



BUILDING CODE COMPLIANCE OFFICE (BCCO)  
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908

[www.buildingcodeonline.com](http://www.buildingcodeonline.com)

## NOTICE OF ACCEPTANCE (NOA)

Marvin Windows & Doors  
Highway 11, P.O. Box 100  
Warroad, MN 56763

### SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

### DESCRIPTION: Series "Clad Direct Glazed" Aluminum Clad Wood Fixed Window L.M.I.

**APPROVAL DOCUMENT:** Drawing No. **00012646**, titled "Clad Direct Glazed Impact HP", sheets 1 through 9 of 9, prepared by W.W. Schaefer Engineering & Consulting, P.A., dated 3/31/99 with revision "D1" dated 08/03/05, signed and sealed by Warren W. Schaefer, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Division.

### MISSILE IMPACT RATING: Large and Small Missile Impact

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA # **02-1205.01** and consists of this page 1 and evidence pages E-1, E-2 and E-3 as well as approval document mentioned above.

The submitted documentation was reviewed by **Jaime D. Gascon, P.E.**



J. Gascon  
3/14/06

NOA No 05-0815.08  
Expiration Date: November 30, 2007  
Approval Date: April 06, 2006

Marvin Windows & Doors

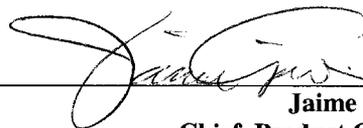
NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

**A. DRAWINGS**

1. Manufacturer's die drawings and sections.
2. Drawing No. **00012646**, titled "Clad Direct Glazed Impact HP", sheets 1 through 9 of 9, prepared by W.W. Schaefer Engineering & Consulting, P.A., dated 3/31/99, with last revision "D1" dated 08/03/05, signed and sealed by Warren W. Schaefer, P.E.

**B. TESTS**

1. Test reports on
  - 1) Air Infiltration Test, per FBC, TAS 202-94
  - 2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94.
  - 3) Water Resistance Test, per FBC, TAS 202-94.
  - 4) Large Missile Impact Test per FBC, TAS 201-94
  - 5) Cyclic Wind Pressure Loading per FBC, TAS 203-94along with installation diagram of a wood fixed window prepared by Fenestration Testing Laboratory, test report No. **FTL-2240**, dated 02/26/99, signed and sealed by Gilbert Diamond, P.E.  
*"Submitted under NOA# 02-1205.01"*
2. Test reports on
  - 1) Large Missile Impact Test per FBC, TAS 201-94
  - 2) Cyclic Wind Pressure Loading per FBC, TAS 203-94along with installation diagram of an octagon wood fixed window prepared by Fenestration Testing Laboratory, Inc. Test report No. **FTL-2239**, dated February 12, 1999, signed and sealed by Gilbert Diamond, P.E.  
*"Submitted under NOA# 02-1205.01"*
3. Test reports on
  - 1) Air Infiltration Test, per FBC, TAS 202-94
  - 2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94.
  - 3) Water Resistance Test, per FBC, TAS 202-94.
  - 4) Large Missile Impact Test per FBC, TAS 201-94
  - 5) Cyclic Wind Pressure Loading per FBC, TAS 203-94along with installation diagram of a wood arch fixed window prepared by Fenestration Testing Laboratory, Test report No. **FTL-2238**, dated 02/12/99, signed and sealed by Gilbert Diamond, P.E.  
*"Submitted under NOA# 02-1205.01"*
4. Test reports on
  - 1) Air Infiltration Test, per FBC, TAS 202-94
  - 2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94.
  - 3) Water Resistance Test, per FBC, TAS 202-94.
  - 4) Large Missile Impact Test per FBC, TAS 201-94
  - 5) Cyclic Wind Pressure Loading per FBC, TAS 203-94along with installation diagram of a wood fixed window prepared by Fenestration Testing Laboratory, test report No. **FTL-2234**, dated 02/12/99, signed and sealed by Gilbert Diamond, P.E.  
*"Submitted under NOA# 02-1205.01"*



Jaime D. Gascon, P.E.  
Chief, Product Control Division  
NOA No 05-0815.08

Expiration Date: November 30, 2007  
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Marvin Windows & Doors

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5. Test reports on 1) Air Infiltration Test, per FBC, TAS 202-94  
2) Uniform Static Air Pressure Test, Loading erFBC,TAS 202-94.  
3) Water Resistance Test, per FBC, TAS 202-94.  
4) Large Missile Impact Test per FBC, TAS 201-94  
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94  
along with installation diagram of 6072 Clad Direct Set window, prepared by Architectural Testing Inc., test report No. **ATI-02-31929.01**, dated 01/11/2000, and addendum letter dated 21 Sept. 20000, signed and sealed by Allen N. Reeves, P.E  
**“Submitted under NOA# 02-1205.01”**
6. Test reports on 1) Air Infiltration Test, per FBC, TAS 202-94  
2) Uniform Static Air Pressure Test,Loading perFBC,TAS 202-94.  
3) Water Resistance Test, per FBC, TAS 202-94.  
4) Large Missile Impact Test per FBC, TAS 201-94  
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94  
along with installation diagram of 4872 Clad Direct Set window, prepared by Architectural Testing Inc., test report No. **ATI-02-31930.01**, dated 01/11/2000, and addendum letter dated 21 Sept. 20000, signed and sealed by Allen N. Reeves, P.E  
**“Submitted under NOA# 02-1205.01”**

**C. CALCULATIONS**

1. Revised Anchor Calculations and structural analysis, complying with FBC-2004, prepared by W.W. Schaefer Engineering & Consulting, P.A., dated 01/19/06, signed and sealed by Warren W. Schaefer, P.E.  
**Complies with ASTM E1300-02**

**D. QUALITY ASSURANCE BY**

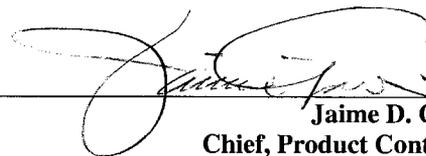
1. Miami Dade Building Code Compliance Office (BCCO).

**E. MATERIAL CERTIFICATIONS:**

1. Notice of Acceptance No.**03-0916.02** issued to Nebula Glass International Inc. for “Glasslam Safety-Plus Laminated Glass” dated 10/23/03, expiring on 09/09/08.  
2. Notice of Acceptance No. **03-0417.01** issued to Cardinal DGP for “Cardinal Sea Storm Type B” dated 05/15/03, expiring on 12/03/07.

**F. STATEMENTS**

1. Statement letter of no change, issued by Marvin Windows signed by Don Lagerstrom, dated 11/19/02.  
**“Submitted under NOA# 02-1205.01”**



Jaime D. Gascon, P.E.  
Chief, Product Control Division  
NOA No 05-0815.08

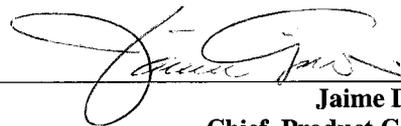
Expiration Date: November 30, 2007  
Approval Date: April 06, 2006

**Marvin Windows & Doors**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

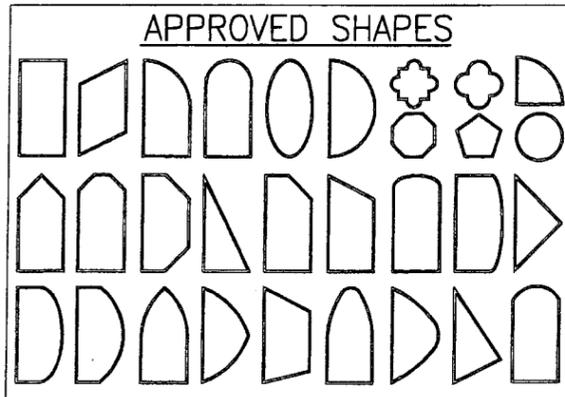
**G. OTHER**

- 1.** Notice of Acceptance No. **02-1205.01**, issued to Marvin Windows & Doors for their Series "Clad Direct Glazed" Aluminum Clad Wood Fixed Window, approved on 01/16/03 and expiring on 11/30/07.



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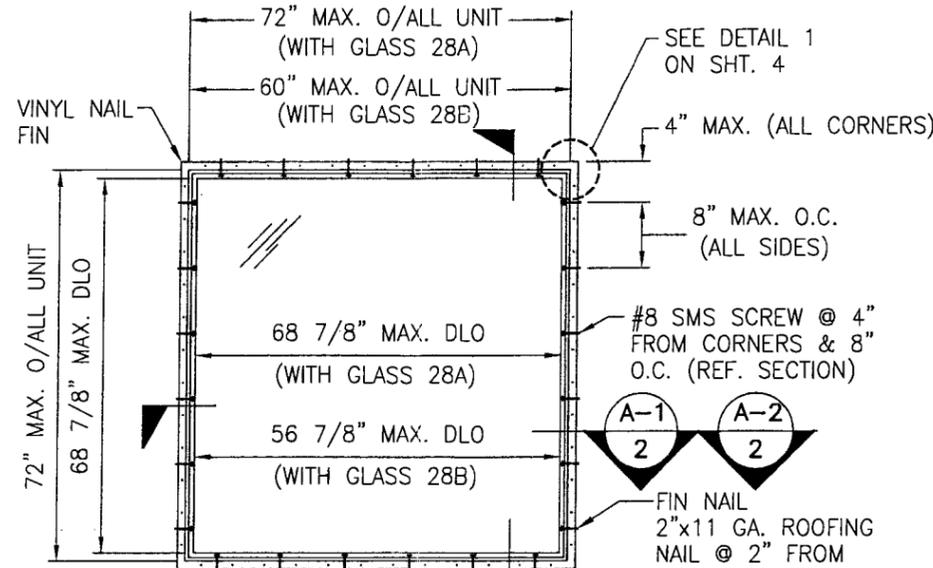
**Jaime D. Gascon, P.E.**  
**Chief, Product Control Division**  
**NOA No 05-0815.08**  
**Expiration Date: November 30, 2007**  
**Approval Date: April 06, 2006**



