Engineering Evaluation Report # PW5520-20200909

Prepared by:
A. Lynn Miller, P.E.
1070 Technology Dr.
N. Venice, FL 34275
(941) 480-1600
Certificate of Authorization: #29296

Manufacturer:
PGT Industries, Inc.
1070 Technology Drive
North Venice, FL 34275

Product Description:
PW5520 Series Impact-Resistant Vinyl Fixed Window, (LMI), FL-29700

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 the 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 PW5520 LAMI, signed and sealed by A. Lynn Miller, P.E.
2. Test Report No.: FTL-7897, FTL 19-9037 & 20-2107.1-4, signed and sealed by Idalmis Ortega, P.E.
Fenestration Testing Laboratories, Medley, FL 33166

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 09/27/14 & 03/19/20

4. Miami-Dade RER Product Control Section NOA’s; PVB 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 and sash material to be extruded Vinyl.
• Units must be installed in accordance with approval document, PW5520 LAMI.



SERIES 5500 IMPACT RESISTANT VINYL FIXED WINDOW

FLORIDA PRODUCT APPROVAL #XXXX

IMPACT RATING: LARGE & SMALL MISSILE IMPACT RESISTANT	DESIGN PRESSURE RATING: (VARIES PER GLASS TYPE, SEE TABLES 4-5, SHEET 3)

(1) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).

(2) UNIT TYPES ARE AS LIST HEREINABOVE UNLESS OTHERWISE SHOWN ELSEWHERE ON DRAWINGS.

(3) MATERIALS USED FOR ANCHOR INSTALLATION (WHERE SUCH MATERIAL EXISTS) FOR USE IN CONCRETE, MASONRY, WOOD AND CONCRETE SUITABLE AGE PER ANCHOR TYPE.

(4) ALL WOOD BUCKS USED TO BE 1-1/2" THICK OR GREATER. IN AREAS WHERE A DOUBLE BUCK IS REQUIRED, BOTH BUCKS SHALL BE SECURED TO EACH OTHER AND THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE CONTRACTOR. BOTH BUCKS TO BE TREATED OR NATURALLY RESISTANT TO DECAY.

(5) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL CAVITY AND IN CONCRETE USE ANCHORS OF SUFFICIENT LENGTH TO ACHIEVE EMBEDMENT. MINIMUM EDGE AND END DISTANCE SHALL BE AS SPECIFIED. OVERSIZE OR SLOTTED PLANNING OPERATIONS FOR GREATER PERFORMANCE OF INSTALLATION SHALL BE DONE BY OTHERS AND IS BEYOND THE SCOPE OF THESE INSTRUCTIONS.

(6) MAX. 1/4" SHIMMING REQUIRED AT EACH ANCHORAGE LOCATION WHERE THE PRODUCT IS NOT FLUSH TO THE SUBSTRATE. USE SHIMS CAPABLE OF TRANSFERRING APPLIED LOADS FROM SUBSTRATE INTO ANCHORED BUCK PLIES. FOR WOOD SUBSTRATE WHERE THE WINDOW IS SERVED OVER 30' AS A SECURITY, HEAVY STRANDED THREADED OR TEMPERED LAMINATED GLASS MUST BE USED.

(7) WINDOW PRESSURES:
A. NEGATIVE DESIGN LOADS MARKED ON WINDOW TEST PRESSURE, PRIMARY SEAL ENGAGING GLASS PER ASTM E1886.
B. POSITIVE DESIGN LOADS MARKED ON WINDOW TEST PRESSURE, STRUCTURAL GLAZE TEST PRESSURE, ENGAGING GLASS PER ASTM E1886.
C. DESIGN LOADS ARE SHOWN ON ALL DRAWING SHEETS (SEE INDEX).

