



**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**

**NOTICE OF ACCEPTANCE (NOA)**

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**Marvin Windows & Doors  
Highway 11 West (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 High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: Series "Clad Direct Glazed" Aluminum Clad Wood Fixed Window**

**APPROVAL DOCUMENT:** Drawing No. **00012646**, titled "Clad Direct Glazed Impact HP", sheets 1 through 9 of 9, prepared by W.W. Schaefer, dated 3/31/99 with revision on 4/6/01, signed and sealed by Warren W. Schaefer, P.E., bearing the Miami-Dade County Product Control Renewal 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 **renews NOA # 01-0427.03** and consists of this page 1 as well as approval document mentioned above. The submitted documentation was reviewed by **Manuel Perez, P.E.**



**NOA No 02-1205.01  
Expiration Date: November 30, 2007  
Approval Date: January 16, 2003  
Page 1**

**Marvin Windows & Doors**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

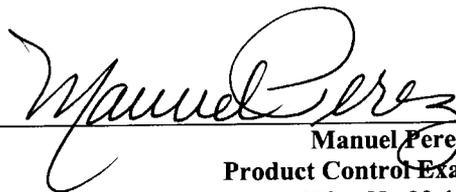
(For File ONLY. Not part of NOA)

**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, dated 3/31/99 with revision on 4/6/01, signed and sealed by Warren W. Schaefer, P.E.

**B. TESTS**

1. Test reports on
  - 1) Air Infiltration Test, per PA 202-94
  - 2) Uniform Static Air Pressure Test, Loading per PA 202-94.
  - 3) Water Resistance Test, per PA 202-94.
  - 4) Large Missile Impact Test per SFBC, PA 201-94
  - 5) Cyclic Wind Pressure Loading per SFBC, PA 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
2. Test reports on
  - 1) Large Missile Impact Test per SFBC, PA 201-94
  - 2) Cyclic Wind Pressure Loading per SFBC, PA 203-94along with installation diagram of a 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
3. Test reports on
  - 1) Air Infiltration Test, per PA 202-94
  - 2) Uniform Static Air Pressure Test, Loading per PA 202-94.
  - 3) Water Resistance Test, per PA 202-94.
  - 4) Large Missile Impact Test per SFBC, PA 201-94
  - 5) Cyclic Wind Pressure Loading per SFBC, PA 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
4. Test reports on
  - 1) Air Infiltration Test, per PA 202-94
  - 2) Uniform Static Air Pressure Test, Loading per PA 202-94.
  - 3) Water Resistance Test, per PA 202-94.
  - 4) Large Missile Impact Test per SFBC, PA 201-94
  - 5) Cyclic Wind Pressure Loading per SFBC, PA 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



Manuel Perez, P.E.  
Product Control Examiner  
NOA No 02-1205.01

Expiration Date: November 30, 2007  
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**Marvin Windows & Doors**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

(For File ONLY. Not part of NOA)

5. Test reports on
  - 1) Air Infiltration Test, per PA 202-94
  - 2) Uniform Static Air Pressure Test, Loading per PA 202-94.
  - 3) Water Resistance Test, per PA 202-94.
  - 4) Large Missile Impact Test per SFBC, PA 201-94
  - 5) Cyclic Wind Pressure Loading per SFBC, PA 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
6. Test reports on
  - 1) Air Infiltration Test, per PA 202-94
  - 2) Uniform Static Air Pressure Test, Loading per PA 202-94.
  - 3) Water Resistance Test, per PA 202-94.
  - 4) Large Missile Impact Test per SFBC, PA 201-94
  - 5) Cyclic Wind Pressure Loading per SFBC, PA 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
1. Anchor Calculations prepared by W.W. Schaefer Engineering & Consulting, P.A, dated 3/24/99, signed and sealed by Warren W. Schaefer, P.E
2. Glass Calculations prepared by W.W. Schaefer Engineering & Consulting, P.A, dated 3/06/00, sheets 1 and 2 of 2, signed and sealed by Warren W. Schaefer, P.E.

**D. MATERIAL CERTIFICATIONS:**

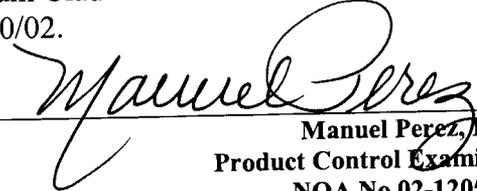
1. Notice of Acceptance No. **97-0527.04** issued to Nebula Glass International Inc. for "Glasslam Safety-Plus Laminated Glass" dated 09/09/97, expiring on 09/09/2000.
2. Notice of Acceptance No. **99-0908.01** issued to Cardinal DGP for "Cardinal Sea Storm Type B" dated 12/30/99, expiring on 12/30/2002.

