



Product Approval

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FL # FL15709-R11
 Application Type Revision
 Code Version 2020
 Application Status Approved
 Needs More Information

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*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.

Comments

Archived

Commission Meeting Date 04/11/2023
 Product Manufacturer WinDoor Inc.
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 N Venice, FL 34275
 (941) 486-0100
 jrosowski@pgtindustries.com

Authorized Signature Jens Rosowski
 jrosowski@pgtindustries.com

Technical Representative Lynn Miller, P.E.
 Address/Phone/Email 1070 Technology Dr
 N Venice, FL 34275
 (941) 486-0100 Ext 21142
 lmiller@pgtindustries.com

Quality Assurance Representative
 Address/Phone/Email

Category Windows
 Subcategory Fixed

Compliance Method Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer
 Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report A. Lynn Miller, P.E.
 Florida License PE-58705
 Quality Assurance Entity Keystone Certifications, Inc.
 Quality Assurance Contract Expiration Date 12/31/2032
 (mm/dd/yyyy)

Validated By Steven M. Urich, PE
 Validation Checklist - Hardcopy Received

Certificate of Independence [FL15709_R11_COI_Cert_of_Independence.pdf](#)

Referenced Standard and Year (of Standard) **Standard** **Year**
 AAMA/WDMA/CSA 101/1.S.2/A440 2008

ASTM E1886	2013
ASTM E1996	2017
TAS 201	1994
TAS 202	1994
TAS 203	1994

Equivalence of Product Standards
Certified By

Florida Licensed Professional Engineer or Architect
[FL15709 R11 Equiv ASTM E1886-04-05 to E1886-13a and E1996-05-06-09 to E1996-17 Equivalency Letter 2020-09-09.pdf](#)

Sections from the Code

Product Approval Method Method 1 Option D

Date Submitted 02/10/2023
Date Validated 02/20/2023
Date Pending FBC Approval 02/27/2023
Date Approved 04/11/2023
Date Revised 06/26/2023

Summary of Products

FL #	Model, Number or Name	Description
15709.1	GW9994G - Glass Wall	Seamless, 7/8" Triple Glazed with opt. SmartFilm Window System
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL15709 R11 II 9994.2-FPA - Triple - REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL15709 R11 AE GW9994G Eng Eval 7-8 REV A.pdf Created by Independent Third Party: No
15709.2	GW9994G - Glass Wall	Seamless, 5/8" Glazing Window System
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL15709 R11 II 9994.1-FPA - 5-8 - REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL15709 R11 AE GW9994G Eng Eval 5-8 REV A.pdf Created by Independent Third Party: No
15709.3	PW238	HVHZ, LM Impact-Resistant, Aluminum Fixed Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL15709 R11 II PW238LMI - FPA.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL15709 R11 AE PW238 LMI HVHZ - ENG EVAL - 01.pdf Created by Independent Third Party: No
15709.4	PW238 shapes	HVHZ, LM Impact-Resistant, Aluminum Fixed Window, Shapes
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL15709 R11 II PW238DLMI - FPA.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL15709 R11 AE PW238D LMI HVHZ - ENG EVAL - 01.pdf Created by Independent Third Party: No
15709.5	PW410	HVHZ, LM, Impact-Resistant, Aluminum Fixed Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL15709 R11 II PW410LMI - FPA.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL15709 R11 AE PW410 LMI HVHZ - ENG EVAL - 01.pdf Created by Independent Third Party: No

15709.6	PW410	HVHZ, SM, Impact-Resistant, Aluminum Fixed Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL15709 R11 II PW410SMI - FPA.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL15709 R11 AE PW410 SMI HVHZ - ENG EVAL - 01.pdf Created by Independent Third Party: No
15709.7	PW9020A	HVHZ, LM, Impact-Resistant, Aluminum Fixed Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL15709 R11 II 9020FPA-LM-1 REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL15709 R11 AE PW9020 LMI HVHZ - ENG EVAL - REV A.pdf Created by Independent Third Party: No
15709.8	PW9020A	Non-Impact-Resistant, Aluminum Fixed Window
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL15709 R11 II 9020FPA-NI-1 REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL15709 R11 AE PW9020 NI - ENG EVAL - REV A.pdf Created by Independent Third Party: No
15709.9	PW9020A	HVHZ, SM, Impact-Resistant, Aluminum Fixed Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL15709 R11 II 9020FPA-SM-1 REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL15709 R11 AE PW9020 SMI HVHZ - ENG EVAL - REV A.pdf Created by Independent Third Party: No