(8) THE WINDOW ASSEMBLIES SHOWN ON THIS SHEET HAVE BEEN DESIGNED TO RESIST THE WIND LOADS CALCULATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE. THE SAFETY FACTOR REQUIRED BY THE CODE HAS BEEN INCLUDED IN THE DESIGN OF THIS PRODUCT. THE ULTIMATE DESIGN PRESSURE SHALL NOT BE EXCEEDED IN ANY SERVICE APPLICATION. THE ULTIMATE DESIGN PRESSURE IS THE LOWEST PRESSURE VALUE DETERMINED FOR ANY OF THE FOLLOWING: STRUCTURAL TEST PRESSURE, FORCE ENTERING CONSTANT, OR FORCE RESISTANCE. THE ULTIMATE DESIGN PRESSURE SHALL NOT BE EXCEEDED IN ANY SERVICE APPLICATION. THE ULTIMATE DESIGN PRESSURE IS THE LOWEST PRESSURE VALUE DETERMINED FOR ANY OF THE FOLLOWING: STRUCTURAL TEST PRESSURE, FORCE ENTERING CONSTANT, OR FORCE RESISTANCE. ANY USE WITH OTHER DESIGN LOADS EXCEEDING THE DESIGN PRESSURE SHOWN IN THE TABLES IS NOT PERMITTED. ALL SPECIFICATIONS MUST COMPLY WITH THE FLORIDA BUILDING CODE AND ANY LOCAL CODES WHICH MAY APPLY.

(9) SPECIAL INSPECTIONS TO MEET WIND ZONE 4 REQUIREMENTS AND ENGINEER'S CERTIFICATE OF COMPLIANCE TO BE PROVIDED BY THE CONTRACTOR AS REQUIRED BY THE FLORIDA BUILDING CODE AND TO BE REVIEWED BY THE AUTHORITY HAVING JURISDICTION.

(10) PERFORMANCE TEST REPORTS ALL WERE TAKEN FROM A TESTING LABORATORY ACCREDITED BY A RECOGNIZED ACCREDITATION BODY (WINDOW MANUFACTURER'S LTD. WHITE & BRONZE ANODIZED FINISHES OF CAP COATED WITH ZERTIFIZIERUNG E.V. NATIONAL TESTING SERVICE FOR CONSTRUCTION, WINDOWS, DOORS & ALUMINUM CURTAIN WALLS).

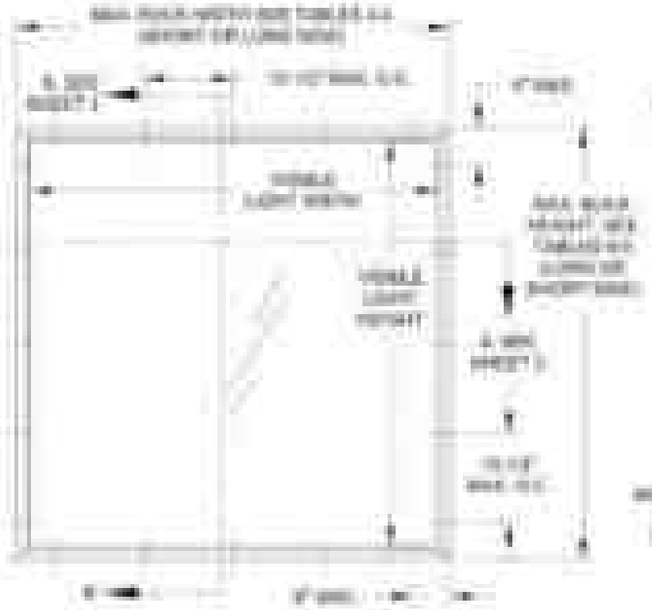
(11) PVC INTERLAYER MANUFACTURED BY SUPERIOR WINDOW, INC.

(12) FRAME FLANGES OR INTERIOR TRIM MAY BE TRIMMED IN FIELD TO CONFORM TO EXISTING CONDITIONS.