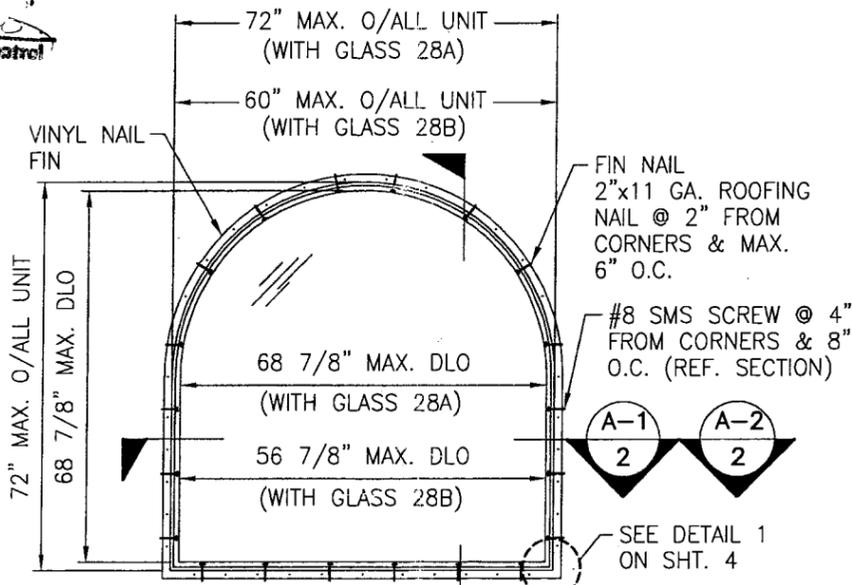
**NOTES:**  
 1. OTHER SHAPES MAY APPLY PROVIDING THEY ARE SIMILAR TO THOSE SHOWN & HAVE CORNER CONSTRUCTION PER CORNER DETAILS.  
 2. ALL SHAPED UNITS MUST FIT INSCRIBED INTO THE ALLOWABLE RECTANGULAR UNITS & BE GOVERNED BY THE ALLOWABLE PRESSURE OF THE RESPECTIVE RECTANGULAR UNIT.

**GENERAL NOTES**

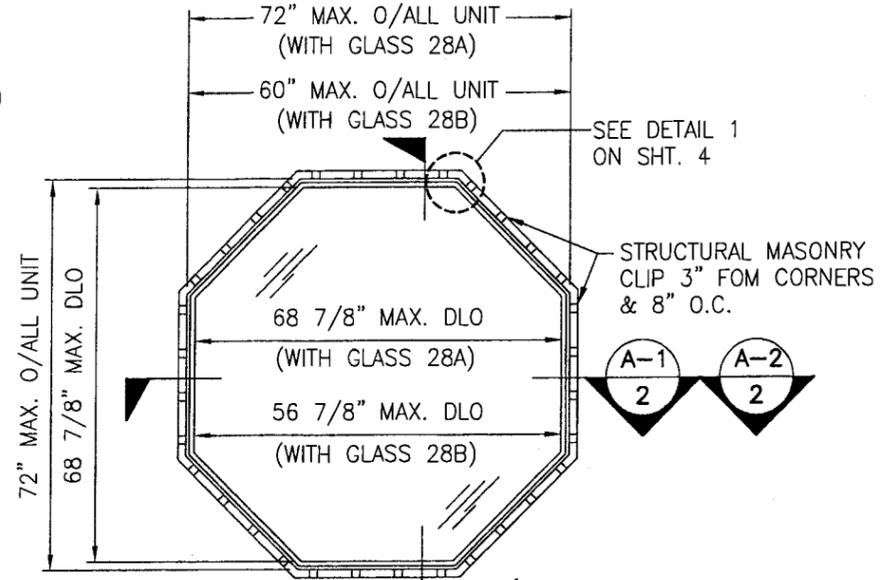
1. THESE WINDOW SYSTEMS HAVE BEEN TESTED, ANALYZED AND APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN IN THE LOAD TABLES ON SHEET 5.
2. BUCKING, OPENINGS & BUCKING FASTENERS MUST BE DESIGNED & INSTALLED TO WITHSTAND WIND LOADS AS DETERMINED FOR EA. APPLICATION
3. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & MAY NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS.
4. THE DETAILS & SPECIFICATIONS SHOWN HEREIN REPRESENT THE PRODUCTS PROPOSED FOR WATER, AIR, IMPACT, CYCLIC & UNIFORM STATIC AIR PRESSURE TESTING IN CONFORMANCE WITH 2004 FLORIDA BUILDING CODE PROTOCOLS TAS-201, 202 & 203.
5. FOR ANCHOR EMBED & EDGE DISTANCE REQUIREMENTS, SEE "ANCHOR REQUIREMENTS TABLE" ON THIS SHEET.
6. THESE WINDOW SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2004 FLORIDA BUILDING CODE (FBC) INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).
7. THIS PRODUCT HAS BEEN TESTED IN ACCORDANCE WITH 2004 FLORIDA BUILDING CODE PROTOCOLS TAS-201, TAS-202 & TAS-203 FOR LARGE MISSILE IMPACT, STRUCTURAL & CYCLIC TESTING.
8. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF 2004 FLORIDA BUILDING CODE SECTION 2003.8.4.



**72"x72" RECTANGULAR**  
 SCALE: 3/8" = 1'-0"



**72" HALF CIRCLE**  
 SCALE: 3/8" = 1'-0"



**72" OCTAGON**  
 SCALE: 3/8" = 1'-0"

**NOTE:** SIZES OF WINDOWS MAY VARY FROM THOSE SHOWN IN THESE ELEVATIONS PER THE LOAD TABLES ON SHEET 5. SHAPED UNITS MUST FIT INSCRIBED INTO THE SIZES LISTED IN THE TABLE AND SHALL BE RESTRICTED IN DESIGN PRESSURE BY THE UNIT SIZE IT IS INSCRIBED INTO.

ALL UNITS SHOWN FROM EXTERIOR

**ALLOWABLE DESIGN LOADS**  
 SEE LOAD TABLES ON SHEET 5

FRAME ANCHOR REQUIREMENTS TABLE			
SHEAR SCREWS			
OPENING TYPE (SUBSTRATE)	JAMB TO OPENING FASTENER TYPE	MINIMUM EMBEDMENT	MINIMUM EDGE DIST.
2X_ WOOD FRAME OR BUCK	NO. 8 SMS SCREW	1 1/4"	3/4"
CMU/CONCRETE	3/16" CONCRETE SCREWS	1 1/4"	2"
NAIL FIN NAILS			
2X_ WOOD FRAME OR BUCK	11 GA. ROOFING NAILS	1 3/4"	1/2"
STRUCTURAL CLIPS			
2X_ WOOD FRAME OR BUCK	NO. 8 SMS SCREW	1 3/8"	1/4"

REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER
D1	UPDATED TO 2004 F.B.C. COMPLIANT		08/03/05	WWS
C1	ADDED APPROVED SHAPES		04/06/01	WWS
B1	ADDED CARDINAL SEA-STORM GLASS		09/14/00	WWS
A1	CHANGED FASTENER SPACING FROM 12" TO 8"		08/31/99	WWS

**JAN 22 2006**

WARREN W. SCHAEFER, P.E.  
 STRUCTURAL ENGINEER  
 P.E. No. 44135

**W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.**  
 STRUCTURAL CONSULTING ENGINEERS  
 8895 N. MILITARY TRAIL, SUITE C204  
 PALM BEACH GARDENS, FL 33410  
 PHONE: 561-775-4902

WOOD PART DIP SPEC  
 DIP  AT MLDR.  NO DIP  IN PROD.

