Engineering Evaluation Report # HR5510-20200909

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:
HR5510 Series Impact-Resistant Vinyl Horizontal Roller Window, (LMI), FL-29699

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).

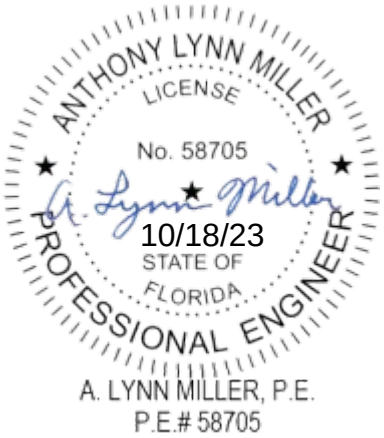
Supporting Technical Documentation:
1. Approval Document: Drawing number HR5510-FPA-REV B, signed and sealed by A. Lynn Miller, P.E.
2. Test Report No.: FTL-8072, FTL-8073, FTL-8074, FTL 19-9037 & 20-2107.1-4, signed and sealed by Idalmis Ortega, P.E.
Fenestration Testing Laboratories, Medley, FL 33166

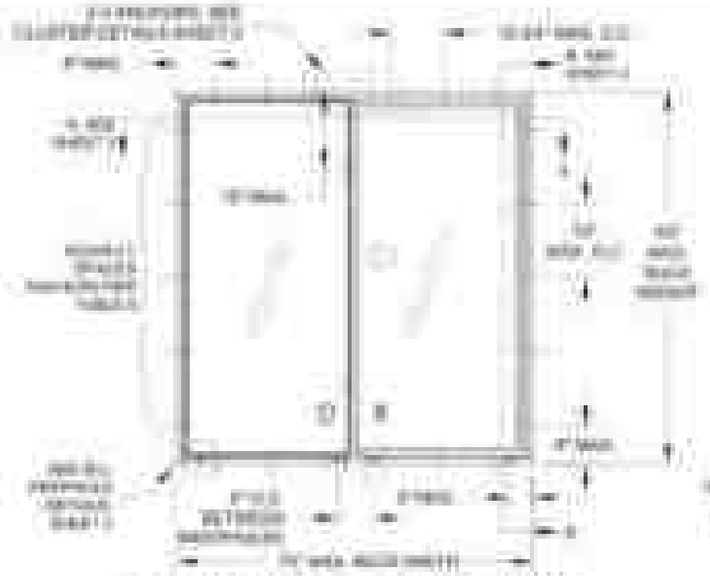
TAS 201-94 Large Missile Impact Test
TAS 202-94 Uniform Static Air Pressure Test
TAS 203-94 Cyclic Pressure Loading Test

3. Calculations, signed and sealed by A. Lynn Miller, P.E., dated 08/28/15 & 04/02/20

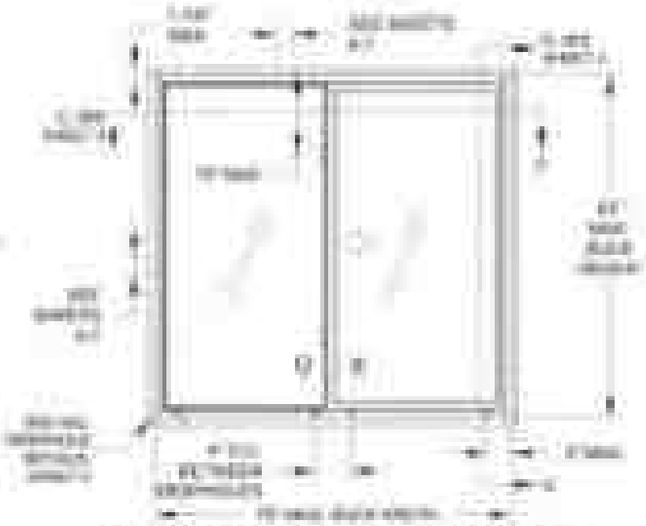
4. Miami-Dade RER Product Control Section NOA’s; PVB Interlayer by Kuraray America, Inc.