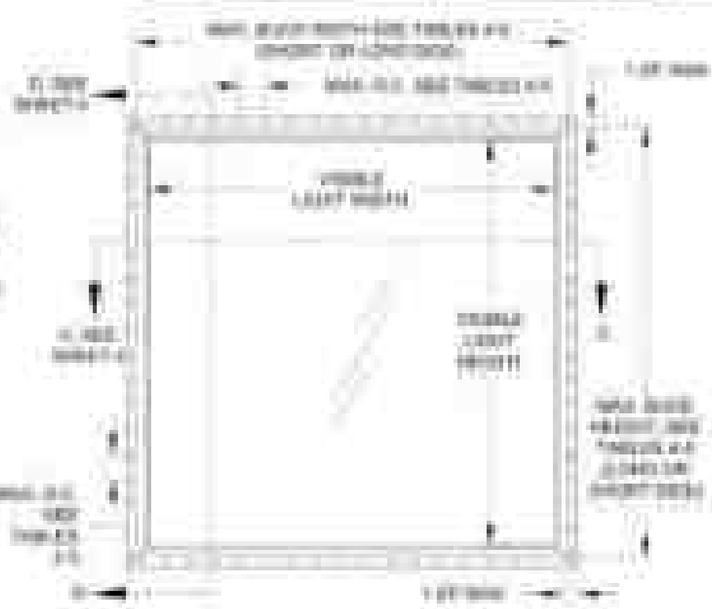
ALL TEMPERED AND/OR LAMINATED GLASS OPTIONS IN THIS APPROVAL HAVE BEEN IDENTIFIED BY THE GLASS FOR COMPLIANCE TO ANSI Z97.1, CLASS A AND CPSC 16 CFR 1201, CATEGORY II. THIS INCLUDES LAMINATED GLASS THAT IS MADE IN THREE (3) PLIES. FOR WITH EXCEPTIONS WHERE THE WINDOW IS SERVED OVER 30' AS A SECURITY, HEAVY STRANDED THREADED OR TEMPERED LAMINATED GLASS MUST BE USED.

GENERAL NOTES & ELEVATIONS 1
FRAME, GLASS & ANCHOR OPTIONS 2
INTERLAYER FLANGE & EQUAL LEG 3
INTERLAYER, INTEGRAL FIN & J-CHANNEL 4
DESIGN PRESSURES 5
BOM & ASSEMBLY 6

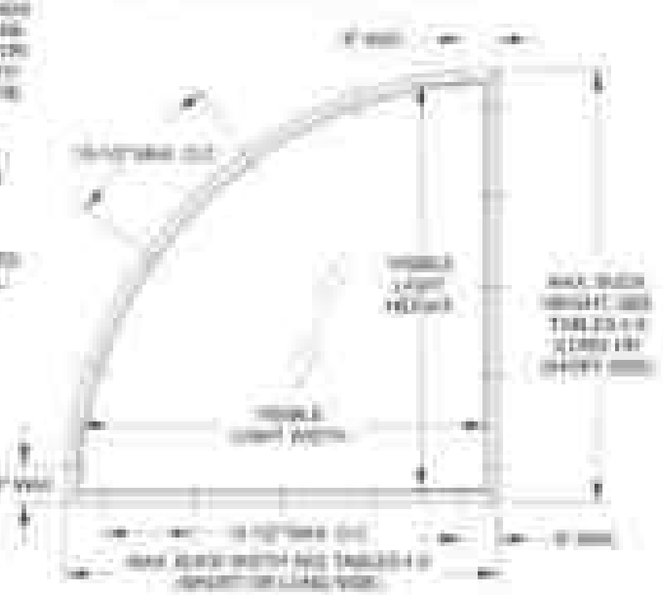
VISIBLE LIGHT FORMULAS
WIDTH: ALIGN WIDTH - A & B/2"
HEIGHT: ROUGH HEIGHT - A & B/2"