**MARVIN** RESEARCH AND DEVELOPMENT  
 BOX 100, WARROAD, MN 56763  
 WINDOWS&DOORS. (218) 386-1430 FAX 386-1913

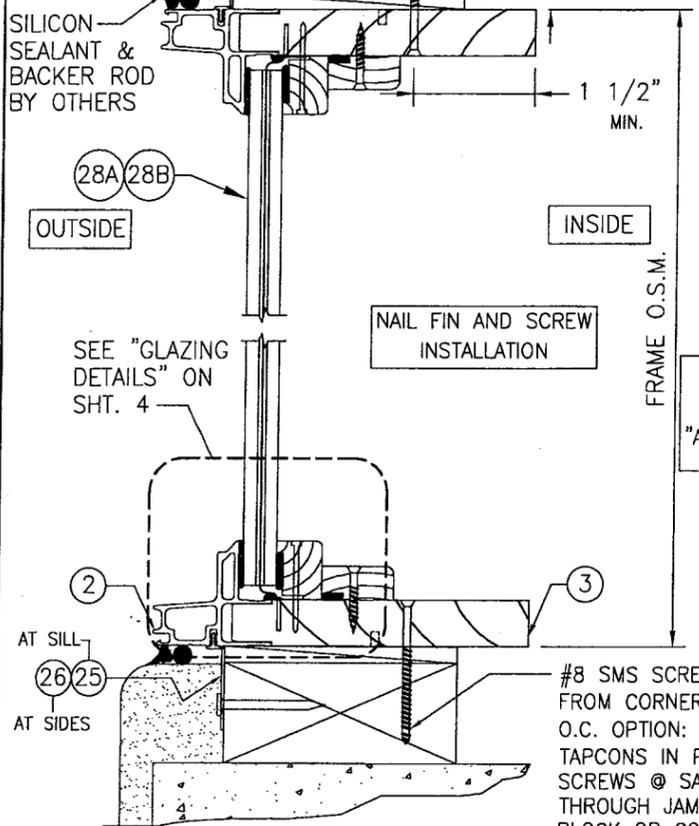
PRODUCT LINE: CLAD DIRECT-GLAZE  
 PRODUCT: IMPACT HP

ASSEMBLY:  
 ELEVATIONS OF DADE-COUNTY QUALIFIED SHAPES

MATERIAL: N/A SIZE: B DRAWING NO: 00012646  
 SCALE: NOTED DATE: 03/31/99 DRAWN BY: T.M.H. SHEET: 1 OF 9

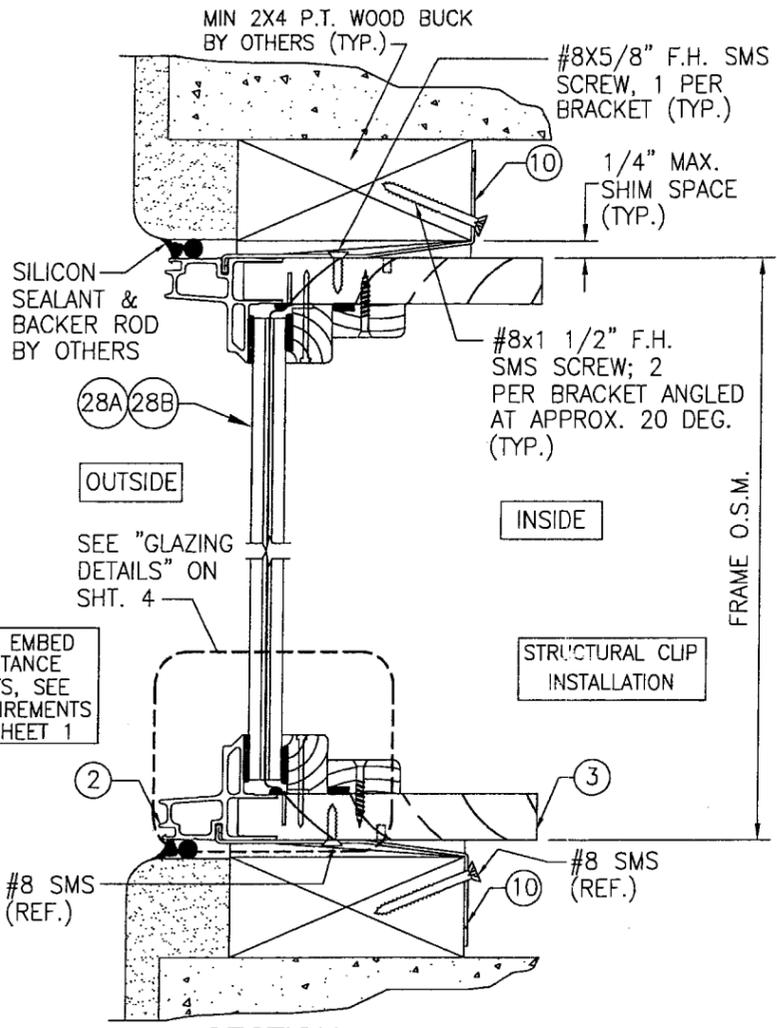
**PRODUCT REVISED**  
 as complying with the Florida Building Code  
 Acceptance No. 05-0815-08  
 Expiration Date 11/20/07  
 By: [Signature]  
 Miami State Product Control Division

MIN. 2"x11 GA. ROOFING  
NAIL @ 2" FROM  
CORNERS & MAX. 6" O.C.  
MIN. 2X4  
P.T. WOOD  
BUCK BY  
OTHERS  
#8 SMS SCREW  
OR 3/16" TAPCON  
(REF. SILL SECTION)  
1/4" MAX.  
SHIM SPACE (TYP.)



**SECTION A-1**  
SCALE: HALF FULL SIZE  
(NOTE: HORIZONTAL SECTION SAME)

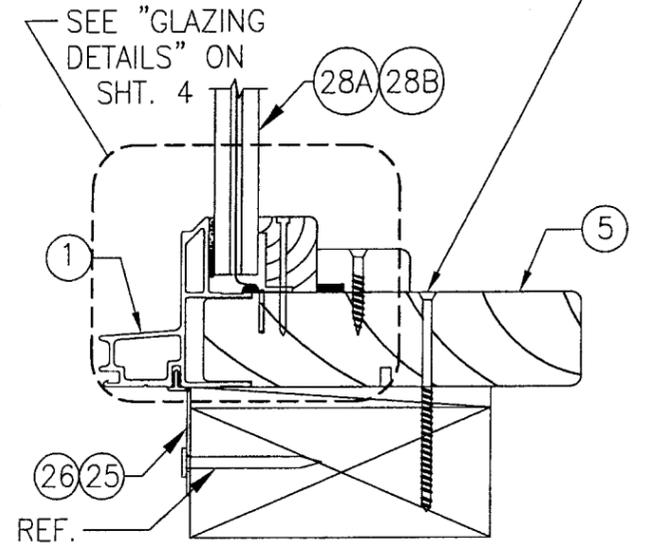
SEE GLAZING DETAILS ON SHEET 4 FOR GLAZING & GLAZING STOPS.



**SECTION A-2**  
SCALE: HALF FULL SIZE  
(NOTE: HORIZONTAL SECTION SAME)

SEE GLAZING DETAILS ON SHEET 4 FOR GLAZING & GLAZING STOPS.

#8 SMS SCREW @ 4" MAX. FROM CORNERS & MAX. 8" O.C. OPTION: USE 3/16" TAPCONS IN PLACE OF #8 SCREWS @ SAME SPACING THROUGH JAMB & INTO BLOCK OR CONCRETE WHEN A SMALLER OR NO BUCK IS SPECIFIED.



**OPTIONAL JAMB DETAIL**  
SCALE: HALF FULL SIZE

**NOTE:**  
JAMB ⑤ WITH CLADDING ① MAY BE USED WITH EITHER SECTION A-1 OR A-2.

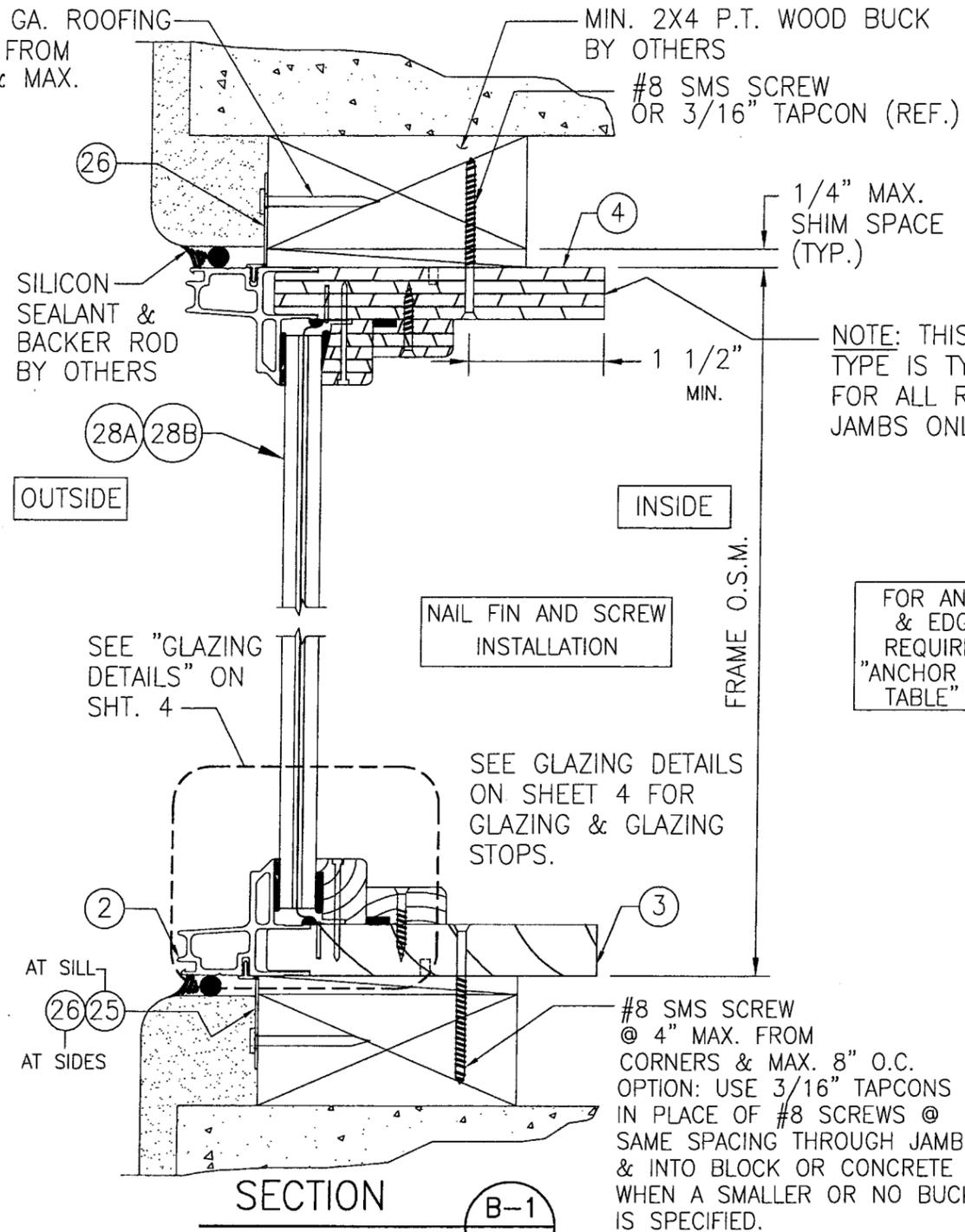
SEE GLAZING DETAILS ON SHEET 4 FOR GLAZING & GLAZING STOPS.

**PRODUCT-REVISED**  
as complying with the Florida Building Code  
Acceptance No. 05-0815-08  
Expiration Date 11/22/07  
By: [Signature]  
Miami Dade Product Control Division

B1	ADDED CARDINAL SEA-STORM GLASS		09/14/00	WWS
A1	CHANGED FASTENER SPACING FROM 12" TO 8"		08/31/99	WWS
REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER

<p>JAN 22 2006</p> <p>WARREN W. SCHAEFER, P.E. STRUCTURAL ENGINEER P.E. No. 44135</p> <p>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. STRUCTURAL CONSULTING ENGINEERS 8895 N. MILITARY TRAIL, SUITE C204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902</p>	<input type="checkbox"/> DIP <input type="checkbox"/> NO DIP	<input type="checkbox"/> AT MLDR. <input type="checkbox"/> IN PROD.	<p><b>MARVIN</b> RESEARCH AND DEVELOPMENT BOX 100, WARROAD, MN 56763 WINDOWS&amp;DOORS. (218) 386-1430 FAX 386-1913</p>
	<p>PRODUCT LINE: CLAD DIRECT-GLAZE PRODUCT: IMPACT HP</p>		
<p>ASSEMBLY: CROSS SECTIONS</p>			<p>MATERIAL: N/A</p>
<p>DRAWING NO: 00012646</p>		<p>SCALE: B</p>	<p>DATE: 03/31/99</p>
<p>DRAWN BY: T.M.H.</p>		<p>SHEET: 2 OF 9</p>	

MIN. 2"x11 GA. ROOFING  
NAIL @ 2" FROM  
CORNERS & MAX.  
6" O.C.