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, HR5510 LAMI.

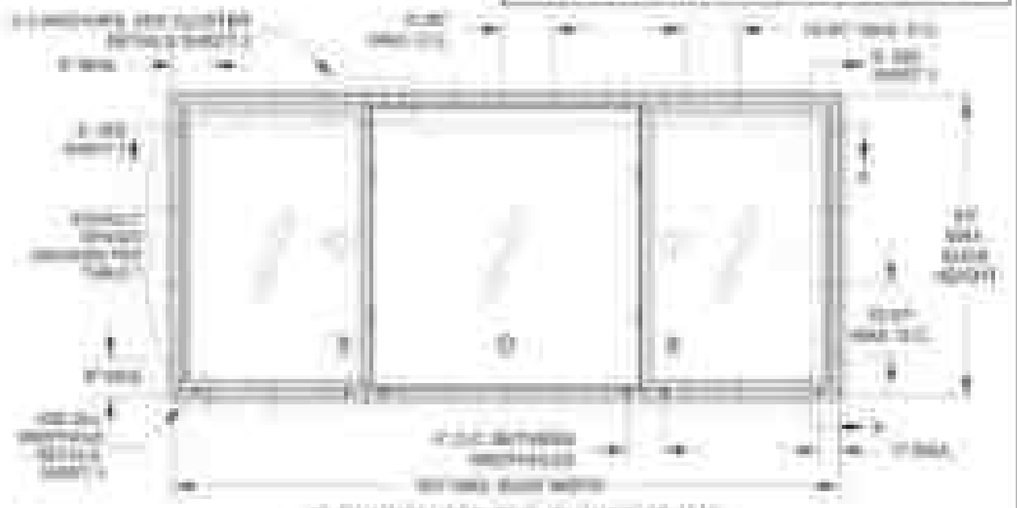




ELEVATION FOR TYP. EQUAL LEG FRAME
SHOWN AS ES CONFIGURATION



ELEVATION FOR TYP. FIN OR J-CHANNEL
FRAME SHOWN AS OX CONFIGURATION
ANCHORED THROUGH THE NAIL FIN



ELEVATION FOR TYP. FLANGE FRAME
SHOWN AS XOX CONFIGURATION

SERIES XO HORIZONTAL ROLLER

USER INSTRUCTIONS

GENERAL NOTES & ELEVATIONS 1
FRAME SECTIONS 2
INSTALLATION FLANGE & SCREW LOCATIONS 3
INSTALLATION INTERNAL FIN & J-CHANNEL 4
DESIGN PRESSURES 5
ANCHOR LOCATIONS 6-7
EXPLODED PARTS LIST & BOM 8
ADDENDA 9

PGT

WW HORIZONTAL ROLLER WINDOW (LIM)			
GENERAL NOTES & ELEVATIONS	-	JENN ROSWORM	
FBM FINFLANGE NOTE			
HRI-XO10	1 OF 9	HRI-XO10 LAM	B

Glass Type	Description	Table #	Sheet #
1	[illegible]	4-3	5
2	[illegible]	4-3	5

Group	Anchor	Substrate	Min. Edge Distance	Min. Embedment
1	#10 Self-Drilling Screw	[illegible]	1/2"	[illegible]
		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
2	#10 Self-Drilling Screw	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]

[illegible]

Group	Anchor	Substrate	Min. Edge Distance	Min. Embedment*
1	#10 Self-Drilling Screw	[illegible]	1/2"	[illegible]
	#10 Panelhead SMS (Inter. 18-8 S.S. or 410 S.S.)	[illegible]	1/2"	[illegible]
		[illegible]	3/8"	[illegible]
		[illegible]	3/8"	[illegible]
		[illegible]	3/8"	[illegible]
	#10 SDS (Inter. 18-8 S.S. or 410 S.S.)	[illegible]	5/16"	[illegible]
		[illegible]	3/8"	[illegible]
		[illegible]	3/8"	[illegible]
		[illegible]	3/8"	[illegible]