**E. STATEMENTS**

1. Statement letter of no change, issued by Marvin Windows signed by Don Lagerstrom, dated 11/19/02.

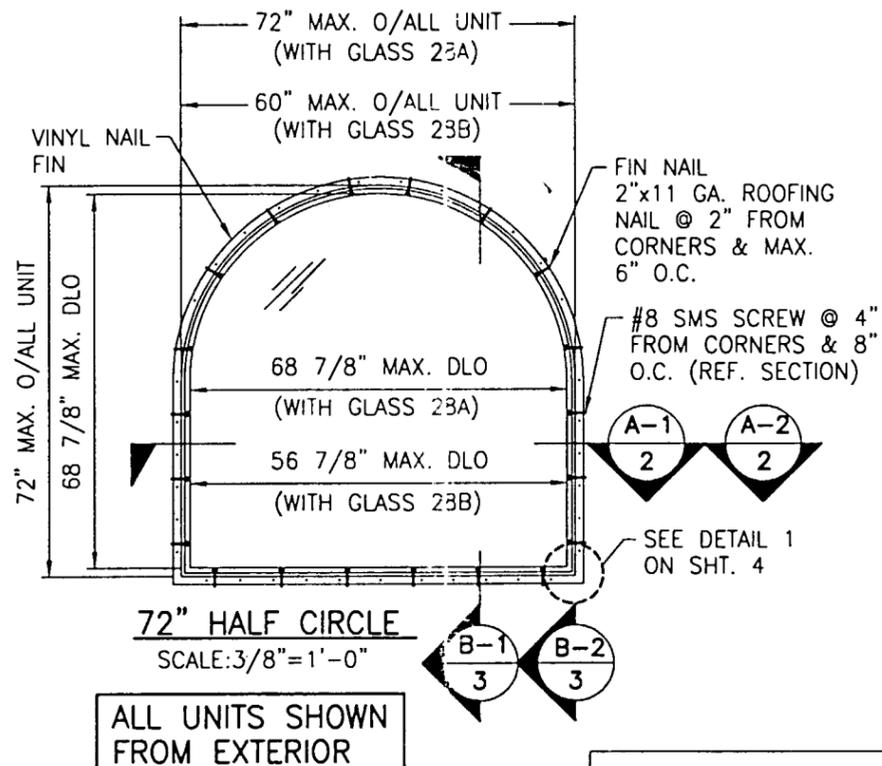
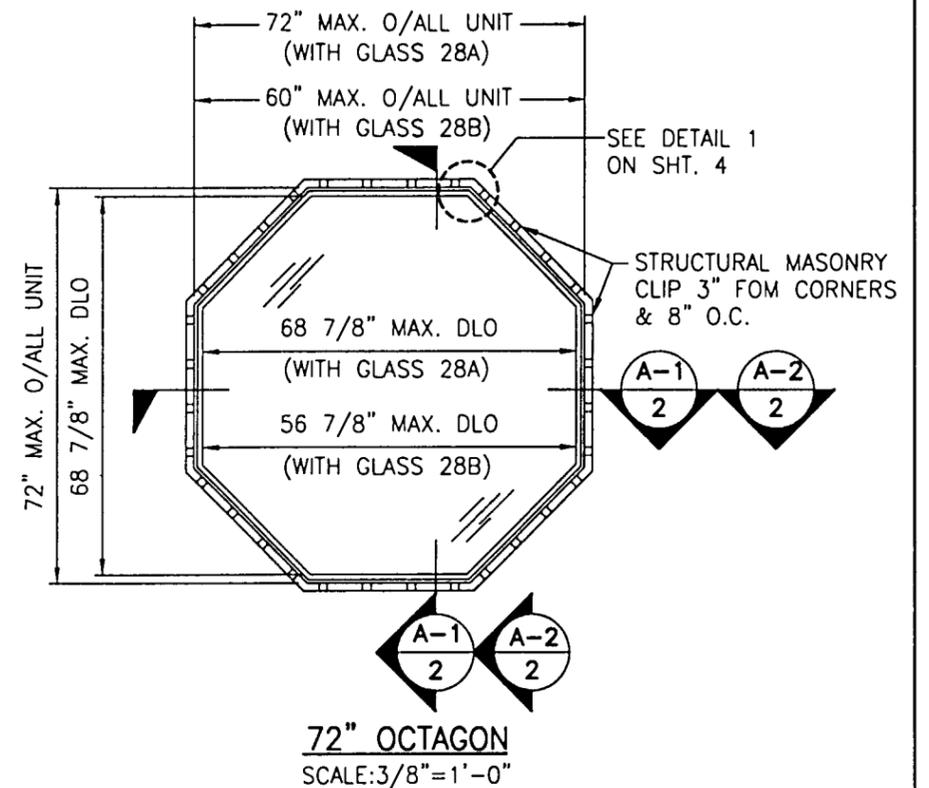
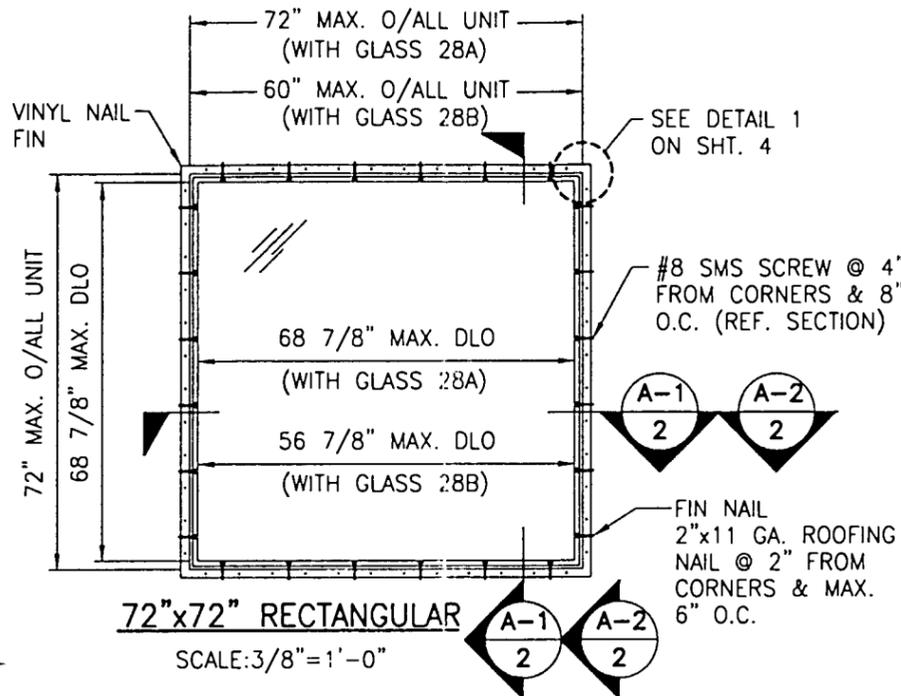
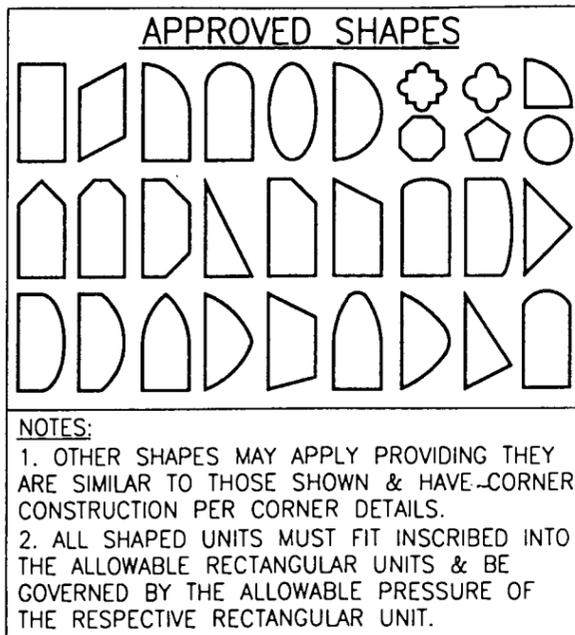
**F. OTHER**

1. Notice of Acceptance No. **01-0427.03**, issued to Marvin Windows & Doors for their Series "Clad Direct Glazed" Aluminum Clad Wood Fixed Window, approved on 2/14/02 and expiring on 11/30/02.



Manuel Perez, P.E.  
Product Control Examiner  
NOA No 02-1205.01

Expiration Date: November 30, 2007  
Approval Date: January 16, 2003



**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.

**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. BUCKING FASTENERS MAY NOT EXCEED 16" O.C. SPACING AROUND OPENINGS REGARDLESS OF CIRCUMSTANCE.
4. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & MAY NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS.
5. THE DETAILS & SPECIFICATIONS SHOWN HEREIN REPRESENT THE PRODUCTS PROPOSED FOR WATER, AIR, IMPACT, CYCLIC & UNIFORM STATIC AIR PRESSURE TESTING IN CONFORMANCE WITH DADE COUNTY PROTOCOLS PA 201, 202 & 203.
6. ALL JAMB TO BUCKING FASTENERS MUST PENETRATE BUCK A MINIMUM OF 1 1/4". IF PENETRATION IS LESS THAN 1 1/4" THEN SCREW LENGTH SHALL INCREASE AS REQUIRED.
7. THESE WINDOW SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE SOUTH FLORIDA BUILDING CODE, 1994 EDITION.
8. THIS PRODUCT HAS BEEN TESTED IN ACCORDANCE WITH DADE COUNTY PROTOCOLS PA-201, PA-202 & PA-203 FOR LARGE MISSILE IMPACT, STRUCTURAL & CYCLIC TESTING.