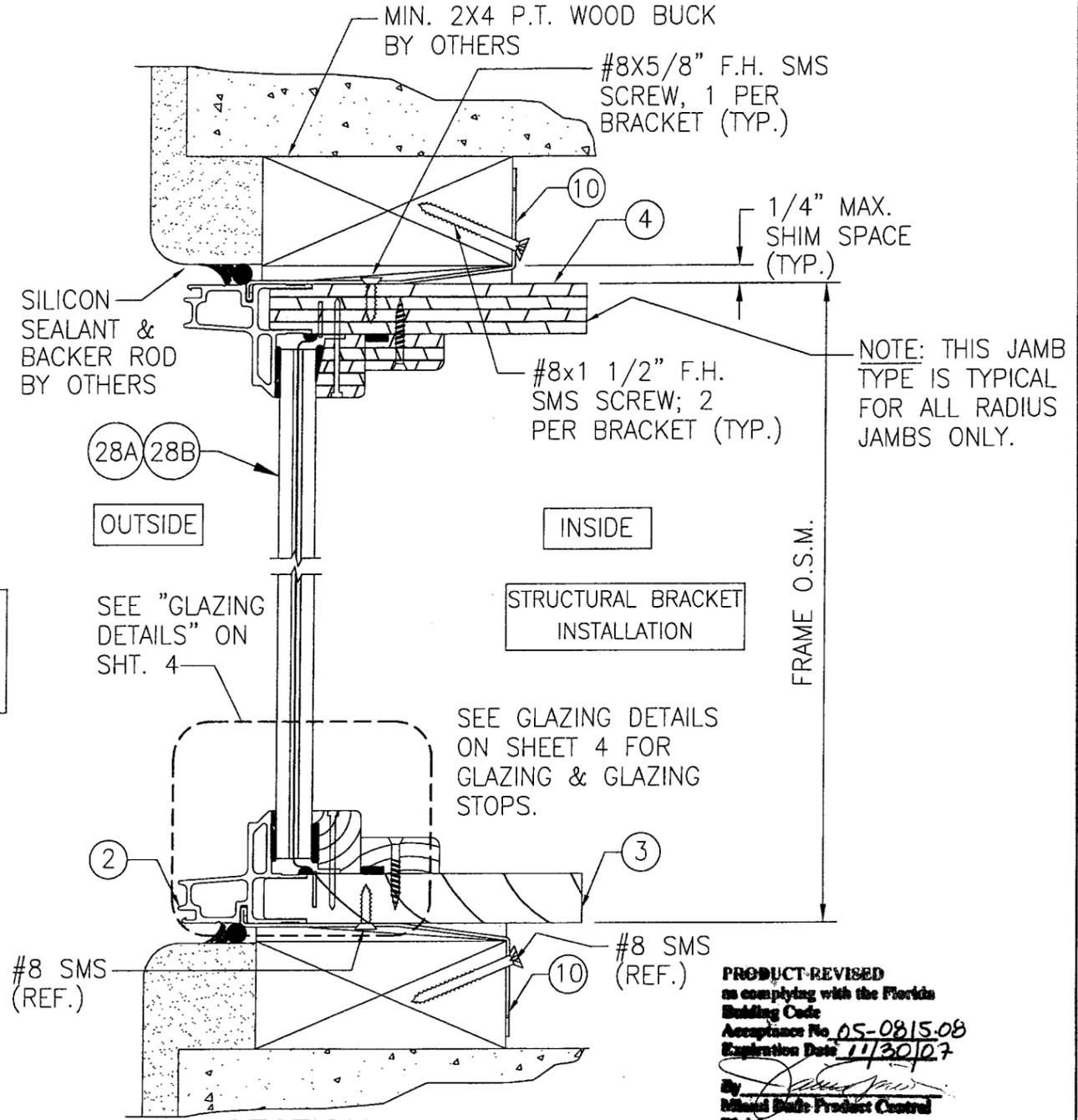


SECTION B-1  
SCALE: HALF FULL SIZE 3

NOTE: THIS JAMB TYPE IS TYPICAL FOR ALL RADIUS JAMBS ONLY.

FOR ANCHOR EMBED & EDGE DISTANCE REQUIREMENTS, SEE "ANCHOR REQUIREMENTS TABLE" ON SHEET 1

MIN. 2X4 P.T. WOOD BUCK BY OTHERS  
#8X5/8" F.H. SMS SCREW, 1 PER BRACKET (TYP.)



SECTION B-2  
SCALE: HALF FULL SIZE 3

NOTE: THIS JAMB TYPE IS TYPICAL FOR ALL RADIUS JAMBS ONLY.

PRODUCT REVISED  
in compliance with the Florida  
Building Code  
Acceptance No. 05-0815.08  
Expiration Date 11/30/07  
By [Signature]  
Marvin Window Product Control  
Division

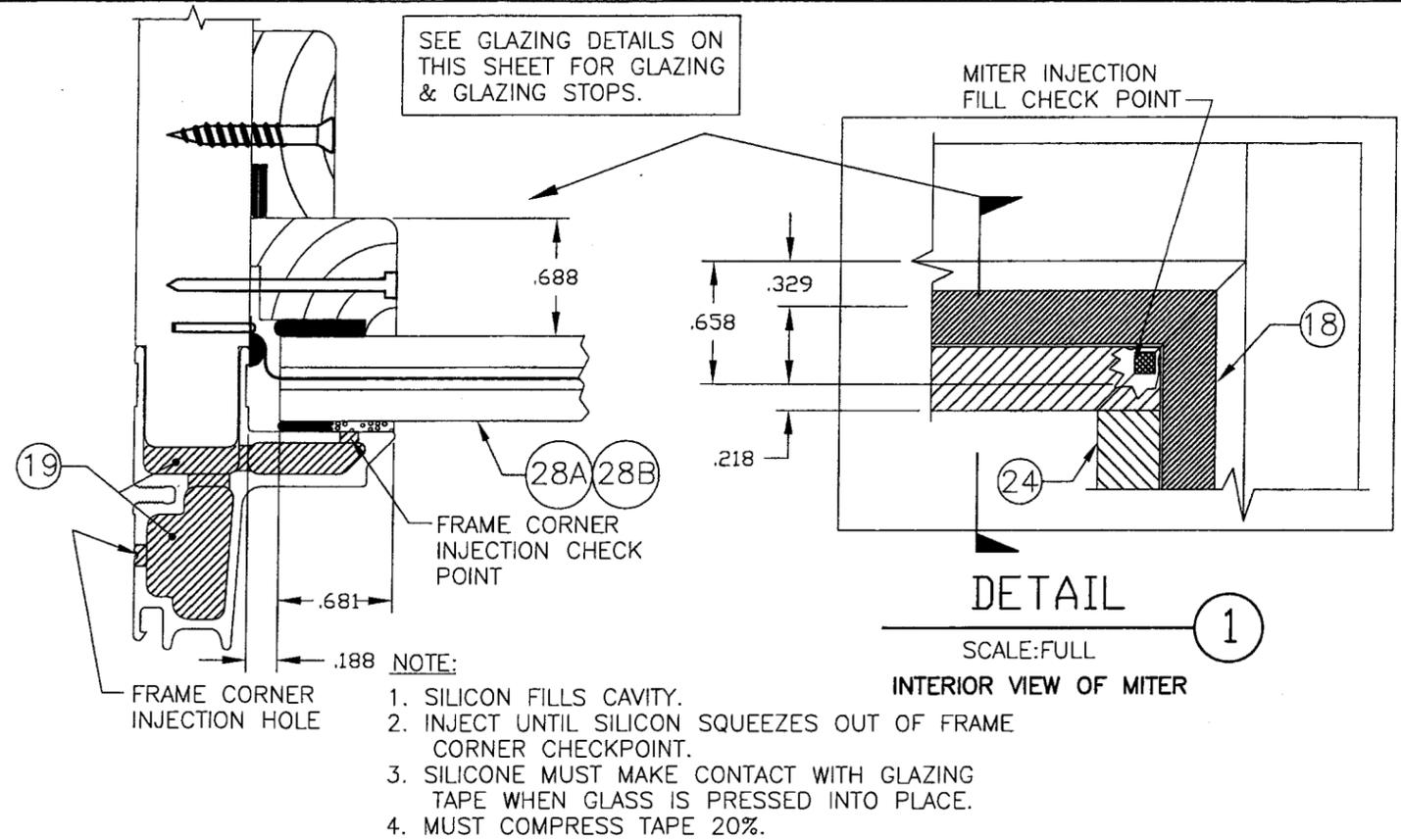
REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER
B1	ADDED CARDINAL SEA-STORM GLASS		09/14/00	WWS
A1	CHANGED FASTENER SPACING FROM 12" TO 8"		08/31/99	WWS

JAN 22 2006

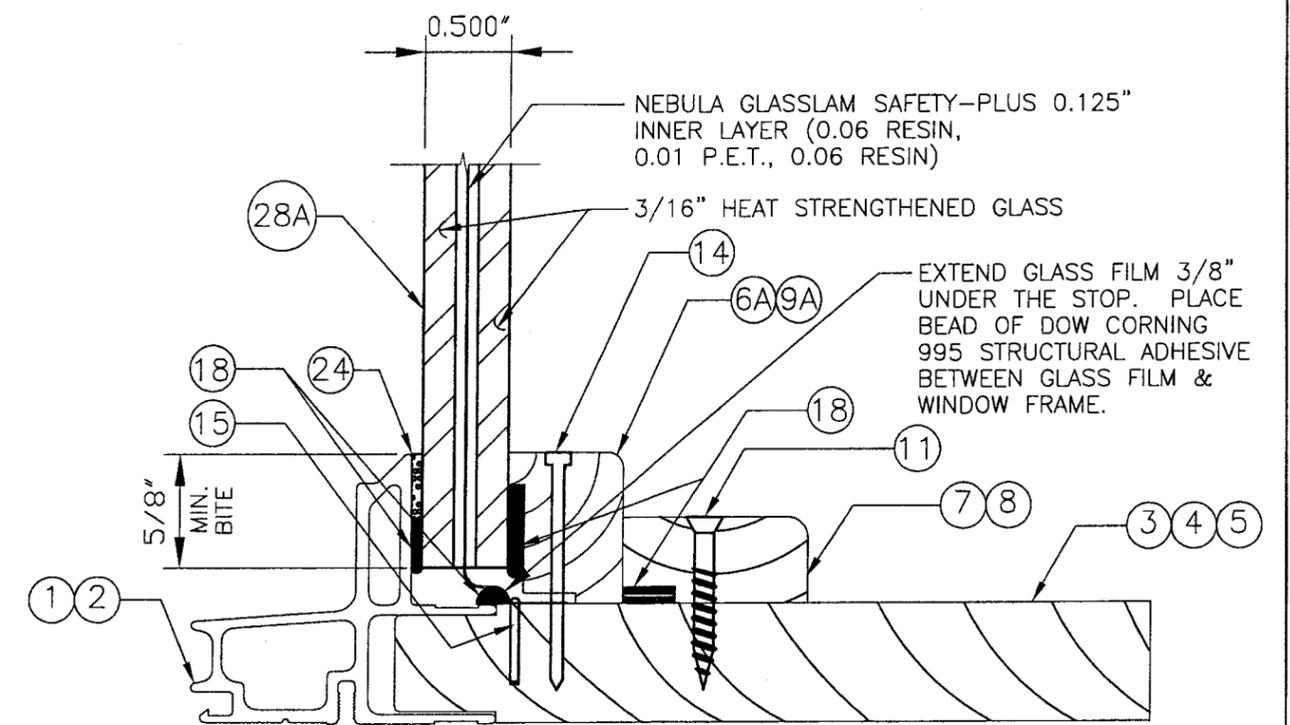
WARREN W. SCHAEFER, P.E.  
STRUCTURAL ENGINEER  
P.E. No. 44135