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Engineering Evaluation Report

Prepared by:

A. Lynn Miller, P.E.
1070 Technology Dr.
N. Venice, FL 34275
(941) 480-1600
Registration Number: #29296

Manufacturer:

WinDoor Inc.
104 Triple Diamond Blvd
N Venice, FL 34275

Product Description:

Series GW9994G Impact-resistant, Aluminum Seamless Glazed Window System, Triple Glz, (LM & SM), FL #15709

Compliance:

The above-mentioned product has been evaluated for compliance with the requirements of the Florida Department of Business and Professional Regulation for Statewide Acceptance per Rule 61 G20-3.005 method 1(d). The product listed herein complies with requirements of the current Florida Building Code.

This product has been evaluated and is in compliance with the current Florida Building Code, including the "High Velocity Hurricane Zone" (HVHZ).

Supporting Technical Documentation:

1. Approval document: drawing number 9994.2-FPA, signed and sealed by A. Lynn Miller, P.E.

2. Test Report Nos. FTL 21-1127, signed and sealed by Idalmis Ortega, P.E.

Fenestration Testing Laboratories; N. Venice, FL 34275

AAMA/WDMA/CSA 101/IS2/A440, 2017

ASTM E1886-13a/19

ASTM E1996-17/20

Test Report Nos. QAI 22-1068, signed and sealed by Idalmis Ortega, P.E; QAI, N. Venice, FL 34275

TAS 201-94 Large Missile Impact Test

TAS 202-94 Uniform Static Air Pressure Test

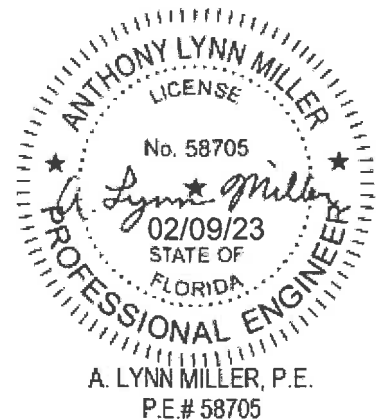
TAS 203-94 Cyclic Pressure Loading Test

3. Calculations, signed and sealed by A. Lynn Miller, P.E., dated 8/11/21

4. Miami-Dade RER Product Control Section NOA's; SentryGlas Interlayer by Kuraray America, Inc.

Limitations and Conditions of use:

- Units must be glazed per ASTM E1300-09, refer to approval document for glazing details.
- This product is rated to be used in the HVHZ.
- This product is impact resistant and does not require impact protection in wind borne debris regions.
- Frame material to be extruded Aluminum.
- Units must be installed in accordance with approval document, 9994.2-FPA.



SERIES GW9994G IMPACT RESISTANT, STRAIGHT, OUTSIDE & INSIDE CORNER SEAMLESS GLAZED WINDOW SYSTEM, 7/8" TRIPLE GLAZED

- 1) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE CURRENT FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).
- 2) SHUTTERS ARE NOT REQUIRED WHEN USED IN WIND-BORNE DEBRIS REGIONS.
- 3) ALL WOOD BUCKS, LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL IF UNITS INSTALLED DIRECTLY TO SUBSTRATE. WOOD BUCKS DERIVED AS 2X ARE 1-1/2" THICK OR GREATER. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED TO PROPERLY TRANSFER LOADS TO THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD.
- 4) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. USE ANCHORS OF SUFFICIENT LENGTH. OVERALL SEALING/FLASHING STRATEGY FOR WATER RESISTANCE OF INSTALLATION SHALL BE DONE BY OTHERS AND IS BEYOND THE SCOPE OF THESE INSTRUCTIONS.
- 5) SHIMS ARE REQUIRED AT EACH ANCHOR LOCATION WHERE THE PRODUCT IS NOT FLUSH TO THE SUBSTRATE. USE SHIMS CAPABLE OF TRANSFERRING APPLIED LOADS. WOOD BUCKS, BY OTHERS, MUST BE SUFFICIENTLY ANCHORED TO RESIST LOADS IMPOSED ON THEM BY WINDOW.
- 6) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WIND LOADS CORRESPONDING TO THE REQUIRED DESIGN PRESSURE. THE 33-1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. THE 1.6 LOAD DURATION FACTOR WAS USED FOR THE EVALUATION OF ANCHORS INTO WOOD. ANCHORS THAT COME INTO CONTACT WITH OTHER DISSIPILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE FOR CORROSION RESISTANCE.