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

**PRODUCT RENEWED**  
as complying with the Florida Building Code  
Acceptance No. 02-1205.01  
Expiration Date NOV. 30, 2007  
By Manuel Serriz  
Miami Dade Product Control Division

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE  
DATE FEB 14 2007  
BY Manuel Serriz  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 01-0427.03

REV#	DESCRIPTION / REQUESTER	ECN NO	DATE	DRAFTER
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

APR 10 2001

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

**W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.**  
STRUCTURAL CONSULTING ENGINEERS  
600 SANDTREE DRIVE, SUITE 203B  
PALM BEACH GARDENS, FL 33403  
PHONE: 561-775-4902

WOOD PART DIP SPEC		<b>MARVIN</b> 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: 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

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

MIN. 2X4  
P.T. WOOD  
BUCK BY  
OTHERS

#8 x 2" SMS SCREW  
OR 3/16" TAPCON (REF.)

1/4" MAX.  
SHIM SPACE (TYP.)

SILICON  
SEALANT &  
BACKER ROD  
BY OTHERS

1 1/2"  
MIN.

28A 28B

OUTSIDE

INSIDE

NAIL FIN AND SCREW  
INSTALLATION

SEE "GLAZING  
DETAILS" ON  
SHT. 4

FRAME O.S.M.

AT SILL

26 25

AT SIDES

#8 x 2" SMS SCREW  
@ 4" MAX. FROM  
CORNERS & MAX. 8" O.C.  
(MIN. EMBED= 1 1/4")  
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. (MIN. TAPCON  
EMBED=1 1/4" & MIN. TAPCON  
EDGE DISTANCE TO BLOCK  
EDGE=2")

SECTION

A-1

SCALE: HALF FULL SIZE  
(NOTE: HORIZONTAL SECTION SAME)

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

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

MIN 2X4 P.T. WOOD BUCK  
BY OTHERS (TYP.)

#8x5/8" F.H. SMS  
SCREW, 1 PER  
BRACKET (TYP.)

1/4" MAX.  
SHIM SPACE  
(TYP.)

SILICON  
SEALANT &  
BACKER ROD  
BY OTHERS

#8x1 1/2" F.H.  
SMS SCREW; 2  
PER BRACKET (TYP.)

28A 28B

OUTSIDE

INSIDE

SEE "GLAZING  
DETAILS" ON  
SHT. 4

STRUCTURAL CLIP  
INSTALLATION

FRAME O.S.M.

#8 SMS  
(REF.)

#8 SMS  
(REF.)

SECTION

A-2

SCALE: HALF FULL SIZE  
(NOTE: HORIZONTAL SECTION SAME)

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

SEE "GLAZING  
DETAILS" ON  
SHT. 4

#8 x 2 1/2" SMS  
SCREW @  
1.094" JAMB

28A 28B

1

5

26 25

REF.  
SECTION  
A-1

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 RENEWED  
as complying with the Florida  
Building Code  
Acceptance No. 02-1205.01  
Expiration Date Nov. 30, 2007

By *Manuel Perez*  
Miami Dade Product Control  
Division

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE FEB 14 2002  
BY *Manuel Perez*  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 01-0427.03

APR 10 2001

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

W. W. SCHAEFER ENGINEERING  
& CONSULTING, P.A.  
STRUCTURAL CONSULTING ENGINEERS  
600 SANDTREE DRIVE, SUITE 203B  
PALM BEACH GARDENS, FL 33403  
PHONE: 561-775-4902

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

RESEARCH AND DEVELOPMENT  
MARVIN 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