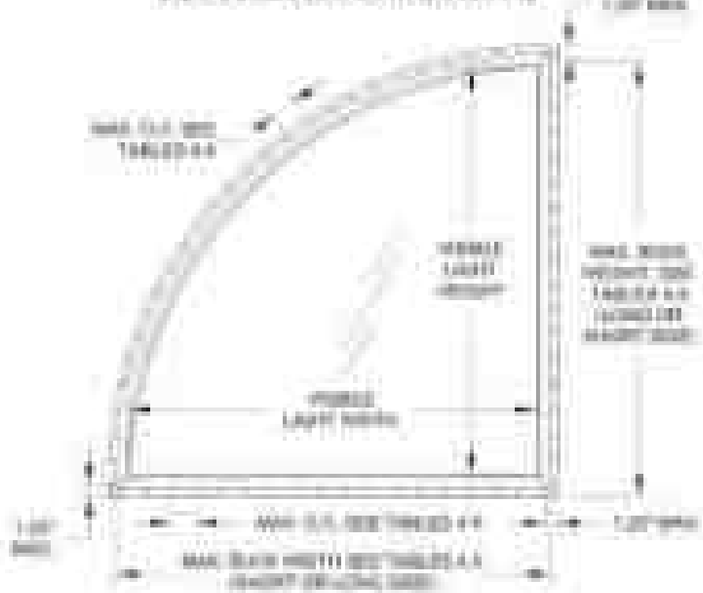
TYP. EQUAL LEG/BOX & FLANGE FRAME (90° CORNERS)



TYP. INTEGRAL FIN & J-CHANNEL FRAME (90° CORNERS) (ANCHORED THROUGH MAIL FIN)



TYP. EQUAL LEG/BOX & FLANGE FRAME (CURVED OR ANGLED CORNERS)



TYP. INTEGRAL FIN & J-CHANNEL FRAME (CURVED OR ANGLED CORNERS) (ANCHORED THROUGH MAIL FIN)

UPDATED TITLE BLOCK - JR - 10/19/23

REVISIONS	BY
PRELIMINARY	
PRODUCT APPROVAL	
PRODUCT APPROVAL	
PRODUCT APPROVAL	
PRODUCT APPROVAL	

SERIES 5500 IMPACT RESISTANT VINYL FIXED WINDOW

SHEET 1 OF 6

PRODUCT APPROVAL #XXXX

STATE OF FLORIDA

PROFESSIONAL ENGINEER

NOT VALID UNLESS SIGNED AND SEALED

Glass Type	Description	Factor d	Efficient e
1	[illegible]	4	3
2	[illegible]	5	5

Group	Anchor	Substrate	Min. Edge Distance	Min. Embedment*
A	[illegible]	[illegible]	[illegible]	[illegible]
B	[illegible]	[illegible]	[illegible]	[illegible]
C	[illegible]	[illegible]	[illegible]	[illegible]
D	[illegible]	[illegible]	[illegible]	[illegible]

Group	Anchor	Substrate	Min. Edge Distance	Min. Embedment*
A	[illegible]	[illegible]	[illegible]	[illegible]
B	[illegible]	[illegible]	[illegible]	[illegible]

NOTE:
[illegible]

GLASS TYPE 1

GLASS TYPE 2

TYP. GLAZING DETAIL

VINYL FIXED WINDOW (LSMI)	REVISION
GLASS/ANCHORS/FRAME OPTIONS	J. ROSCOMBE
PRODUCT	NTS	2 OF 6	PHASED LAMP	0

[illegible]
5275 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 486-1900

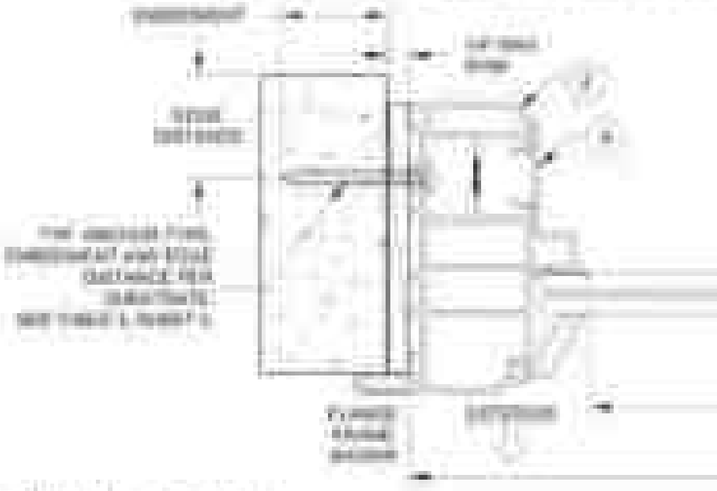
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INSTALLATION DETAILS FOR FLANGE & EQUAL-LEG/BOX FRAMES