W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.  
STRUCTURAL CONSULTING ENGINEERS  
8895 N. MILITARY TRAIL, SUITE C204  
PALM BEACH GARDENS, FL 33410  
PHONE: 561-775-4902

WOOD PART DIP SPEC <input type="checkbox"/> DIP <input type="checkbox"/> AT MLDR. <input type="checkbox"/> NO DIP <input type="checkbox"/> IN PROD.		MARVIN RESEARCH AND DEVELOPMENT BOX 100, WARROAD, MN 56763 WINDOWS&DOORS. (218) 386-1430 FAX 386-1913	
PRODUCT LINE: CLAD DIRECT-GLAZE		PRODUCT: IMPACT HP	
ASSEMBLY: CROSS SECTIONS			
MATERIAL: N/A	SIZE: B	DRAWING NO: 00012646	
SCALE: NOTED	DATE: 03/31/99	DRAWN BY: T.M.H.	SHEET: 3 OF 9

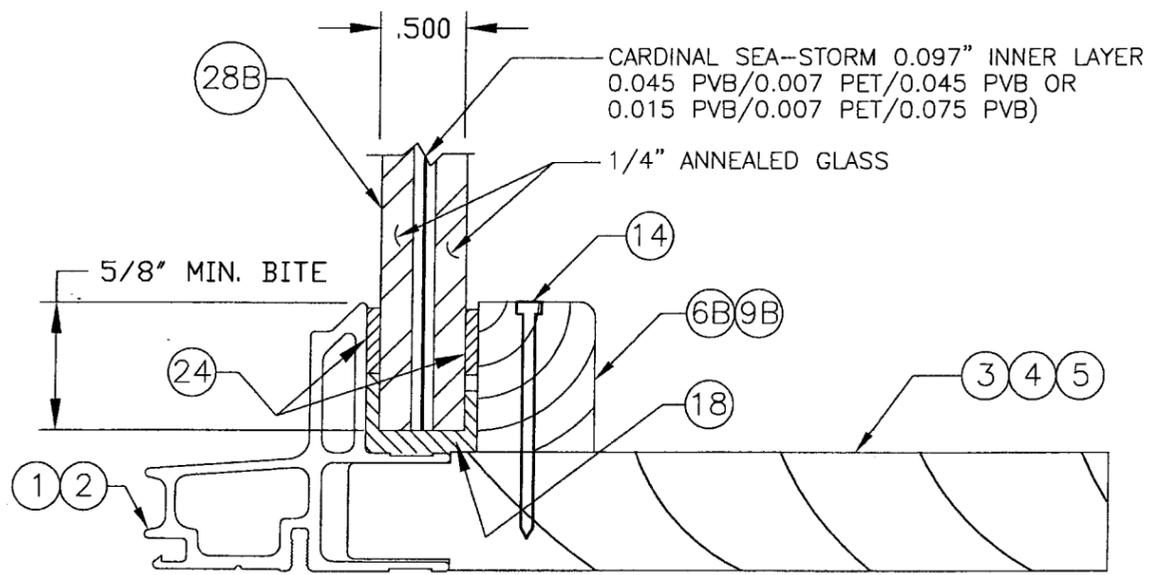


DETAIL 1  
SCALE:FULL  
INTERIOR VIEW OF MITER



TYPICAL GLAZING DETAIL (GLASS "28A")

SCALE:FULL  
NEBULA GLASSLAM SAFETY-PLUS LAMINATED GLASS  
3/16 HEAT STR./0.06 POLYESTER RESIN/0.01 P.E.T./0.06 POLYESTER RESIN/3/16 HEAT STR.



TYPICAL GLAZING DETAIL (GLASS "28B")

SCALE:FULL  
CARDINAL SEA-STORM LAMINATED GLASS  
1/4" AN./0.015 PVB/0.007 P.E.T./0.075 PVB/1/4" AN.  
OR 1/4 AN./0.045 PVB/0.007 PET/0.045 PVB/1/4 AN.

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. 05-0815.08  
Expiration Date 11/30/07  
By *[Signature]*  
Marvin Products Control  
Division

REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER
C2	MODIFIED CARDINAL INNER LAYER		04/06/01	WWS
B1	ADDED CARDINAL SEA-STORM GLASS		09/14/00	WWS
A2	CHANGED GLASS BITE FROM 1/2" TO 5/8"		08/31/99	WWS

JAN 22 2006

WARREN W. SCHAEFER, P.E.  
STRUCTURAL ENGINEER  
P.E. No. 44136

W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.  
STRUCTURAL CONSULTING ENGINEERS  
8895 N. MILITARY TRAIL, SUITE C204  
PALM BEACH GARDENS, FL 33410  
PHONE: 561-775-4902

WOOD PART DIP SPEC <input type="checkbox"/> DIP <input type="checkbox"/> AT MLDR. <input type="checkbox"/> NO DIP <input type="checkbox"/> IN PROD.		RESEARCH AND DEVELOPMENT BOX 100, WARROAD, MN 56763 WINDOWS & DOORS. (218) 386-1430 FAX 386-1913	
PRODUCT LINE: CLAD DIRECT-GLAZE		PRODUCT: IMPACT HP	
ASSEMBLY: MITER INJECTION & GLAZING DETAILS			
MATERIAL: N/A	SIZE: B	DRAWING NO: 00012646	
SCALE: NOTED	DATE: 03/31/99	DRAWN BY: T.M.H.	SHEET: 4 of 9

ALLOWABLE POSITIVE & NEGATIVE DESIGN LOAD TABLE (FOR WINDOWS WITH GLASS "28A")									
LONG DIMENSION	ALLOWABLE PRESSURE (PSF)								
48"	95	95	95	95	95				
54"	95	95	95	95	95	84.4			
60"	95	95	95	95	95	84.4	70		
66"	95	95	95	95	95	70	70	70	
72"	95	95	95	95	95	70	70	70	70
78"	95	95	95	95	70	70	68.3	66.2	
84"	95	95	95	70	70	68.8	65.3		
90"	95	95	95	70	70	66.7			
96"	95	95	95	70	70	64.9			
102"	95	95	70	70	68.7				
108"	95	95	70	70	67.5				
120"	95	70	70	70					
132"	*70	70	70						
144"	*70	*70	70						
SHORT DIMENSION	24"	30"	36"	42"	48"	54"	60"	66"	72"

ALLOWABLE POSITIVE & NEGATIVE DESIGN LOAD TABLE (FOR WINDOWS WITH GLASS "28B")							
LONG DIMENSION	ALLOWABLE PRESSURE (PSF)						
48"	95	95	95	95	95		
54"	95	95	95	95	95	84.4	
60"	95	95	95	95	95	84.4	65
66"	95	95	95	95	95	65	65
72"	95	95	95	95	95	65	65
78"	95	95	95	95	65	64.4	
84"	95	95	95	65	65		
90"	95	95	95	65	64.6		
96"	95	95	95	65			
102"	95	95	65	65			
108"	95	95	65				
120"	95	65	65				
132"	*65	65					
SHORT DIMENSION	24"	30"	36"	42"	48"	54"	60"

GLASS "28A" = NEBULA GLASSLAM SAFETY PLUS 1/2" LAMINATED HEAT STRENGTHENED GLASS  
 GLASS "28B" = CARDINAL SEA-STORM 1/2" LAMINATED ANNEALED GLASS

NOTE: THOSE SIZES WITH LOADS LISTED ARE MAXIMUM ALLOWABLE SIZES AT THAT LOAD. IF NO LOAD IS LISTED FOR A GIVEN SIZE, THAT SIZE EXCEEDS ALLOWABLE AND IS NOT ACCEPTABLE.