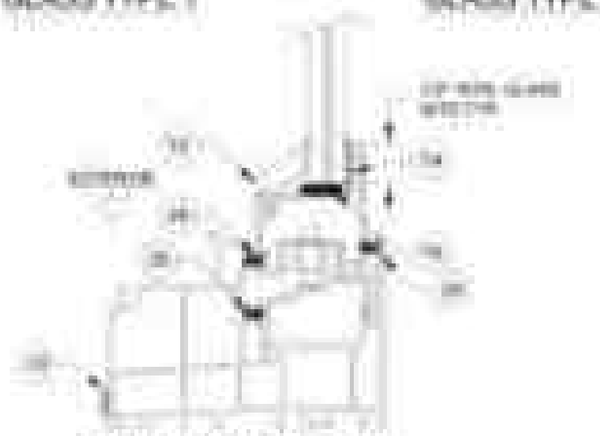
[illegible]

NOTE:
[illegible]

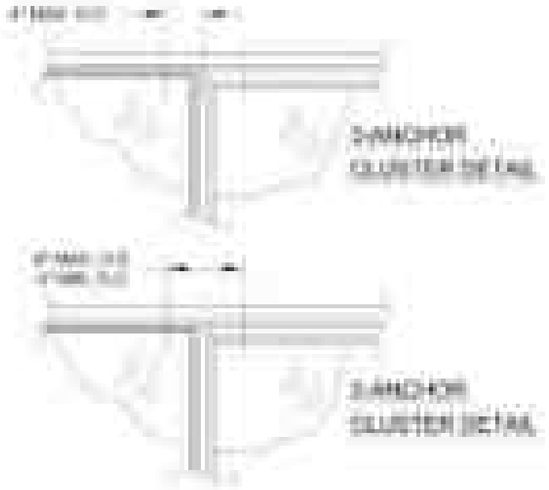








[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