TABLE 1:

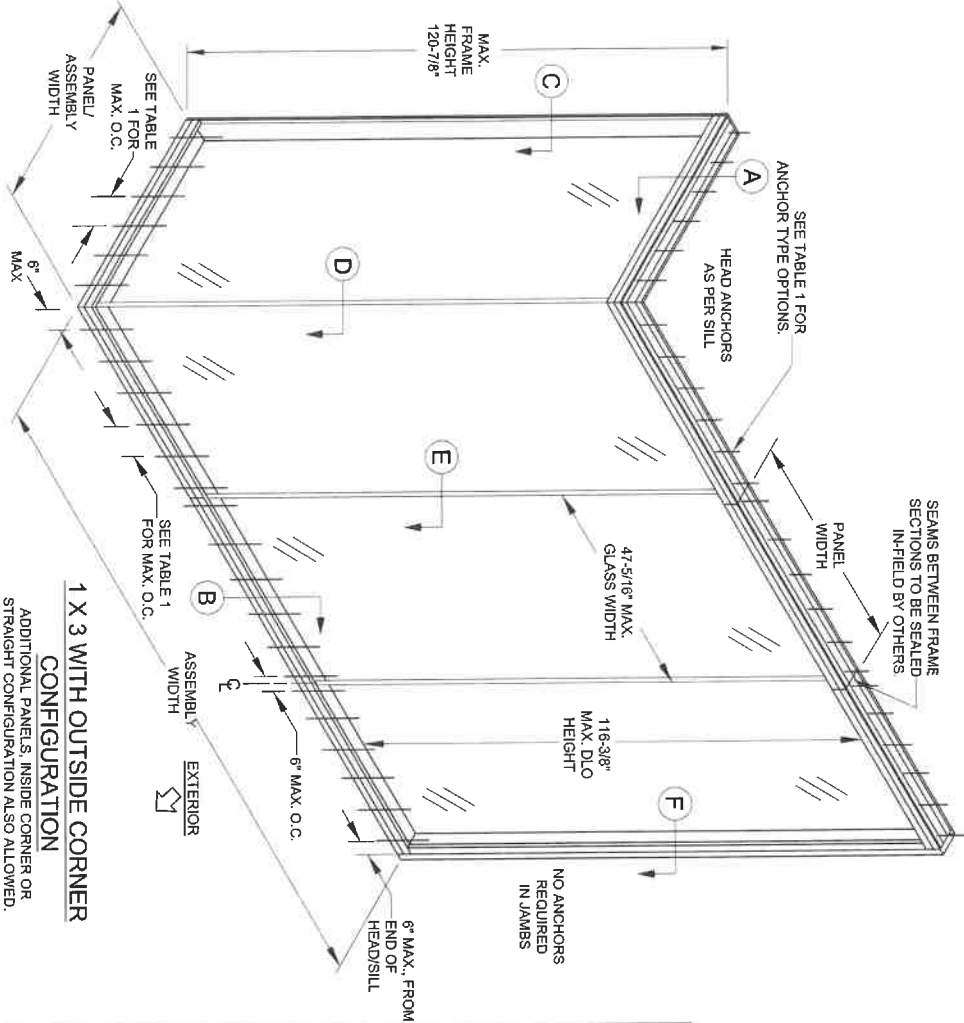
Anchor Type	Substrate	Min. Edge Distance	Max. O.C. Distance	Min. Embedment or Metal Thickness
#12 Steel SMS, G5	Southern Pine (SG = 0.55)	9/16"	9"	1-3/8"
	6063-T5 Aluminum	3/8"	9"	0.093"
	A36 Steel	3/8"	9"	0.050"
#14 Steel SMS, G5	Steel Stud, Gr. 33	3/8"	9"	0.057", 16 Ga.
	Southern Pine (SG = 0.55)	5/8"	9"	1-3/8"
	6063-T5 Aluminum	3/8"	9"	0.093"
#14 410 Stainless Steel SMS, G5	A36 Steel	3/8"	9"	0.050"
	Southern Pine (SG = 0.55)	5/8"	9"	1-3/8"
	6063-T5 Aluminum	3/8"	9"	0.093"
1/4" Elco UltraCon	A36 Steel	3/8"	9"	0.050"
	Concrete (min. 2,85 ksi)	2-1/2"	9"	0.057", 16 Ga.
	Concrete (min. 23,00 ksi)	2-1/2"	9"	1-3/8"
1/4" Elco Cretelac	Concrete (min. 2,85 ksi)	2-1/2"	9"	1-3/8"
	Concrete (min. 2,85 ksi)	1-3/4"	9"	1-3/4"