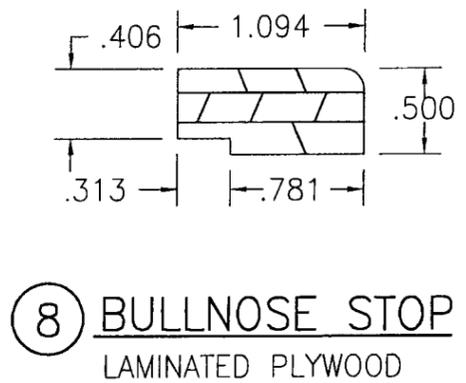
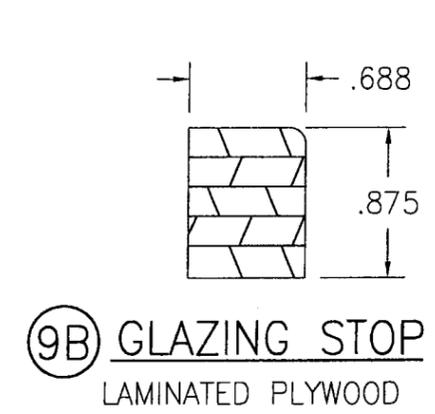
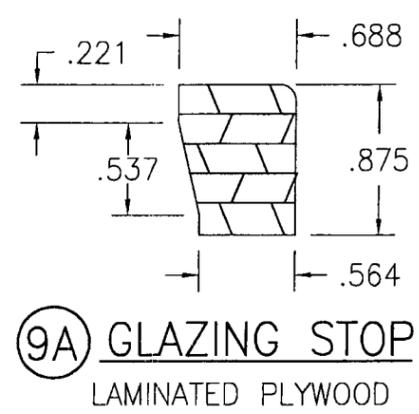
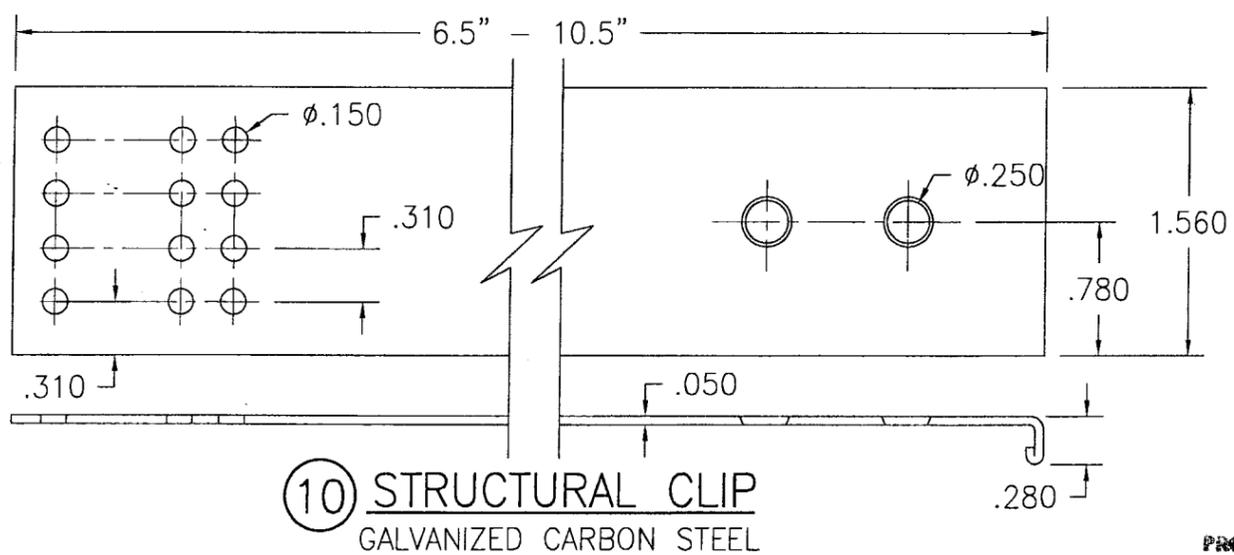
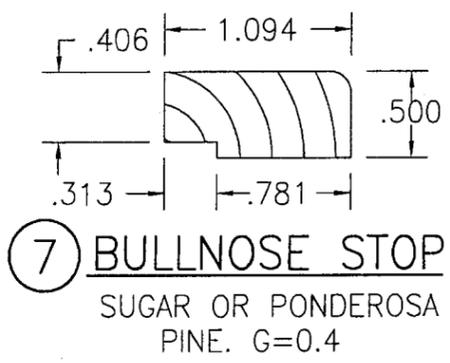
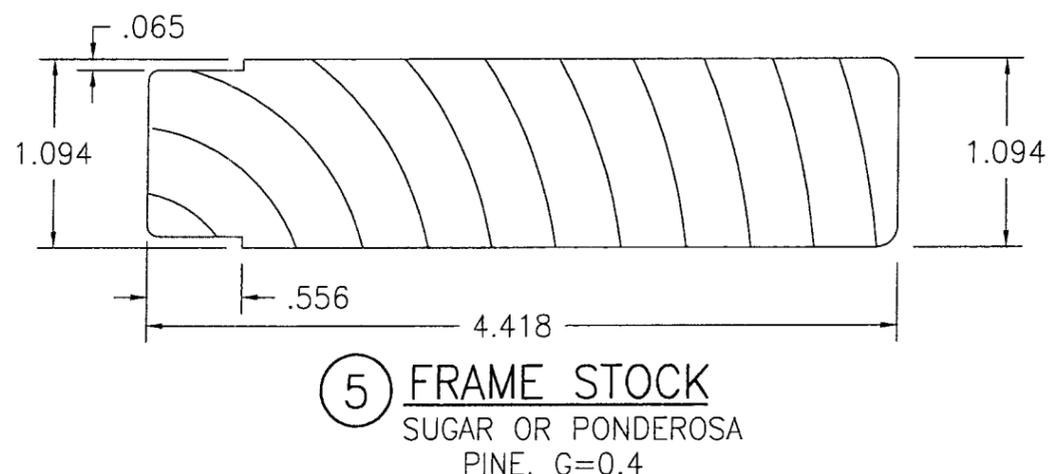
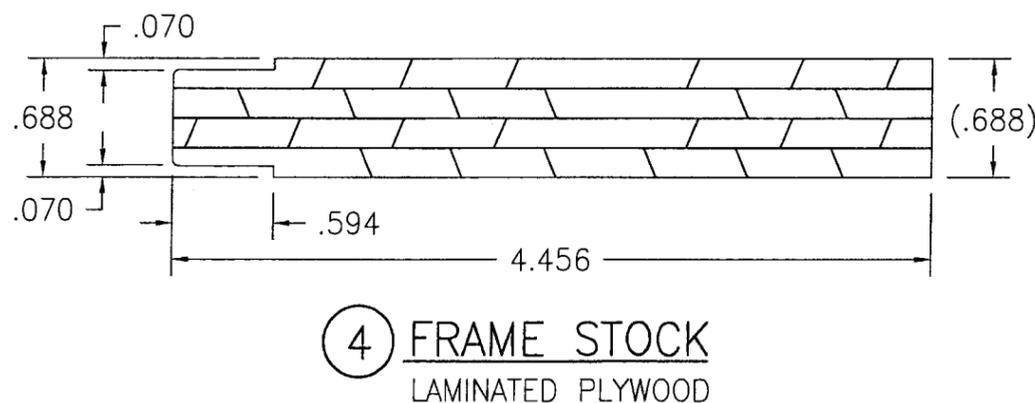
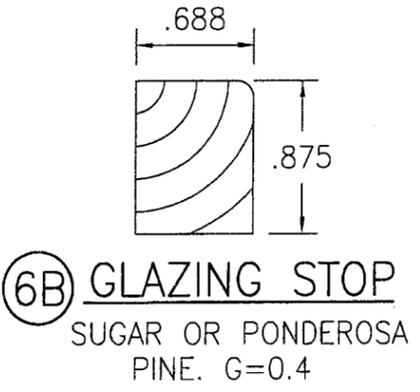
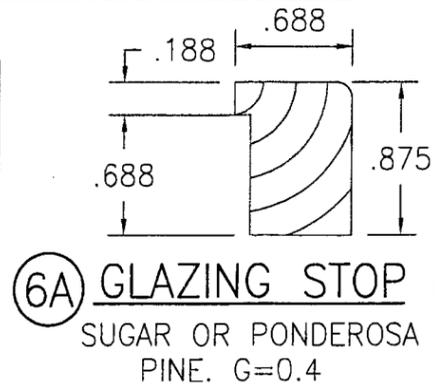
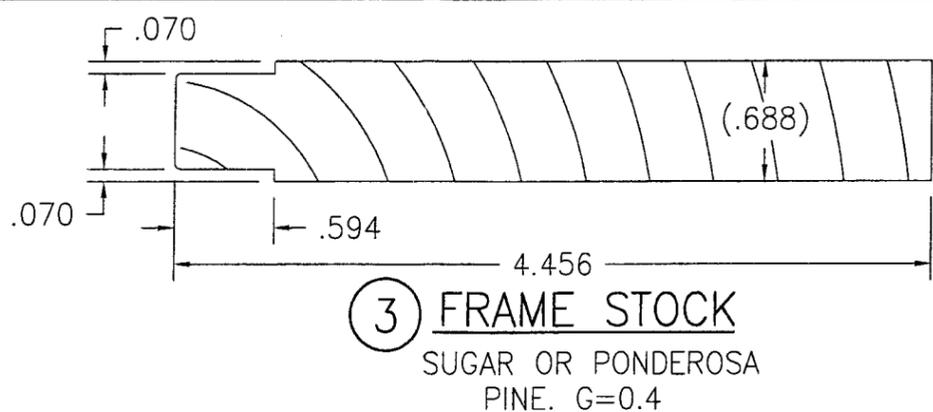
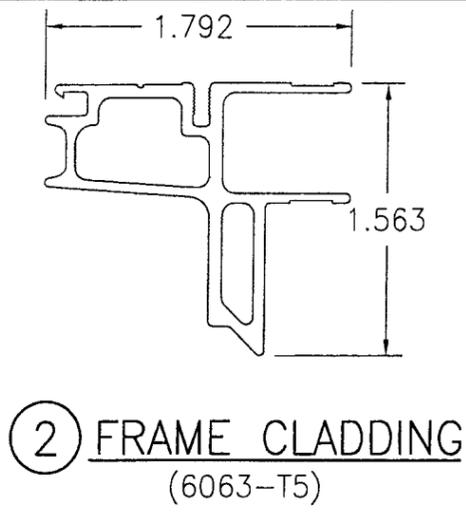
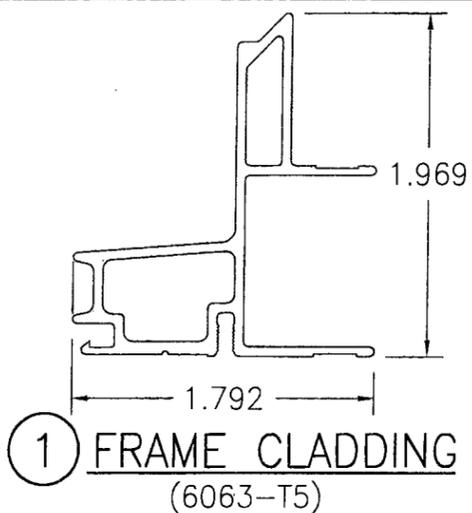
\* THE SIZES SHOWING "\*" EXCEED THE ASTM 5:1 GLASS SIZE RATIO, SO THE ALLOWABLE PRESSURES ARE BASED ON A LARGER WINDOW WITH A GLASS RATIO OF 5:1.