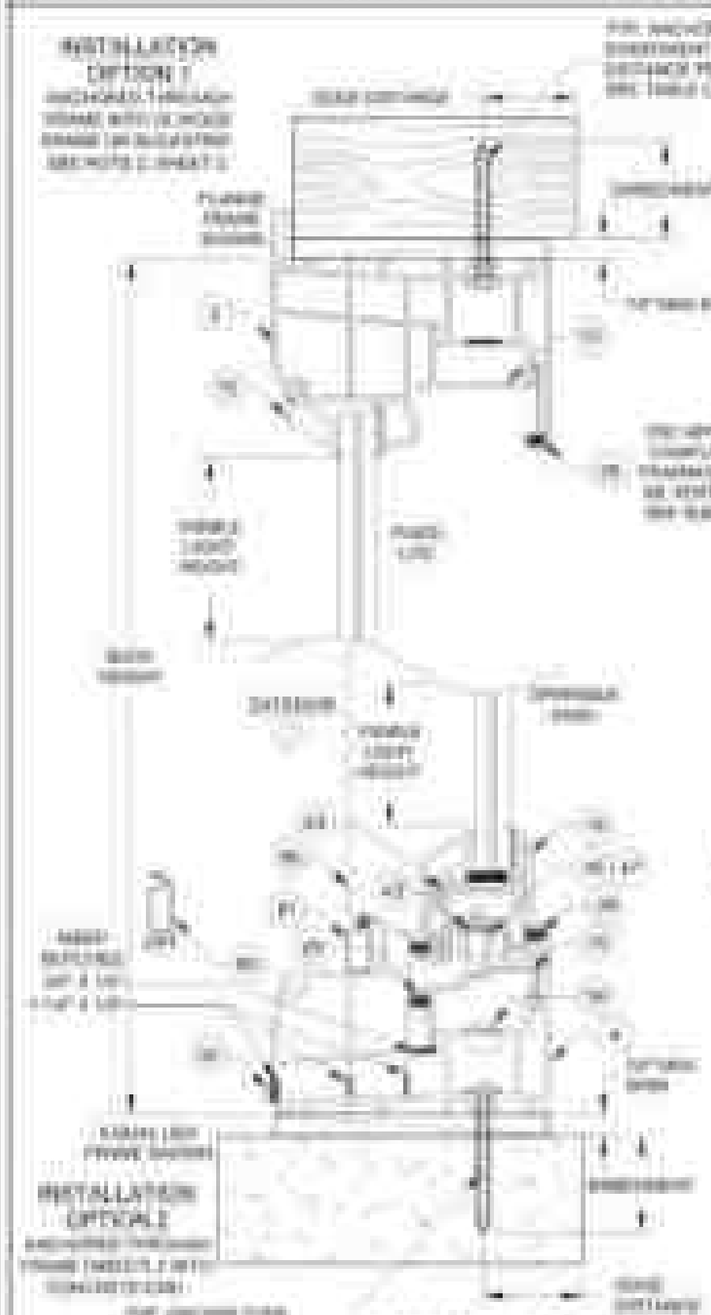


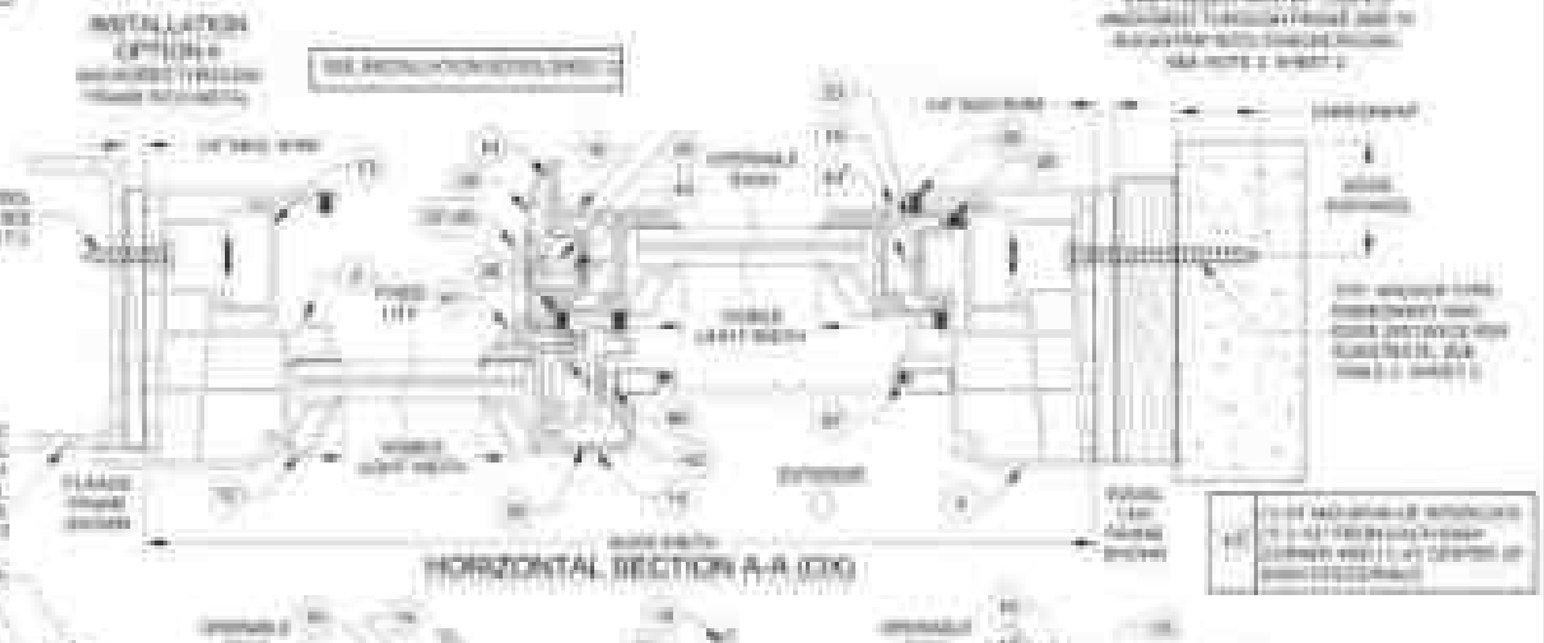
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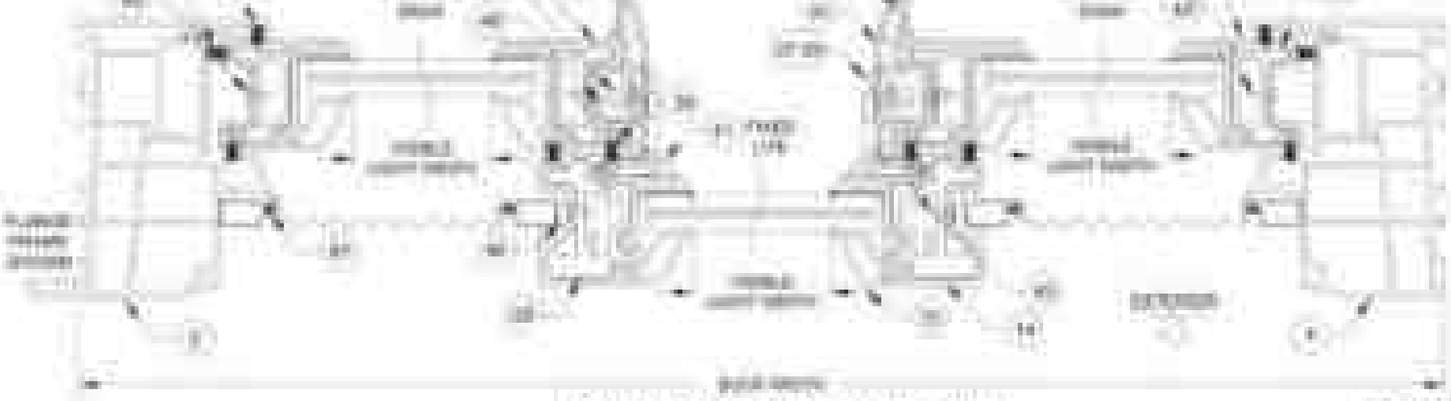
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VINYL HORIZONTAL ROLLER WINDOW (LMH)		19037119	
GLASS/ANCHOR/FRAME DETS		JENS ROSOWSKI	
REMOVED ULTRACONS/ ANCHOR HEAD		19017123	
HR-5010	2 OF 5	[illegible]	B