1) ANCHORS MUST EXTEND A MINIMUM OF 3 THREADS BEYOND ANY METAL SUBSTRATE.
2) ANY HEAD TYPE ALLOWABLE.

TABLE 2:

Glass Type	Description (Listed from Exterior to Interior)
1	1/4" HS - 0.090" SG - 1/4" HS - 0.090" SG - 1/4" HS
2	1/4" HS - 0.090" SG - 1/4" HS - 0.045" EVA - 0.062" SmartFilm - 0.045" EVA - 1/4" HS

HS = HEAT STRENGTHENED
SG = SENTRI-GLAS INTERLAYER BY KURARAY AMERICA, INC.
EVA = EVA INTERLAYER



DESIGN PRESSURE RATING	IMPACT RATING
+90.0 / -90.0 PSF	RATED FOR LARGE & SMALL MISSILE IMPACT RESISTANCE

WinDoor INCORPORATED
 WINDOOR INCORPORATED
 104 TRIPLE DIAMOND BLVD
 N VENICE, FL 34275
 (833) 554-5432

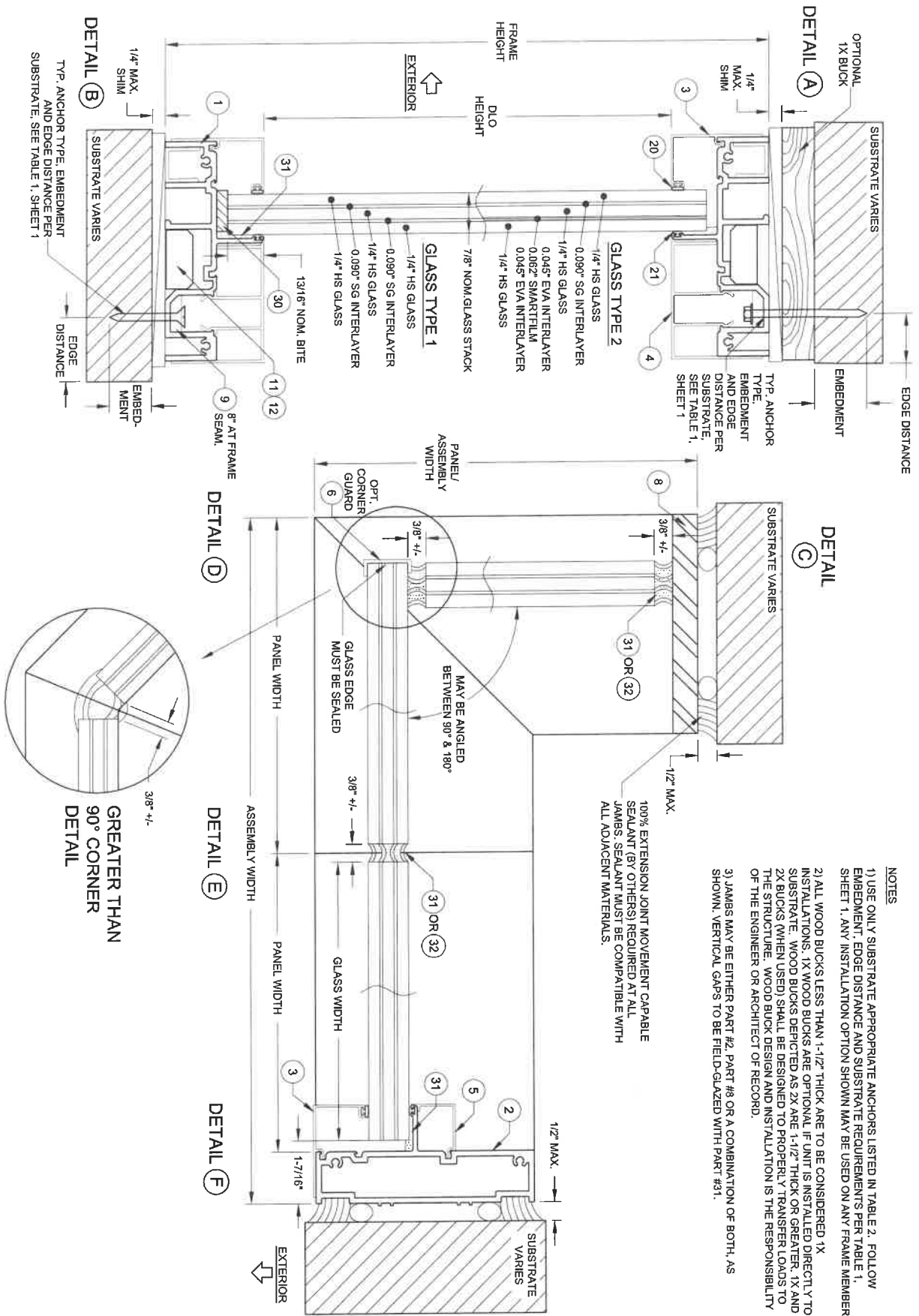
PREPARED BY A. LYNN MILLER, P.E.
 1070 TECHNOLOGY DRIVE
 N. VENICE, FL 34275 (941) 480-1600