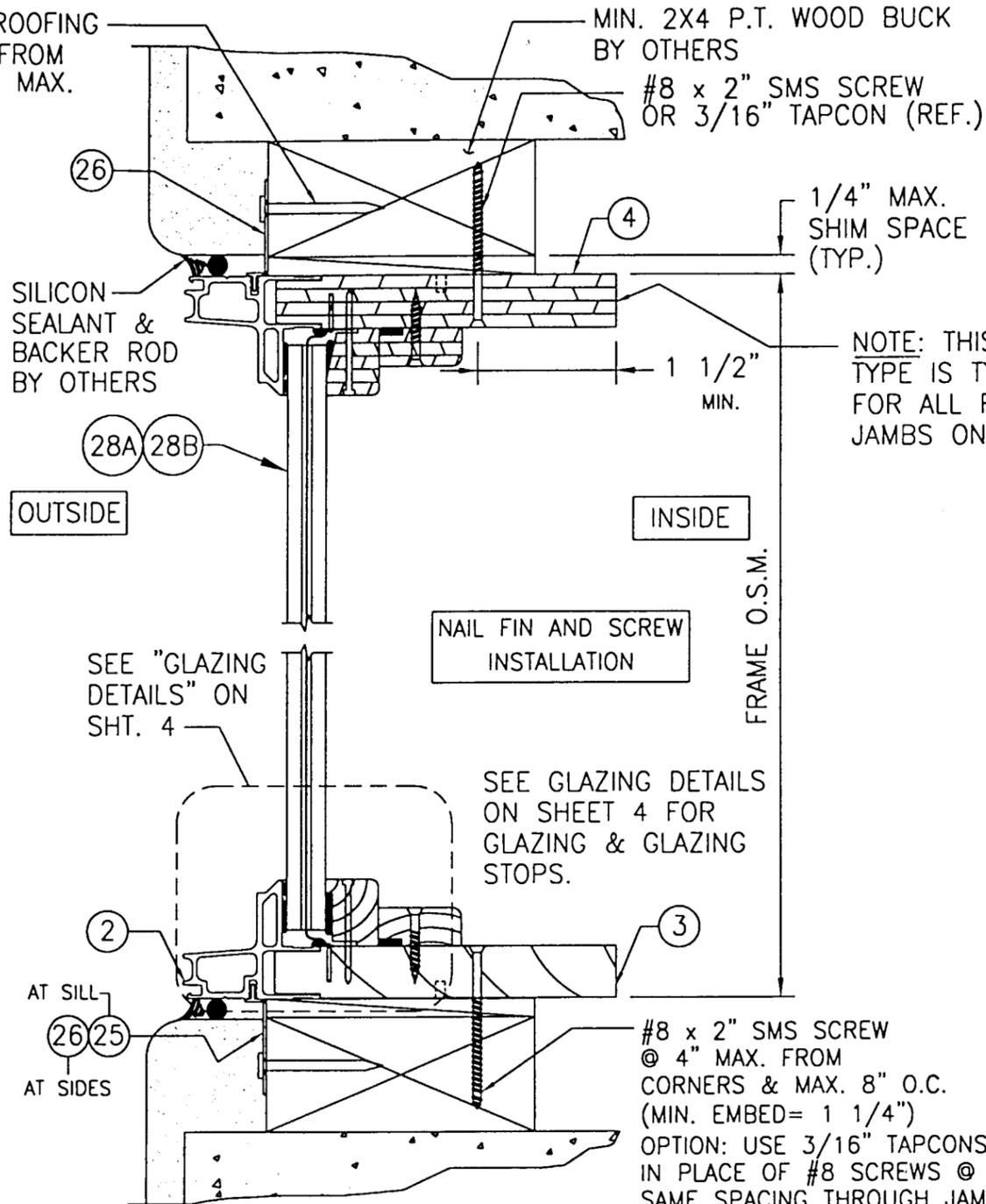
DRAWING NO: 00012646

SCALE: DATE:  
NOTED 03/31/99

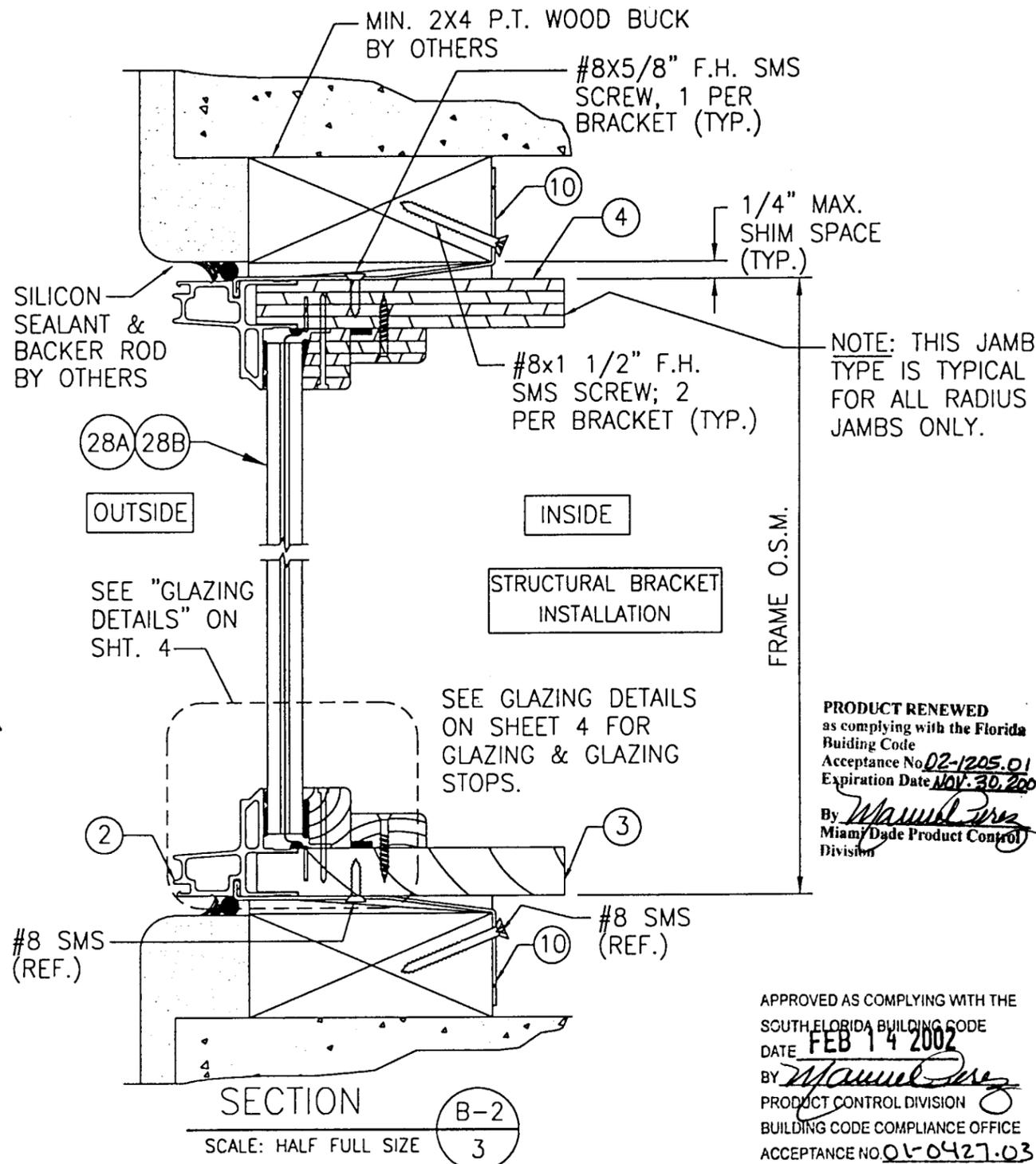
DRAWN BY:  
T.M.H.

SHEET:  
2 OF 9

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



#8 x 2" SMS SCREW  
@ 4" MAX. FROM  
CORNERS & MAX. 8" O.C.  
(MIN. EMBED= 1 1/4")  
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. (MIN. TAPCON  
EMBED=1 1/4" & MIN. TAPCON  
EDGE DISTANCE TO BLOCK  
EDGE=2")