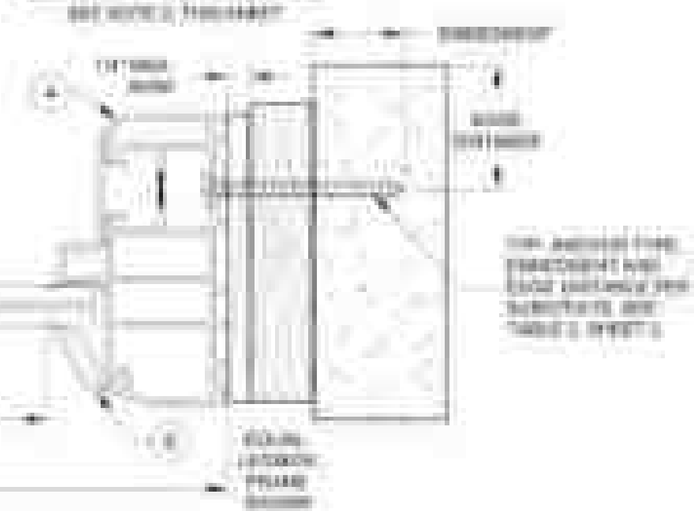
INSTALLATION OPTION 1



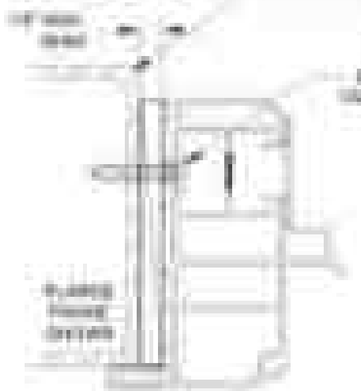
INSTALLATION OPTION 2



INSTALLATION OPTION 3



HORIZONTAL SECTION A-A



INSTALLATION OPTION 4



INSTALLATION OPTION 4

INSTALLATION OPTION 5

VERTICAL SECTION B-B

VISIBLE LIGHT FORMULAS

VINYL FIXED WINDOW (LSM)	
FLANGE & EQUAL LEG/BOX FRAMES	J ROSCOMSKI
PRI-ECO	RTS	3 OF 6	PHASED LAMP	0

GT
GT DESIGN GROUP
3215 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 486-1900

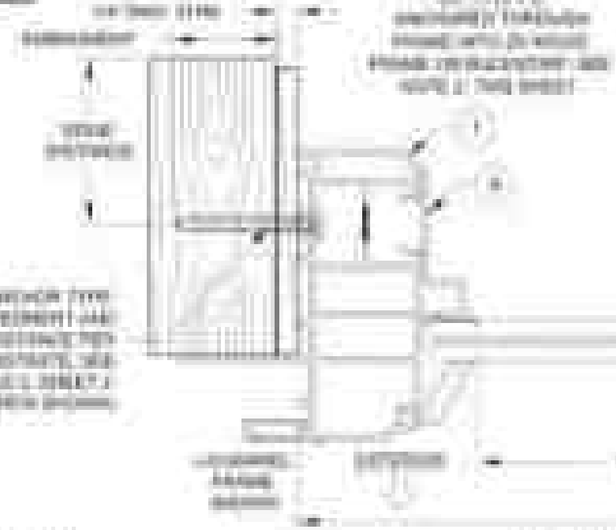
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INSTALLATION DETAILS FOR INTEGRAL FIN & J-CHANNEL FRAMES