PRODUCT-REVISED  
 to comply with the Florida  
 Building Code  
 Acceptance No. 05-0815.08  
 Expiration Date 11/30/07  
 By *[Signature]*  
 Miami Dade Product Control  
 Division

C3	UPDATED LOAD TABLES		04/06/01	WWS
B1	ADDED CARDINAL SEA-STORM GLASS		09/14/00	WWS
REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER

JAN 22 2006  WARREN W. SCHAEFER, P.E. STRUCTURAL ENGINEER P.E. No. 44135		WOOD PART DIP SPEC <input type="checkbox"/> DIP <input type="checkbox"/> AT MLDR. <input type="checkbox"/> NO DIP <input type="checkbox"/> IN PROD.		<b>MARVIN</b> RESEARCH AND DEVELOPMENT BOX 100, WARROAD, MN 56763 WINDOWS&DOORS. (218) 386-1430 FAX 386-1913	
PRODUCT LINE: CLAD DIRECT-GLAZE PRODUCT: MPACT HP		ASSEMBLY: LOAD CAPACITY CHARTS			
MATERIAL: N/A		SIZE: B		DRAWING NO: 00012646	
SCALE: FULL		DATE: 03/31/99		DRAWN BY: T.M.H.	
				SHEET: 5 OF 9	

W. W. SCHAEFER ENGINEERING  
 & CONSULTING, P.A.  
 STRUCTURAL CONSULTING ENGINEERS  
 8895 N. MILITARY TRAIL, SUITE C204  
 PALM BEACH GARDENS, FL 33410  
 PHONE: 561-775-4902

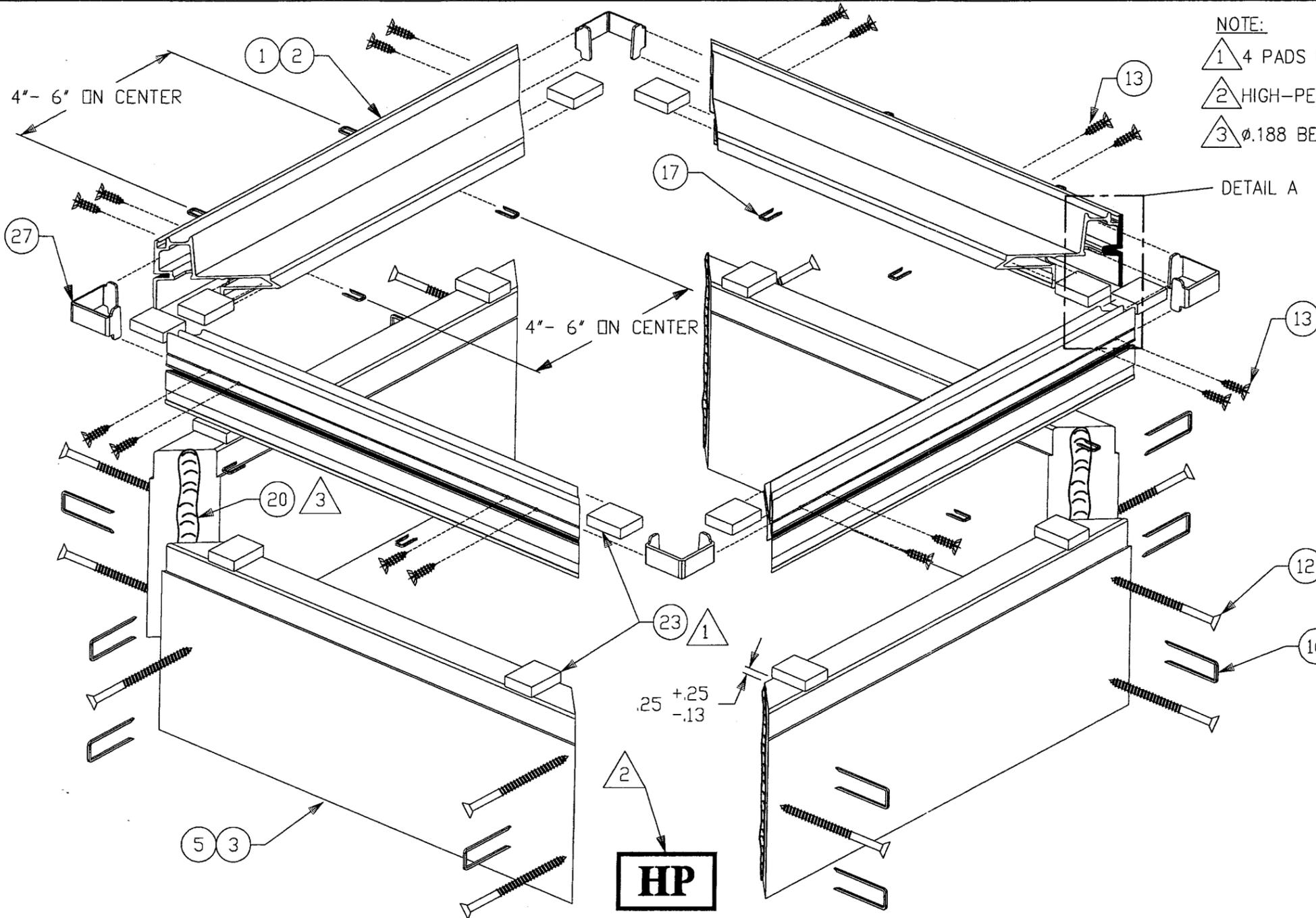


PRODUCT-REVISED  
as complying with the Florida  
Building Code  
Acceptance No. 05-0815.08  
Expiration Date 11/30/07  
By: [Signature]  
Marvin Building Product Control  
Division

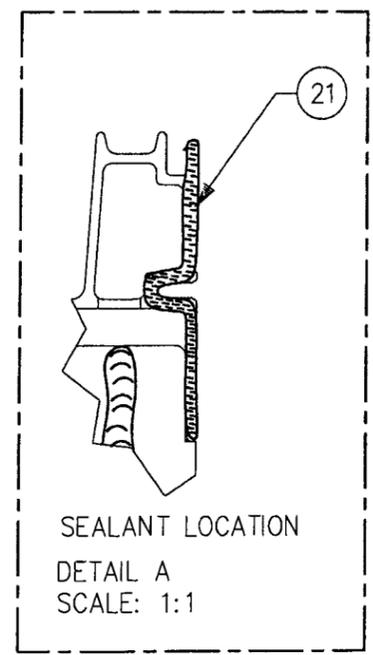
JAN 22 2006  
WARREN W. SCHAEFER, P.E.  
STRUCTURAL ENGINEER  
P.E. No. 44135  
W. W. SCHAEFER ENGINEERING  
& CONSULTING, P.A.  
STRUCTURAL CONSULTING ENGINEERS  
8895 N. MILITARY TRAIL, SUITE C204  
PALM BEACH GARDENS, FL 33410  
PHONE: 561-775-4902

WOOD PART DIP SPEC <input type="checkbox"/> DIP <input type="checkbox"/> AT MLDR. <input type="checkbox"/> NO DIP <input type="checkbox"/> IN PROD.		RESEARCH AND DEVELOPMENT BOX 100, WARROAD, MN 56763 WINDOWS&DOORS. (218) 386-1430 FAX 386-1913	
PRODUCT LINE: CLAD DIRECT-GLAZE		PRODUCT: IMPACT HP	
ASSEMBLY: PARTS & EXTRUSIONS			
MATERIAL: N/A	SIZE: B	DRAWING NO: 00012646	
SCALE: 1:1	DATE: 03/31/99	DRAWN BY: T.M.H.	SHEET: 6 OF 9

B1	ADDED CARDINAL SEA-STORM GLASS		09/14/00	WWS
REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER



NOTE:  
 1 4 PADS USED PER MITER.  
 2 HIGH-PERFORMANCE STAMP LOCATED ADJACENT TO HEADER LABEL.  
 3  $\phi$ .188 BEAD OF SM-8500 AT EACH MITER.



RECTANGULAR JAMB FABRICATION DETAIL

PRODUCT REVISED  
 as complying with the Florida  
 Building Code  
 Acceptance No. 05-0815.08  
 Expiration Date 11/30/03  
 By *[Signature]*  
 Marvin-Finco Product Control  
 Division

REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER
B1	ADDED CARDINAL SEA-STORM GLASS		09/14/00	WWS

**JAN 22 2006**

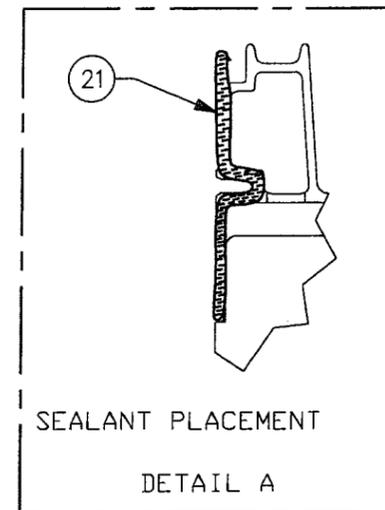
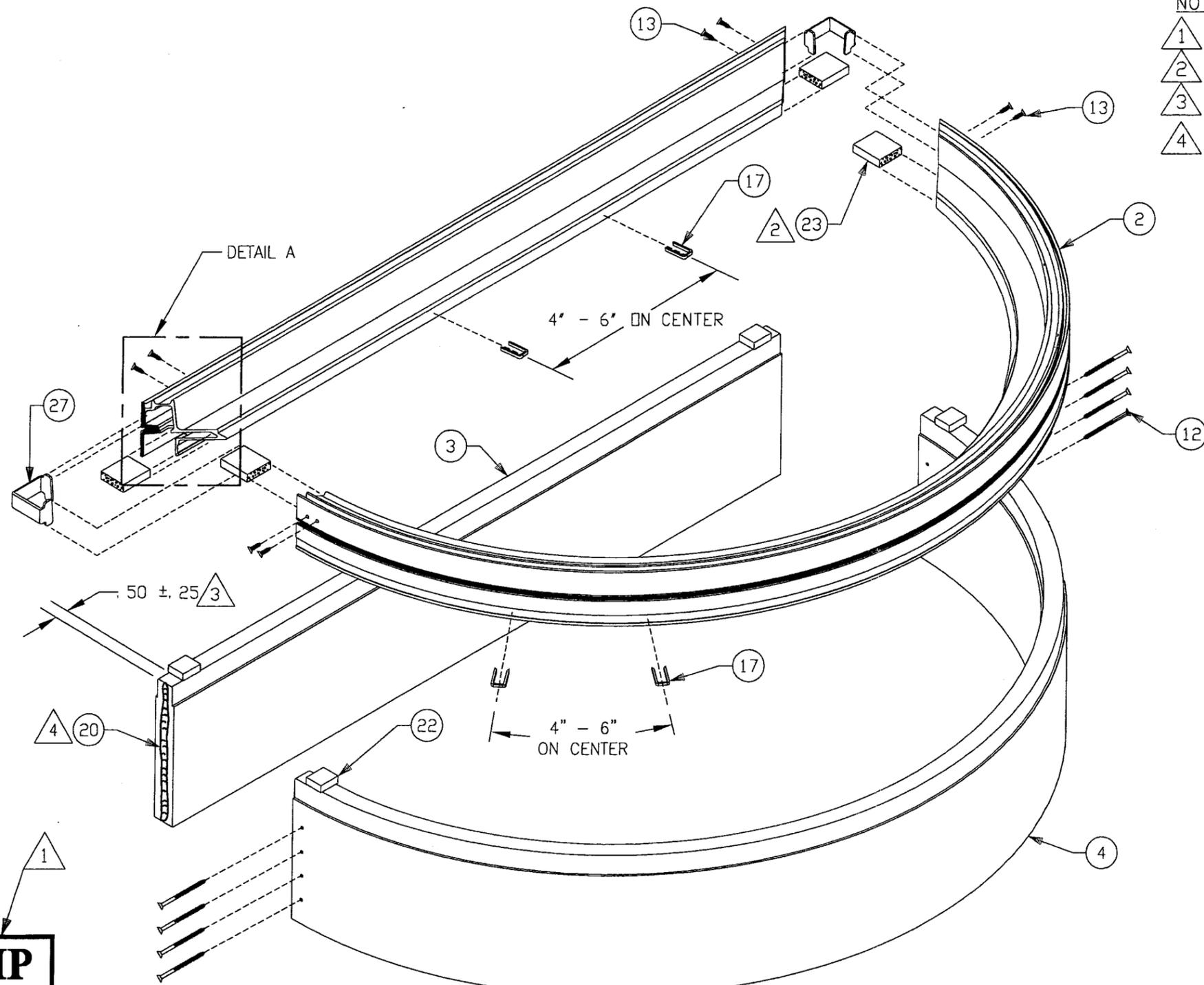
WARREN W. SCHAEFER, P.E.  
 STRUCTURAL ENGINEER  
 P.E. No. 44135