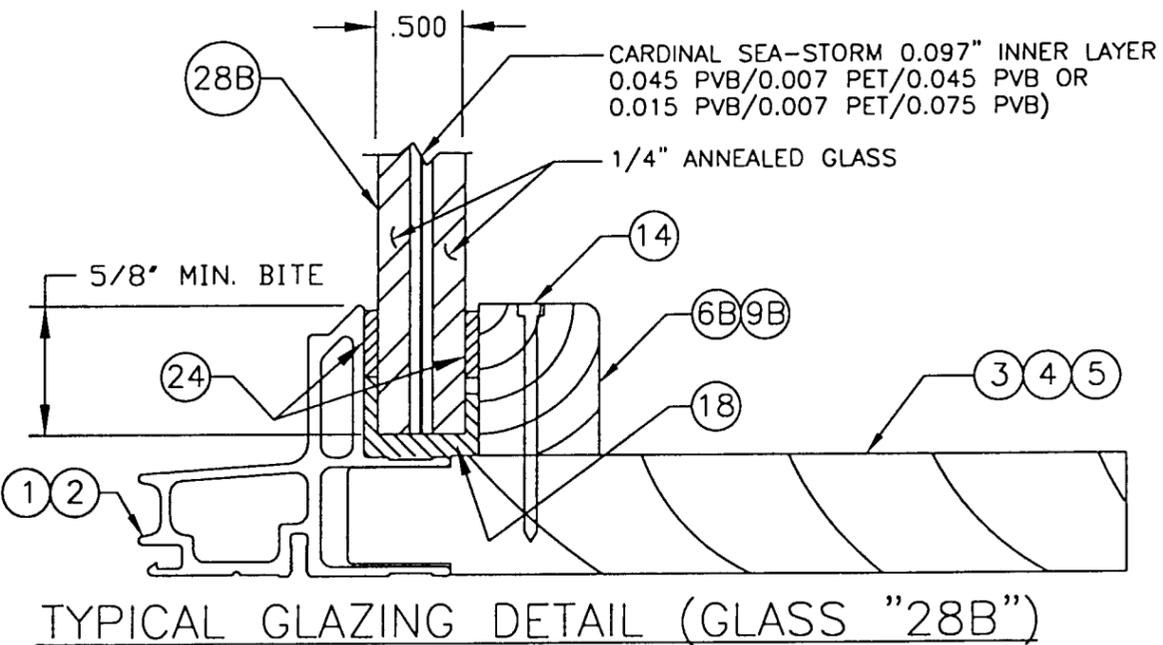
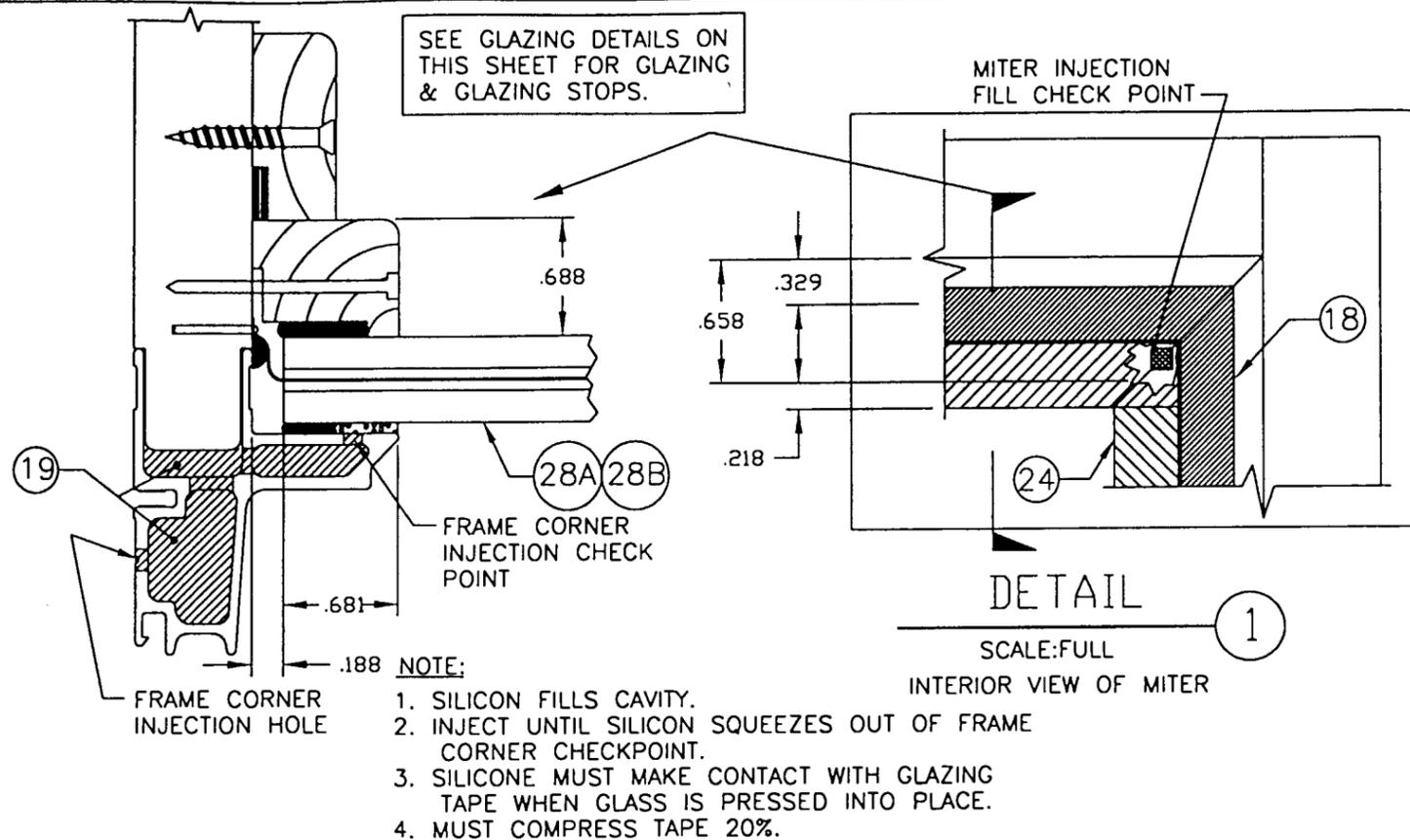


PRODUCT RENEWED  
as complying with the Florida  
Building Code  
Acceptance No. 02-1205.01  
Expiration Date NOV. 30, 2007  
By Manuel Perez  
Miami Dade Product Control  
Division

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE FEB 14 2002  
BY Manuel Perez  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 01-0427.03