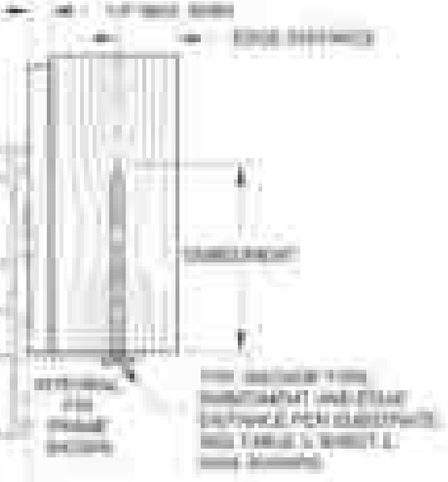
INSTALLATION OPTION A



INSTALLATION OPTION B



INSTALLATION OPTION D



HORIZONTAL SECTION C-C



INSTALLATION OPTION D

VERTICAL SECTION D-D

INSTALLATION OPTION F

INSTALLATION OPTION G

NOTES:

1) USE WALL SUBSTRATE APPROPRIATE FOR ANCHORS LISTED ON TABLES 1 & 3, SHEET 2. FULL/FIN EMBEDMENT AND EDGE DISTANCE LIMITS ARE INSTALLED IN OPTION A EMBEDMENT MUST ONLY BE ONE SIDE OF THE WINDOW.

2) MASONRY ANCHORS MAY BE USED INTO WOOD AS PER TABLE 3, SHEET 2. ALL WOOD SUBSTRATES THAN 1 1/2" THICK MUST BE CONSIDERED TO INSTALLATIONS. IN WOOD BUCKS AND OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SUBSTRATE WOOD BUCKS INSPECTED AS IS AND NOT TO BE UPDATED. IN ANY OF BUCKS OVER IS USED SHALL BE DESIGNED TO PROPERLY TRANSFER LOADS TO THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD.

3) VISIBLE LIGHT WIDTH OR HEIGHT ALSO REFERRED TO AS DAYLIGHT OPENING IS MEASURED FROM BEVELED TO BEVELED

VISIBLE LIGHT FORMULA

WIDTH: BLADE WIDTH - 0.5"
HEIGHT: BLADE HEIGHT - 0.5"

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(941) 486-0600

VINYL FIXED WINDOW U.M.S.				REVISION
J-CHANNEL & INTEGRAL FIN FRAMES				J ROSCIGNO
PRI-0420	NTS	4 OF 6	PW0520 UNIT	0

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TABLE 1

Window Design Pressure (+/- psf)

[illegible]