**W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.**  
 STRUCTURAL CONSULTING ENGINEERS  
 8895 N. MILITARY TRAIL, SUITE C204  
 PALM BEACH GARDENS, FL 33410  
 PHONE: 561-775-4902

WOOD PART DIP SPEC		MARVIN RESEARCH AND DEVELOPMENT	
<input type="checkbox"/> DIP	<input type="checkbox"/> AT MLDR.	BOX 100, WARROD, MN 56763	
<input type="checkbox"/> NO DIP	<input type="checkbox"/> IN PROD.	WINDOWS&DOORS. (218) 386-1430 FAX 386-1913	
PRODUCT LINE:		CLAD DIRECT-GLAZE	
PRODUCT:		IMPACT HP	
ASSEMBLY: EXPLODED FRAME AND CLADDING ASSEMBLY			
MATERIAL:	SIZE:	DRAWING NO: 00012646	
N/A	B	SCALE:	DATE:
	N/A	03/31/99	DRAWN BY:
			T.M.H.
			SHEET:
			7 of 9

NOTE:

- △ 1 HIGH-PERFORMANCE STAMP LOCATED ADJACENT TO HEADER LABEL.
- △ 2 2 PLUGS USED PER MITER.
- △ 3 2 PADS USED PER MITER.
- △ 4 Ø.125 BEAD OF SM-8500 AT EACH FRAME JOINT.



SEALANT PLACEMENT  
DETAIL A

**PRODUCT REVISED**  
 as complying with the Florida  
 Building Code  
 Acceptance No. 05-0815.08  
 Expiration Date 11/30/07  
 By: *[Signature]*  
 Miami-Dade Product Control  
 Division

**HP**

RADIUS JAMB FABRICATION DETAIL

JAN 22 2006

WARREN W. SCHAEFER, P.E.  
 STRUCTURAL ENGINEER  
 P.E. No. 44135

W. W. SCHAEFER ENGINEERING  
 & CONSULTING, P.A.  
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 8895 N. MILITARY TRAIL, SUITE C204  
 PALM BEACH GARDENS, FL 33410  
 PHONE: 561-775-4902

WOOD PART DIP SPEC		MARVIN RESEARCH AND DEVELOPMENT	
<input type="checkbox"/> DIP	<input type="checkbox"/> AT MLDR.	BOX 100, WARROD, MN 56763	
<input type="checkbox"/> NO DIP	<input type="checkbox"/> IN PROD.	WINDOWS&DOORS. (218) 386-1430 FAX 386-1913	
PRODUCT LINE: CLAD DIRECT-GLAZE		PRODUCT: MPACT HP	
ASSEMBLY: EXPLODED FRAME AND CLADDING ASSEMBLY			
MATERIAL: N/A	SIZE: B	DRAWING NO: 00012646	
SCALE: N/A	DATE: 03/31/99	DRAWN BY: T.M.H.	SHEET: 8 OF 9

REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER
B1	ADDED CARDINAL SEA-STORM GLASS		09/14/00	WWS

### MATERIAL LIST

PART NO.	REFERENCE NO.	DESCRIPTION	NOTES
<b>PARTS &amp; EXTRUSIONS</b>			
1	00001210	A329 FRAME ALUMINUM CLADDING	ALUMINUM (6063-T5)
2	00011209	A328 FRAME ALUMINUM CLADDING	ALUMINUM (6063-T5)
3	00011225	.688"x4.456" PINE FRAME STOCK	SEE NOTE 1 THIS SHEET.
4	-	.688"x4.456" FRAME STOCK	LAMINATED PLYWOOD
5	00011050	1.094"x4.418 PINE FRAME STOCK	SEE NOTE 1 THIS SHEET.
6A	00007080	.688"x.875" PINE GLAZING STOP	USED WITH GLASS "28A"
6B	00007080	.688"x.875" PINE GLAZING STOP	USED WITH GLASS "28B"
7	00007760	1.094"x.500 PINE BULLNOSE STOP	USED WITH GLASS "28A"
8	-	1.094"x.500" BULLNOSE STOP	USED WITH GLASS "28A"
9A	-	.688"x.875 GLAZING STOP	USED WITH GLASS "28A"
9B	-	.688"x.875 GLAZING STOP	USED WITH GLASS "28B"
10	11860012-3	6"-10" STRUCTURAL MASONRY CLIP	690 LOCFORM GALV. STEEL BY WABINICA, INC. 3" FROM CORNERS & 8" O.C.
<b>FASTENERS</b>			
11	00001107	#6 x 1" SMS SCREW	SPACED @ 4" FROM CORNERS & 8" O.C.
12	00003208	#8 x 2" F.H. SMS SCREW	3 PER SQUARE JAMB CORNER & 4 PER RADIUS JAMB CORNER
13	00003277	#7 x 1/2" F.H. TEK SCREW	4 PER CLAD CORNER
14	PN11892207	F-14 x 1.375 BRAD NAIL	3" FROM CORNERS & MAX. 8" O.C.
15	PN11820350	PW-50 x .500" STAPLE	SPACED @ 6" O.C.
16	PN11820112	GSN-16 x 1.5" STAPLE	3 PER SQUARE JAMB CORNER
17	PN11820052	GSN-.500" STAPLE	SPACED 4"-6" O.C.

**NOTE:**  
1 ALL WOOD USED WITH TESTED UNITS IS PONDEROSA OR SUGAR PINE. ALTERNATIVE WOOD SPECIES TO PINE:  
 1. MAHOGONY  
 2. OAK  
 3. CHERRY  
 4. CYPRUS  
 5. DOUGLAS FIR

REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER
C2	MODIFIED CARDINAL INNER LAYER AT ITEM 28B		04/06/01	WWS
B1	ADDED CARDINAL SEA-STORM GLASS		09/14/00	WWS

### MATERIAL LIST

PART NO.	REFERENCE NO.	DESCRIPTION	NOTES
<b>SEALANTS</b>			
18	-	DOW 995 BLACK SILICON SEALANT	SEE GLAZING DETAILS ON SHEET 4
19	00012299	344 BEIGE MITER SEALANT	CORNER INJECTION SEALANT, BY CSL
20	00012297	SM 8500 SEALANT	MITER SEAL ADHESIVE, BY SCHNEE-MOREHEAD
21	0011495	SM 5601 SEALANT	POLISOBUTYLENE & ISOPRENE POLYMERS BY SCHNEE-MOREHEAD
22	00011227	FOAM SEALANT PAD	POLYETHYLENE
23	00011224	FOAM SEALANT PLUG	POLYETHYLENE
24	00003787	.0625"x.375" GLAZING TAPE	POLYOLEFIN FOAM W/ ACRYLIC ADHESIVE
<b>OTHER</b>			
25	00005281	V084 VINYL NAIL FIN	LOCATED @ SILL JAMB
26	00005291	V104 VINYL NAIL FIN	LOCATED @ SIDE & HEAD JAMBS
27	00010038	CORNER KEY	ALUMINUM (5052-H34)
28A	-	1/2" HEAT STRENGTHENED LAMINATED GLASS	NEBULA GLASSLAM SAFETY-PLUS LAMINATED GLASS (3/16" HEAT STRENGTHENED/0.06" RESIN/0.01 P.E.T./0.06" RESIN/3/16" HEAT STRENGTHENED)
28B	-	1/2" ANNEALED LAMINATED GLASS	CARDINAL SEA-STORM LAMINATED GLASS (1/4" ANNEALED/0.015" PVB/0.007" PET/0.075" PVB/1/4" ANNEALED MAY USE ALTERNATE INNER LAMINATE OF 0.045 PVB/0.007 PET/0.045 PVB

**PRODUCT REVISED**  
 as complying with the Florida Building Code  
 Acceptance No 05-0815-08  
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 By [Signature]  
 Miami Dade Product Control Division

JAN 22 2005  WARREN W. SCHAEFER, P.E. STRUCTURAL ENGINEER P.E. No. 44135	WOOD PART DIP SPEC	<input type="checkbox"/> DIP	<input type="checkbox"/> AT MLDR.	<b>MARVIN</b> RESEARCH AND DEVELOPMENT BOX 100, WARROAD, MN 56763 WINDOWS&DOORS. (218) 386-1430 FAX 386-1913
	<input type="checkbox"/> NO DIP	<input type="checkbox"/> IN PROD.		
PRODUCT LINE:		CLAD DIRECT-GLAZE		
PRODUCT:		MPACT HP		
ASSEMBLY: MATERIAL LIST				
MATERIAL:	N/A	SIZE:	DRAWING NO: 00012646	
SCALE:	1:1	DATE:	03/31/99	DRAWN BY: T.M.H.
				SHEET: 9 OF 9

**W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.**  
 STRUCTURAL CONSULTING ENGINEERS  
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 PALM BEACH GARDENS, FL 33410  
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