INSTALLATION DETAILS FOR FLANGE AND EQUAL LEG FRAMES







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VINYL HORIZONTAL ROLLER WINDOW (LM1) | 09/07/19

FLANGE & EQUAL LEG BOOK | JENS ROSORIEN

NO CHANGES THIS SHEET | 10/17/23

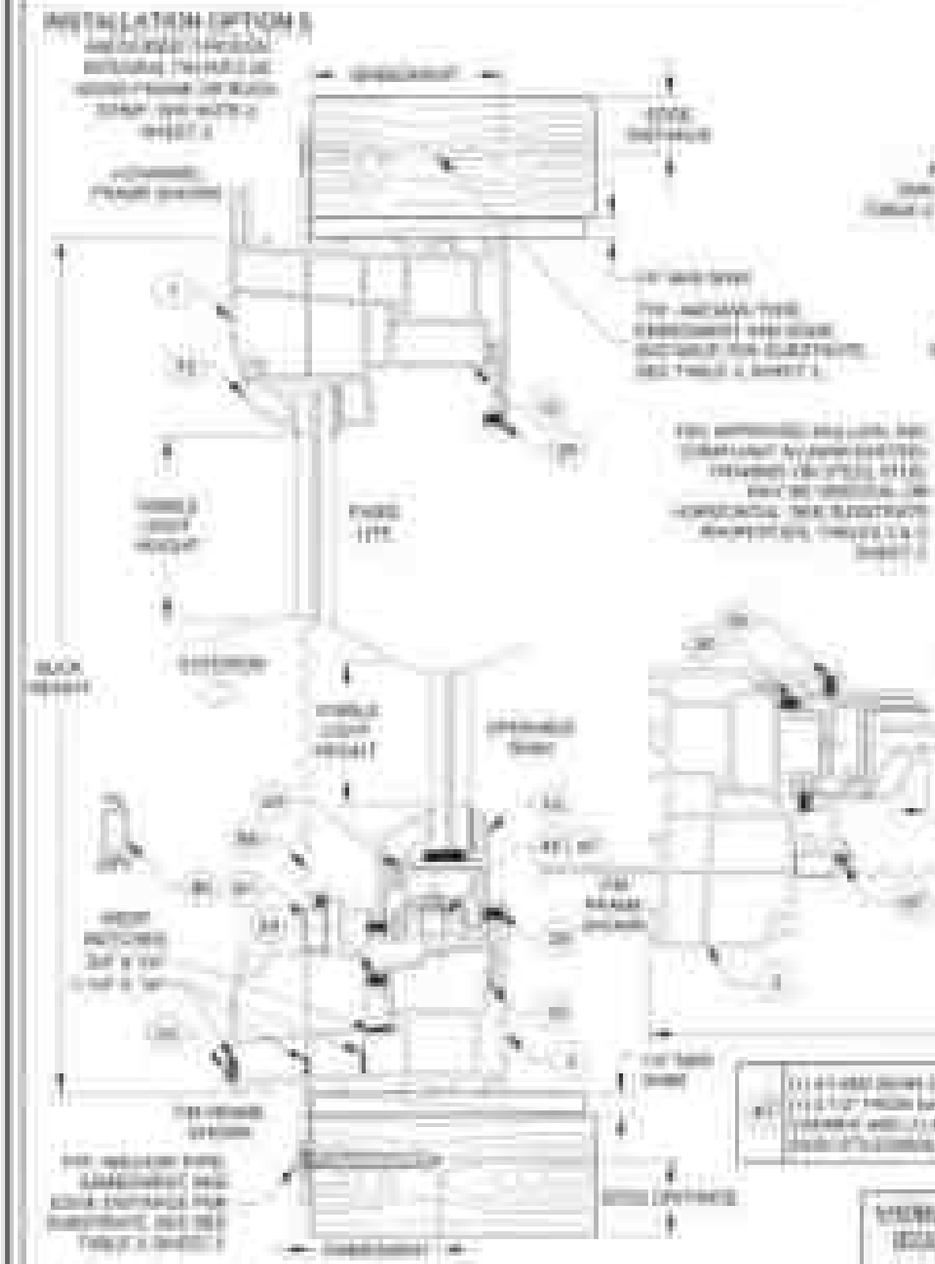
HR-00102 | 3 OF 3 | HR00210 LM1R | R

INSTALLATION DETAILS FOR FIN AND J-CHANNEL FRAMES

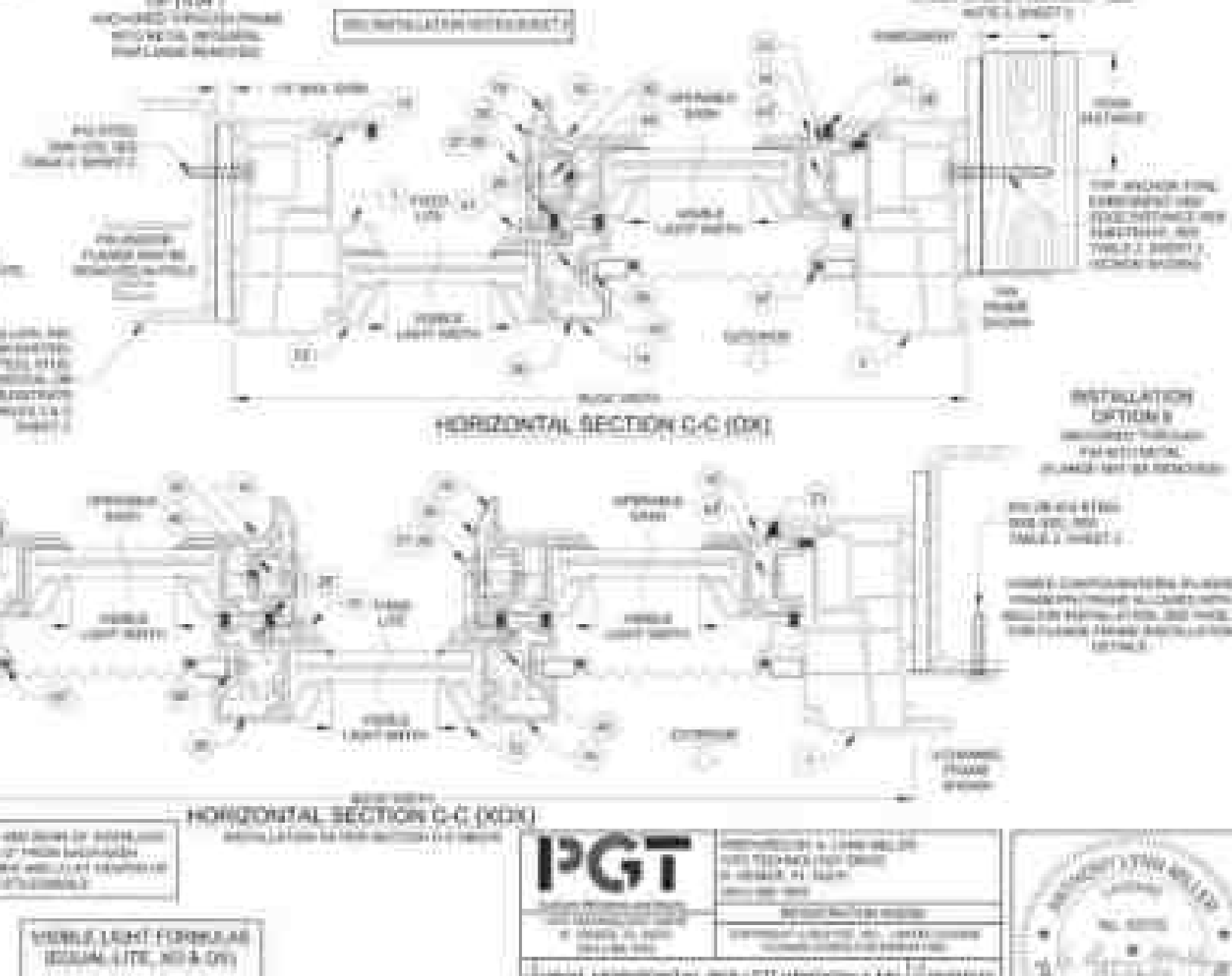
INSTALLATION OPTION A

INSTALLATION OPTION B

INSTALLATION OPTION C



VERTICAL SECTION D-D



HORIZONTAL SECTION C-C (OX)

HORIZONTAL SECTION C-C (XOX)

VISIBLE LIGHT FORMULAS
(EQUAL LITE, XO & OX)

PGT	VINYL HORIZONTAL ROLLER WINDOW (LMI)
	J-CHANNEL & INT. FIN FRAMES
	HYBRID CONFIGURATION NOTES
	4 OF 5

TABLE 1

Panel Type / # of Panels	Lock Configuration	Panel Width Range (in.)	Design Pressure (lbs/ft²) for XO Windows			
			Minimum Rough Opening Height			
			60"	72"	84"	96"
XO	Standard	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL, SL-1	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL-2, SL-3	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
XXO	Standard	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL, SL-1	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL-2, SL-3	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
XXXO	Standard	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL, SL-1	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL-2, SL-3	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
XXXXO	Standard	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL, SL-1	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL-2, SL-3	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0

TABLE 2

Panel Type / # of Panels	Lock Configuration	Panel Width Range (in.)	Design Pressure (lbs/ft²) for XOX Windows			
			Minimum Rough Opening Height			
			60"	72"	84"	96"
XOX	Standard	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL, SL-1, SL-2	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL-3, SL-4	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
XXXOX	Standard	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL, SL-1, SL-2	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL-3, SL-4	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
XXXXOX	Standard	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL, SL-1, SL-2	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
	SL-3, SL-4	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0
XXXXXO	SL, SL-1, SL-2	31 3/8" - 71 3/8"	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0	+40.0 / -40.0