Window Dimensions	Long Side (in)											
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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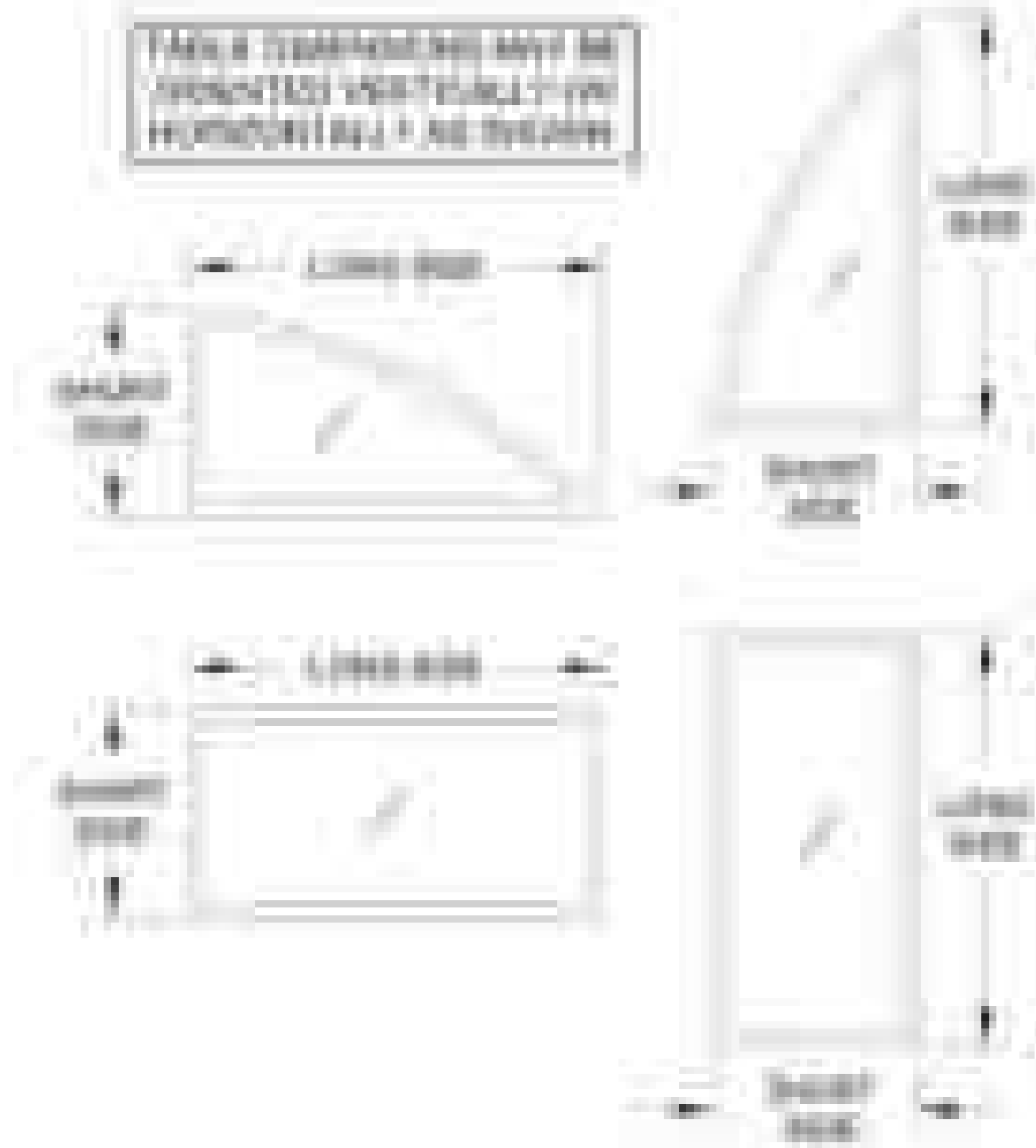
TABLE 2

Window Design Pressure (+/- psf)

[illegible]