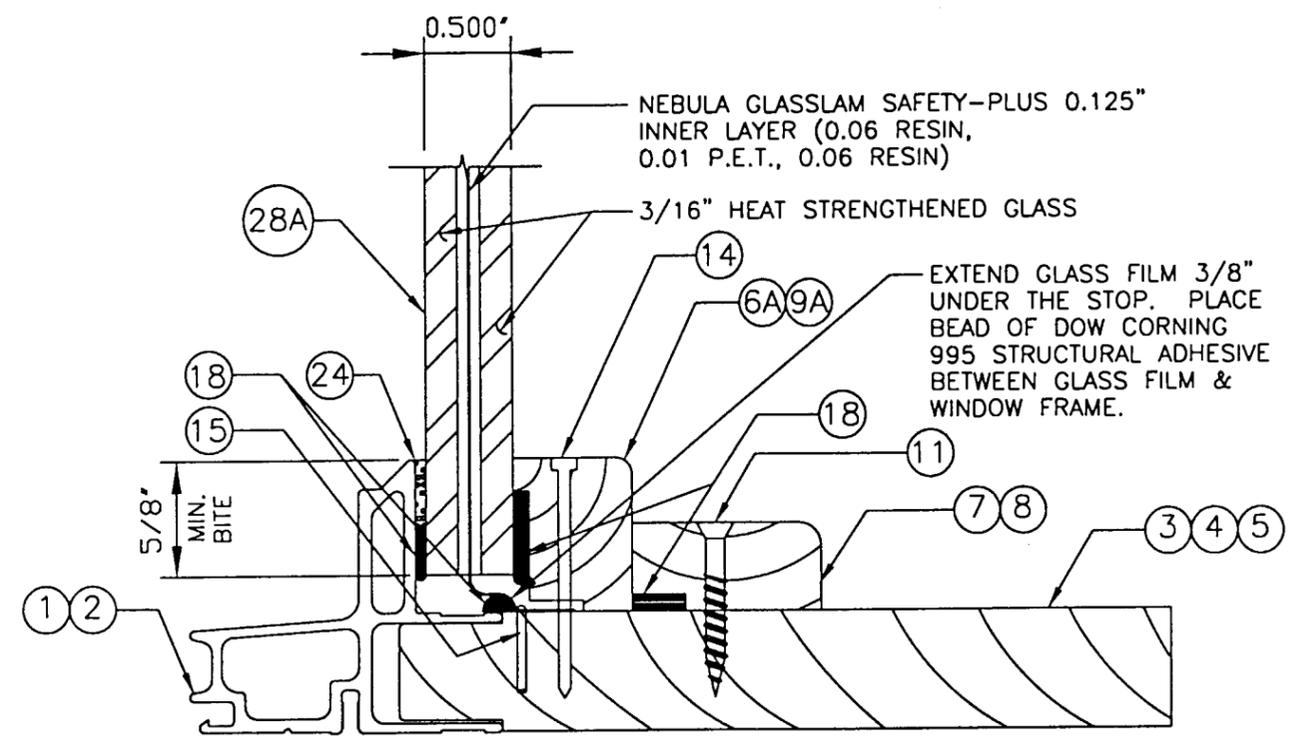
<p>APR 10 2001</p> <p>WARREN W. SCHAEFER, P.E. STRUCTURAL ENGINEER P.E. No. 44135</p>	<p>WOOD PART DIP SPEC</p> <p><input type="checkbox"/> DIP    <input type="checkbox"/> AT MLDR.</p> <p><input type="checkbox"/> NO DIP    <input type="checkbox"/> IN PROD.</p>		<p><b>MARVIN</b> RESEARCH AND DEVELOPMENT BOX 100, WARROD, MN 56763 WINDOWS &amp; DOORS. (218) 386-1430 FAX 386-1913</p>	
	<p>PRODUCT LINE: CLAD DIRECT-GLAZE</p> <p>PRODUCT: IMPACT HP</p>		<p>ASSEMBLY: CROSS SECTIONS</p>	
<p>MATERIAL: N/A</p>		<p>SIZE: B</p>	<p>DRAWING NO: 00012646</p>	
<p>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. STRUCTURAL CONSULTING ENGINEERS 600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902</p>		<p>SCALE: DATE: NOTED 03/31/99</p>	<p>DRAWN BY: T.M.H.</p>	<p>SHEET: 3 OF 9</p>

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



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.

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



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.

PRODUCT RENEWED  
as complying with the Florida  
Building Code  
Acceptance No. 02-1205.01  
Expiration Date 10/30/2007  
By *Maureen*  
Miami Dade Product Control  
Division

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE FEB 14 2002  
BY *Maureen*  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 01-0427-03

<p>APR 10 2001</p> <p>WARREN W. SCHAEFER, P.E. STRUCTURAL ENGINEER P.E. No. 44135</p> <p>V. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. STRUCTURAL CONSULTING ENGINEERS 600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902</p>	<input type="checkbox"/> DIP <input type="checkbox"/> AT MLDR. <input type="checkbox"/> NO DIP <input type="checkbox"/> IN PROD.	<p>MARVIN RESEARCH AND DEVELOPMENT BOX 100, WARROD, MN 56763 WINDOWS&amp;DOORS (218) 386-1430 FAX 386-1913</p>
	<p>PRODUCT LINE: CLAD DIRECT-GLAZE PRODUCT: IMPACT HP</p>	
<p>ASSEMBLY: MITER INJECTION &amp; GLAZING DETAILS</p>		
<p>MATERIAL: N/A</p>	<p>SIZE: B</p>	<p>DRAWING NO: 00012646</p>
<p>SCALE: NOTED</p>	<p>DATE: 03/31/99</p>	<p>DRAWN BY: T.M.H.</p>
		<p>SHEET: 4 of 9</p>

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	81.5	65	62
78"	95	95	95	95	65	62.7	
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.

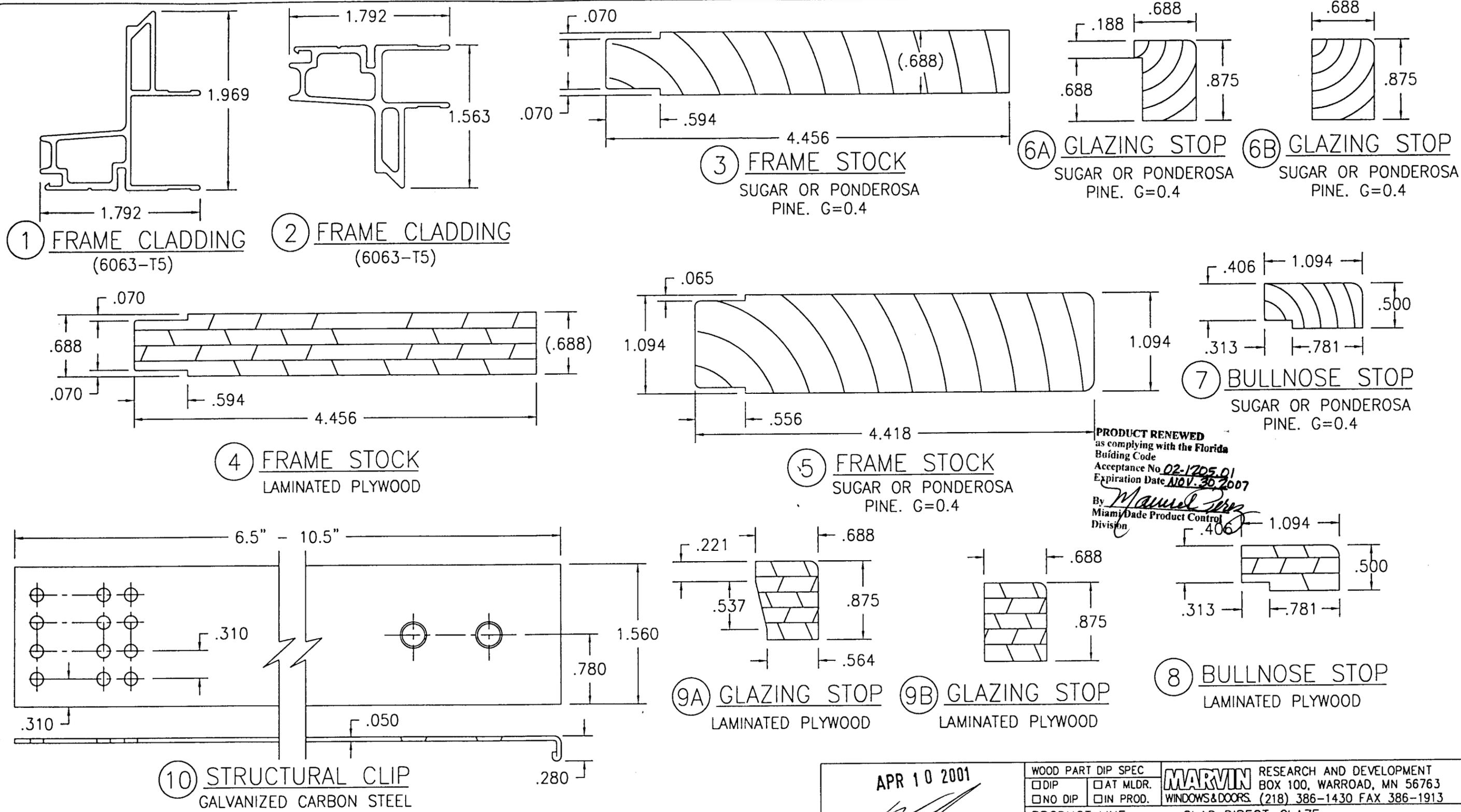
PRODUCT RENEWED  
 as complying with the Florida  
 Building Code  
 Acceptance No 02-1705-01  
 Expiration Date NOV-30-2007  
 By *Manuel Perez*  
 Miami Dade Product Control  
 Division

APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE FEB 14 2002  
 BY *Manuel Perez*  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 01-0427-03

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

APR 10 2001  WARREN W. SCHAEFER, P.E. STRUCTURAL ENGINEER P.E. No. 44135	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:			
	LOAD CAPACITY CHARTS			
	MATERIAL:	SIZE:	DRAWING NO:	
	N/A	B	00012646	
	SCALE:	DATE:	DRAWN BY:	
	FULL	03/31/99	T.M.H.	
			SHEET:	
			5 OF 9	

W. W. SCHAEFER ENGINEERING  
 & CONSULTING, P.A.  
 STRUCTURAL CONSULTING ENGINEERS  
 600 SANDTREE DRIVE, SUITE 203B  
 PALM BEACH GARDENS, FL 33403  
 PHONE: 561-775-4902



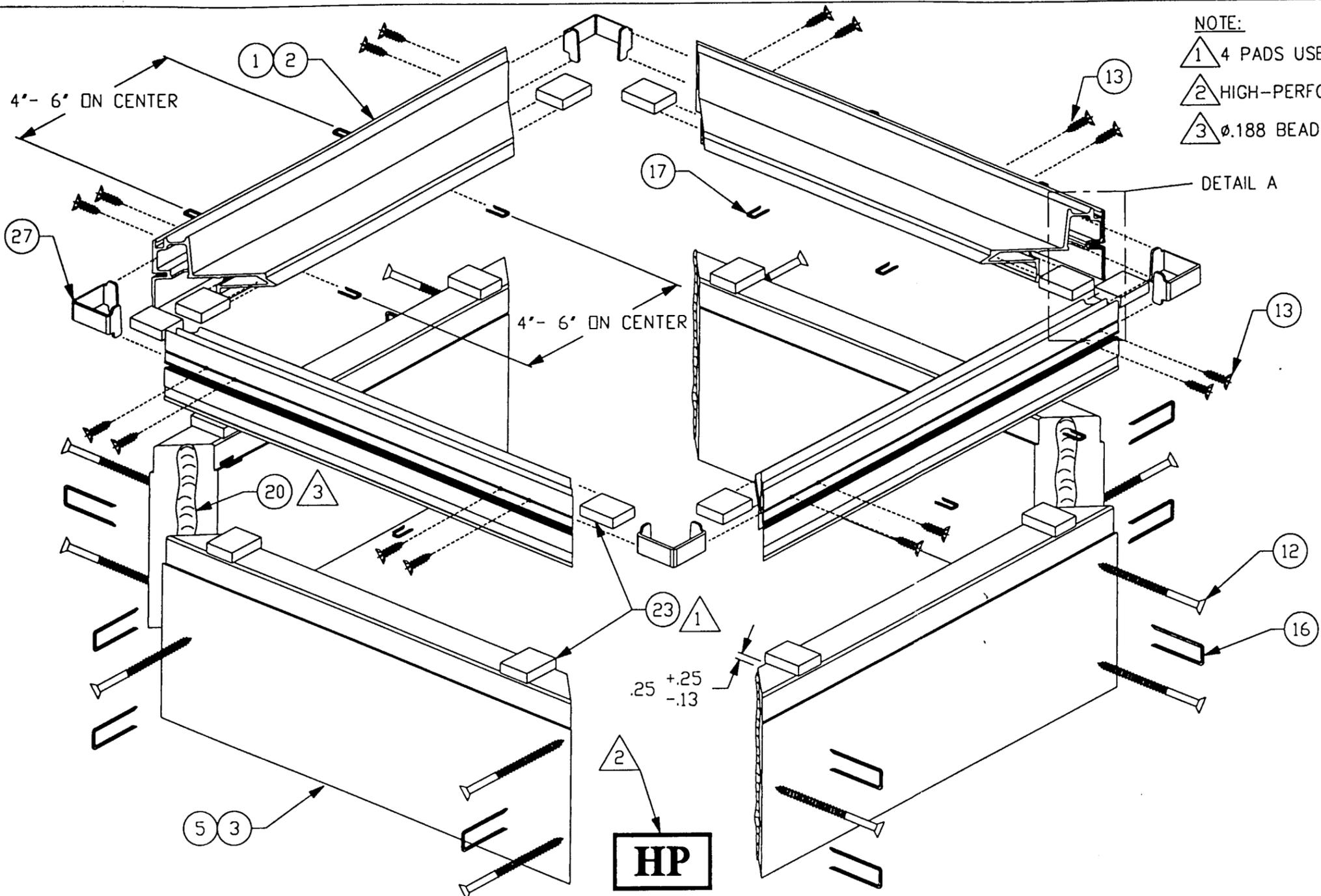
**PRODUCT RENEWED**  
 as complying with the Florida  
 Building Code  
 Acceptance No. 02-1205.01  
 Expiration Date NOV. 30, 2007  
 By *Manuel Diaz*  
 Miami Dade Product Control  
 Division

APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE FEB 14 2002  
 BY *Manuel Diaz*  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 01-0427-03

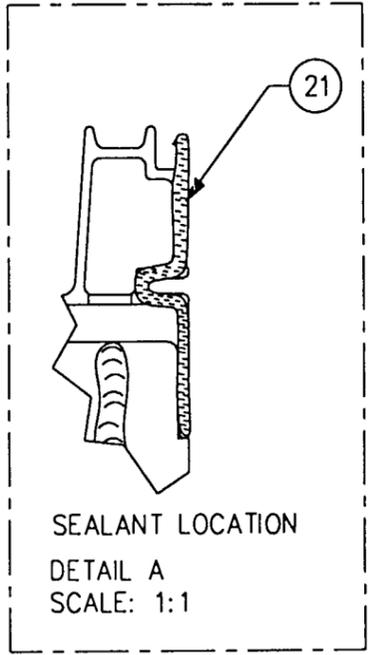
**APR 10 2001**  
*Warren W. Schaefer*  
**WARREN W. SCHAEFER, P.E.**  
 STRUCTURAL ENGINEER  
 P.E. No. 44135  
**W. W. SCHAEFER ENGINEERING  
 & CONSULTING, P.A.**  
 STRUCTURAL CONSULTING ENGINEERS  
 600 SANDTREE DRIVE, SUITE 2038  
 PALM BEACH GARDENS, FL 33403  
 PHONE: 561-775-4902