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DATE: 10/10/21
 BY: J ROSOWSKI

PROJECT: GW9994G NTS 1 OF 3
 DRAWING: 9994.2-FPA

ANTHONY LYNN MILLER
 LICENSE
 No. 58705
 02/09/23
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 A. LYNN MILLER, P.E.
 P.E.# 58705



- NOTES**
- 1) USE ONLY SUBSTRATE APPROPRIATE ANCHORS LISTED IN TABLE 2. FOLLOW EMBEDMENT, EDGE DISTANCE AND SUBSTRATE REQUIREMENTS PER TABLE 1. SHEET 1. ANY INSTALLATION OPTION SHOWN MAY BE USED ON ANY FRAME MEMBER.
 - 2) ALL WOOD BUCKS LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SUBSTRATE. WOOD BUCKS DEPICTED AS 2X ARE 1-1/2" THICK OR GREATER. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED TO PROPERLY TRANSFER LOADS TO THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD.
 - 3) JAMBS MAY BE EITHER PART #2, PART #9 OR A COMBINATION OF BOTH, AS SHOWN. VERTICAL GAPS TO BE FIELD-GLAZED WITH PART #31.

100% EXTENSION JOINT MOVEMENT CAPABLE SEALANT (BY OTHERS) REQUIRED AT ALL JAMBS. SEALANT MUST BE COMPATIBLE WITH ALL ADJACENT MATERIALS.

GREATER THAN 90° CORNER DETAIL

ANTHONY LYNN MILLER
LICENSE
No. 68705
02/09/23
FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

WinDoor
INCORPORATED

PREPARED BY A. LYNN MILLER, P.E.
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SEAMLESS GLAZED WDW. SYSTEM, 7/8" TP 10/10/21