Window Dimensions	Long Side (in)											
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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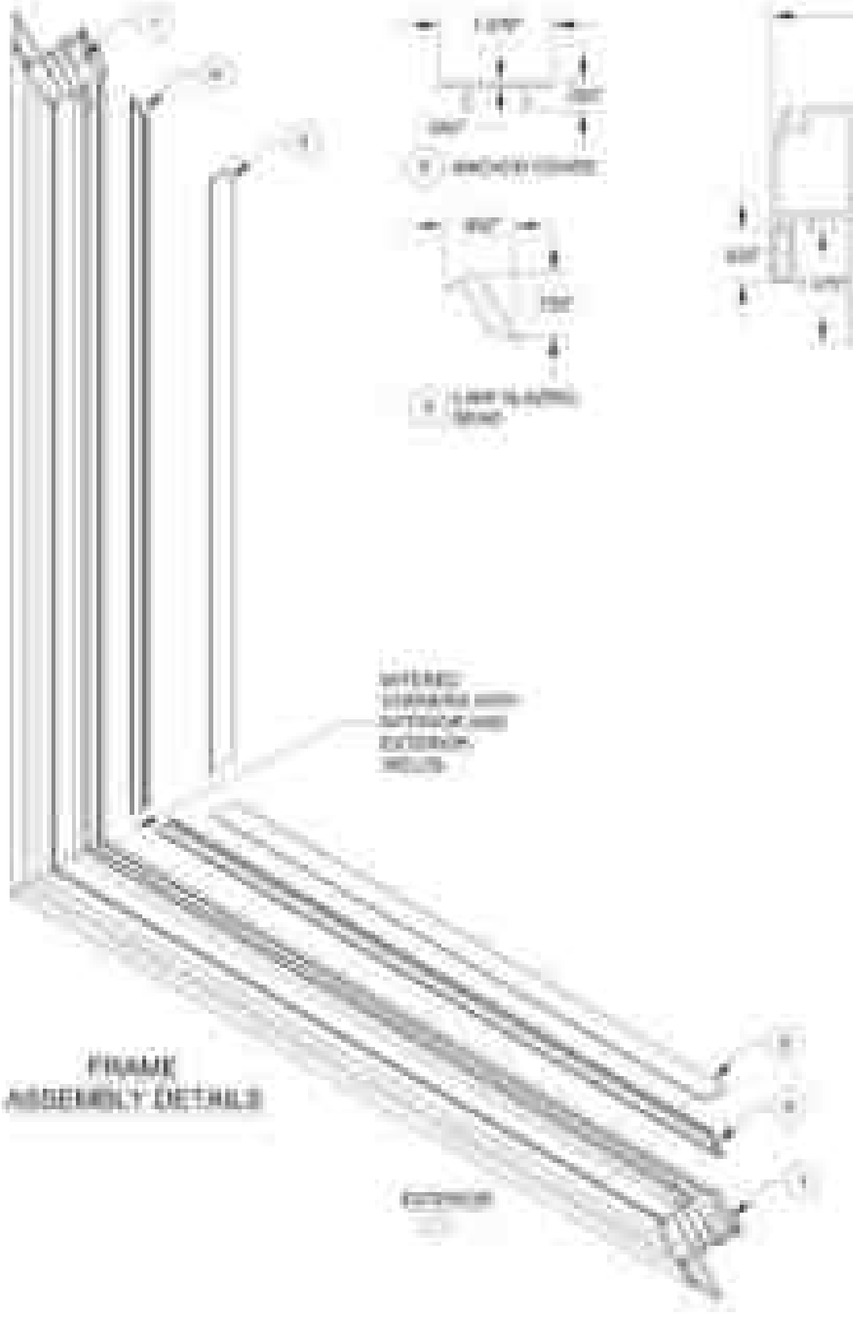


NOTES:

[illegible]

ANTHONY LYNN MILLER
PROFESSIONAL ENGINEER

VINYL FIXED WINDOW
DESIGN PRESSURE TABLES



FRAME
ASSEMBLY DETAILS





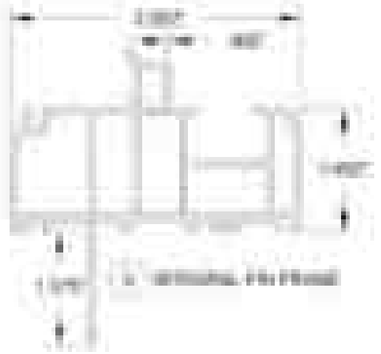




TABLE 1

#	Part #	Description	Material
1	[illegible]	[illegible] Frame	PVC
2	[illegible]	Flange Frame	PVC
3	[illegible]	Wedge 70.5 Frame	PVC
4	[illegible]	Equal Leg Bulb Frame	PVC
5	[illegible]	Glass Stop	PVC
6	[illegible]	Lock (Spring Steel	PVC
7#		Backsetting Tab 7/32 in Dia 701, 062	Silicone
7B	[illegible]	Tubing Black (1/8" x 1/2" x 4")	EPDM

NOTES:
1) [illegible]
2) [illegible]
3) [illegible]
4) [illegible]

[illegible]	VINYL FIXED WINDOW (LM6)		REVISION
	ROW & ASSEMBLY	J ROSCOMBM	
PGT INDUSTRIES 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 486-0600	PGT-6000	NTS	6 OF 6	PW6000 LM6R	0

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