the tilt latches can be operated easily.
 - e. Pull in on tilt latches and gently pull sash towards you for cleaning and release tilt latches.
 - f. When finished cleaning, simply tilt the top sash back up into place and push to automatically engage the tilt latches, then raise the sash all the way back up into place. Then, do the same for the bottom sash, lowering it into place.
 - g. Make sure to reengage the sash locks for security.
- 4) If at any time the sashes do not travel up and down freely, DO NOT force them. They should travel relatively easily. Occasionally during cleaning, the sashes will become "locked out". Simply re-tilt the sash, down passed 90 degrees, then re-tilt it back up into position. The balance system on the window is self-correcting. IF this does not correct the issue, then call the main office at (757)887-3194 and ask to speak to our Service Manager for further assistance.