INSTALL DETAILS J ROSOWSKI

GW9994G NTS 2 OF 3 9994.2-FPA

CORRECTED ANCHOR O.C. 02/08/23 A

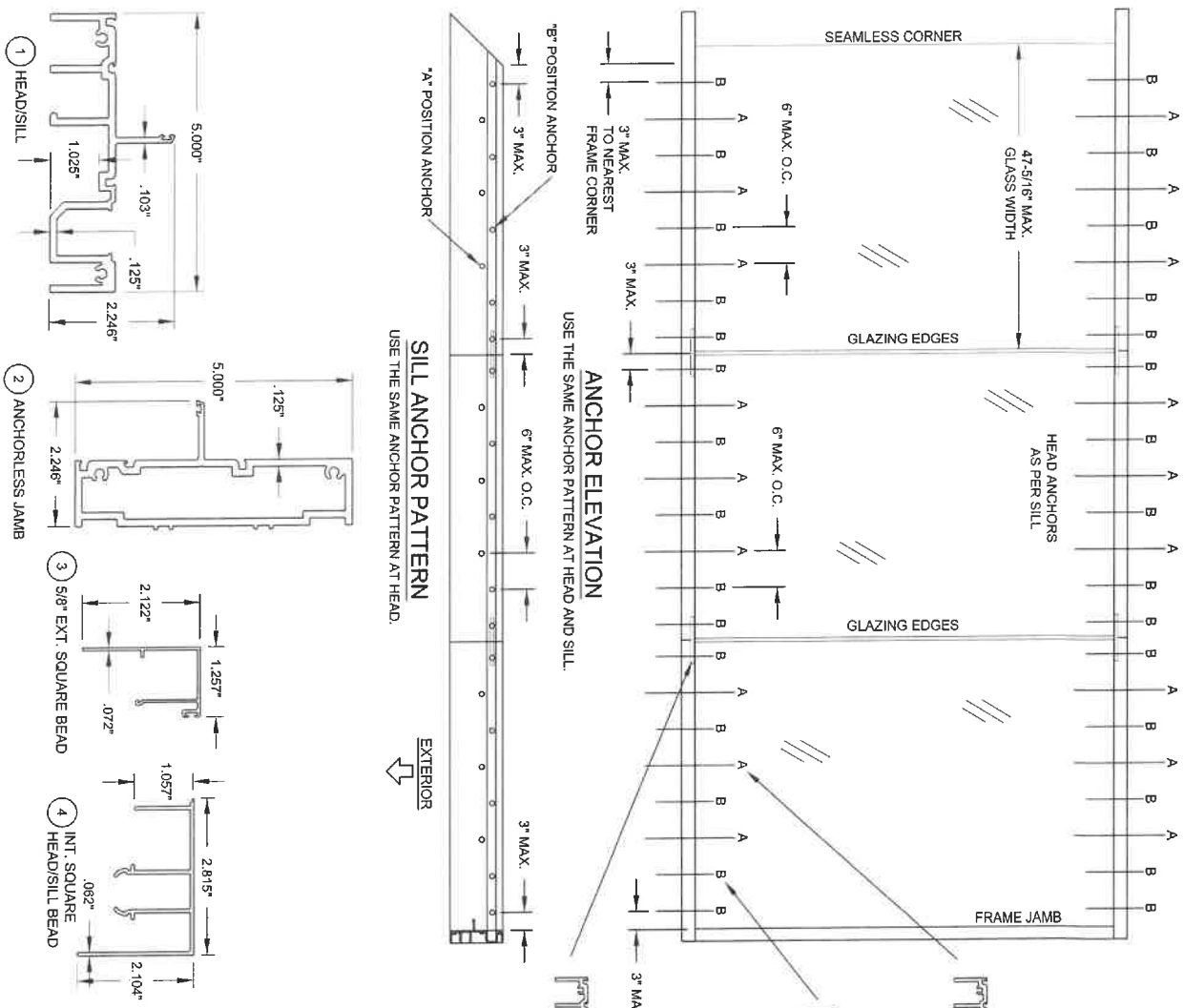


TABLE 3:

Item	Part #	Description	Mat.
1	23045	Head/Sill	6063-T6
2	23046	Anchorless Jamb	6063-T6
3	23069	5/8" Ext. Square Beading	6063-T6
4	23066	Int. Square Head/Sill Beading	6063-T6
5	21013	Interior Square Jamb Beading	6063-T6
6	23073	5/8" Glazing Corner Guard	6063-T6
7	23075	Installation Clip	6063-T6
8	23074	3/8" x 5" Aluminum Bar	6063-T6
9	23067	Anchor Channel Coupling	6063-T6
10		#8 x 3/4" Panhead, Ph. SMS	SS
11	23070	90 Degree Corner Key	PVC
12	23071	135 Degree Corner Key	PVC
20	21091	Beading Bulb Weatherstrip	Vinyl
21		Glazing Leg Weatherstrip	Vinyl
30		Setting Block, 1" x 1/8" x 4", Duro. = 80	Neoprene
31		Backbeading RGS-7700, Dow-791 or 983	Silicone
32		Sealant Dow-791 or CRL 33S	Silicone

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PREPARED BY A. LYNN MILLER, P.E.
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SEAMLESS GLAZED WDW. SYSTEM, 7/8" TP 10/10/21

INSTALL DETAILS, BOM & EXT.

GW9994G NTS 3 OF 3 9994.2-FPA

ANTHONY LYNN MILLER
LICENSE
No. 58705
02/09/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

7/ASJ
02/08/23
CORRECTED ANCHOR O.C.

7/ASJ
02/08/23
A