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		ASSEMBLY:	
PRODUCT: IMPACT HP		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

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



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 RENEWED  
 as complying with the Florida  
 Building Code  
 Acceptance No 02-1205.01  
 Expiration Date NOV. 30, 2007  
 By *Manuel Perez*  
 Miami Dade Product Control  
 Division

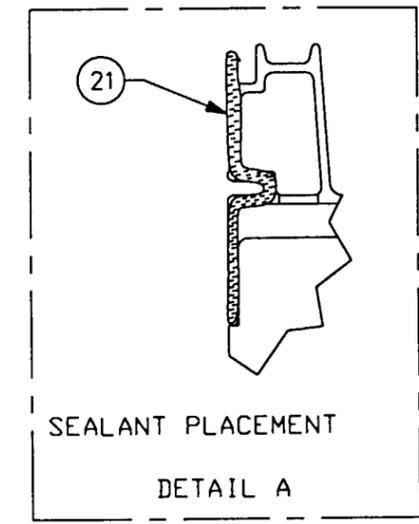
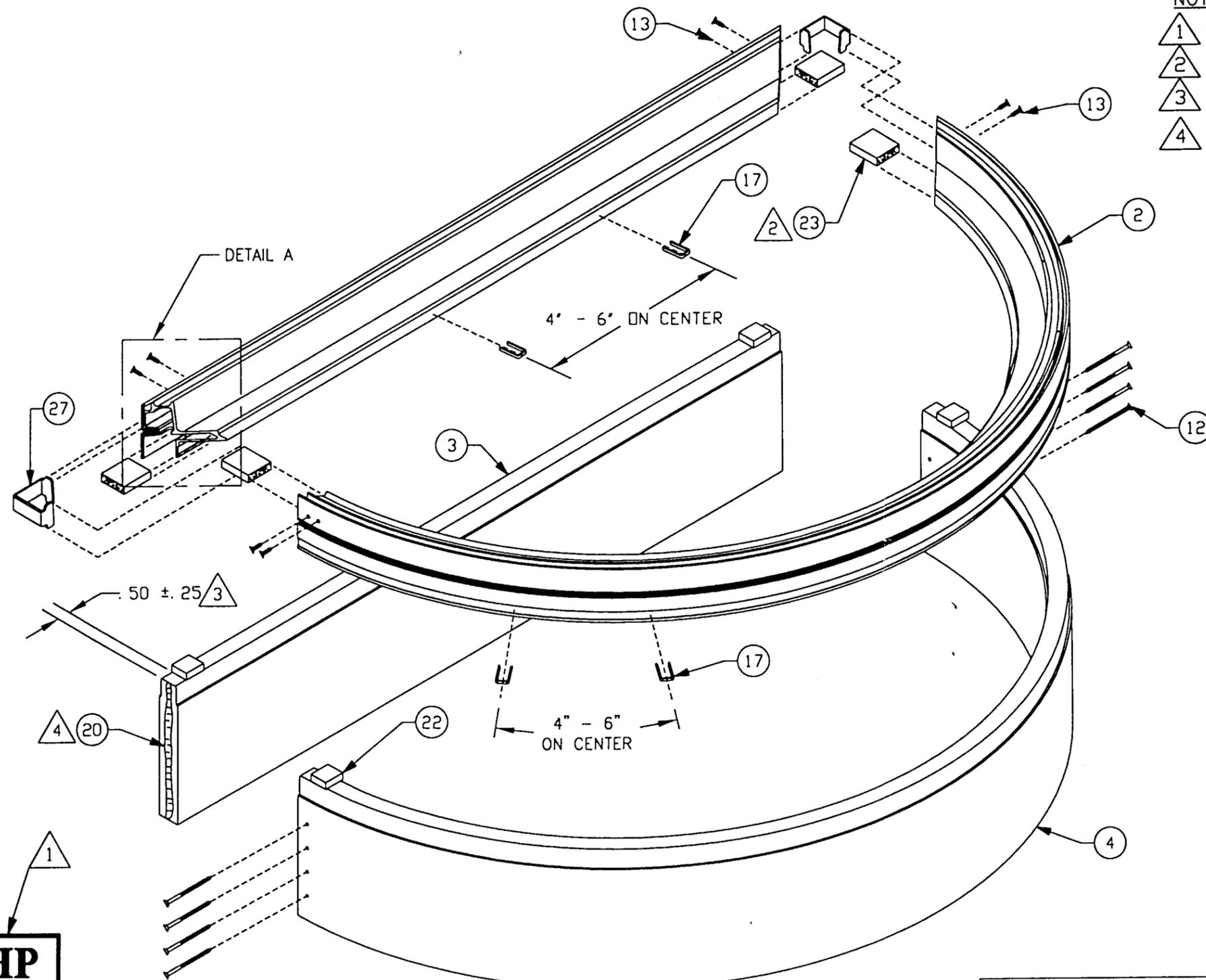
APPROVED AS COMPLYING WITH THE  
 SOUTH FLORIDA BUILDING CODE  
 DATE FEB 14 2002  
 BY *Manuel Perez*  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO 01-0427-03

APR 10 2001  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, WARROD, MN 56763 WINDOWS&DOORS (218) 386-1430 FAX 386-1913	
	PRODUCT LINE: CLAD DIRECT-GLAZE PRODUCT: IMPACT 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: 7 of 9	

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

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.



①  
**HP**

RADIUS JAMB FABRICATION DETAIL

**PRODUCT RENEWED**  
as complying with the Florida  
Building Code  
Acceptance No. 02-1205.01  
Expiration Date NOV. 30, 2007  
By *Manuel Perez*  
Miami Dade Product Control  
Division

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE FEB 14 2002  
BY *Manuel Perez*  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 01-0427.03

APR 10 2001  WARREN W. SCHAEFER, P.E. STRUCTURAL ENGINEER P.E. No. 44135	WOOD PART DIP SPEC		<b>MARVIN</b> RESEARCH AND DEVELOPMENT BOX 100, WARROAD, MN 56763 WINDOWS & DOORS (218) 386-1430 FAX 386-1913	
	<input type="checkbox"/> DIP	<input type="checkbox"/> AT MLDR.		
		<input type="checkbox"/> NO DIP	<input type="checkbox"/> IN PROD.	
		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)
23A	-	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)
23B	-	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 RENEWED**  
 as complying with the Florida Building Code  
 Acceptance No. 02-1205.01  
 Expiration Date NOV. 28, 2007  
 By *Manuel Suarez*  
 Miami Dade Product Control Division  
 APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE  
 DATE FEB 14 2002  
 BY *Manuel Suarez*  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 01-0427.03

APR 10 2001  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: MATERIAL LIST
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. STRUCTURAL CONSULTING ENGINEERS 600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902	MATERIAL: N/A	SIZE: B DRAWING NO: 00012646 SCALE: 1:1    DATE: 03/31/99    DRAWN BY: T.M.H.    SHEET: 9 OF 9