SECTION DETAIL
FOR WINDOWS WITH
LEVEL 5H REINFORCEMENT

NOTES:

1. USE THESE TABLES FOR ALL WINDOWS WHERE LOCK MEETS THE FRAME OR MATING ITEM.
2. FRAME DIMENSIONS ARE TAKEN WITH MAXIMUM HEIGHT (SEE SHEET 1) AT EACH SIZE IN EACH TYPE FIGURE.
3. OTHER SIZES NOT SHOWN SHALL BE TO THE NEXT LARGER WIDTH OR HEIGHT DIMENSION SHOWN ON THE TABLES.
4. TESTING HAS BEEN CONDUCTED TO INDICATE THAT THESE STANDARD SIZE CONFIGURATIONS FALL WITHIN THE ABOVE RATED RANGE OF THE REFERENCE TESTING. OTHER SIZES MAY BE CONFIGURATIONS BASED ON COMPARABLE PERFORMANCE.

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VINYL HORIZONTAL ROLLER WINDOW (LIM)	19-0177-TA
DESIGN PRESSURE TABLES	JENN KOSCIANSKI
NO CHANGES THIS SHEET	10/17/19
HR-0010	3 OF 3
H0010-LIM	B

TABLE 1

ORIGIN ANCHOR QUANTITIES SHOWN ALL ANCHORAGE MUST PLAN COMPLY WITH THE 2012 I.R.C. BRACING AND ANCHOR THE ELEVATIONS

Glass Tables 1 & 2	Glass Width (in)	Anchor Quantities for XO or OX Windows									
		24" Height	36" Height	48" Height	54" Height	60" Height	72" Height	96" Height	48" Height	60" Height	72" Height
Wall Load (lbs)		Head / Sill	Head / Sill	Head / Sill	Head / Sill	Head / Sill	Head / Sill	Head / Sill	Head / Sill	Head / Sill	Head / Sill
		Anchor Group A						Anchor Group C			
20 PSF	24-1/2"	12 / 0	Not Allowed					1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	28"	13 / 0						1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	36"	17 / 0						1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	42"	20 / 0						1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	48"	23 / 0						1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	60"	29 / 0						2+1/2+2 2	2+1/2+2 3	2+1/2+2 4	2+1/2+2 4	2+1/2+2 4
	72"	35 / 0						2+1/2+2 2	2+1/2+2 3	2+1/2+2 4	2+1/2+2 4	2+1/2+2 4
		Anchor Group B						Anchor Group D			
30 PSF	22-1/2"	12 / 0	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	28"	13 / 0	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	36"	17 / 0	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	42"	20 / 0	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	48"	23 / 0	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4	1+1/2+1 2	1+1/2+1 3	1+1/2+1 4	1+1/2+1 4	1+1/2+1 4
	60"	29 / 0	2+1/2+2 2	2+1/2+2 3	2+1/2+2 4	2+1/2+2 4	2+1/2+2 4	2+1/2+2 2	2+1/2+2 3	2+1/2+2 4	2+1/2+2 4	2+1/2+2 4
	72"	35 / 0	2+1/2+2 2	2+1/2+2 3	2+1/2+2 4	2+1/2+2 4	2+1/2+2 4	2+1/2+2 2	2+1/2+2 3	2+1/2+2 4	2+1/2+2 4	2+1/2+2 4

Max. Anchor O.C. Spacing for "Integral-Fin" Installation	Anchor Group (#)
	#"

NOTES:

1. FRAME THICKNESS AND ANCHOR WIDTH AND ANCHOR HEIGHT SEE SHEET A1.1-A2. EACH SIZE IS AS PER THE WINDOW SHEET 1.
2. FOR ANCHOR SPACING, PLEASE SEE THE ANCHOR SPACING DETAILS ON THE SHEET.

GUIDE TO USING ANCHOR QUANTITY TABLES:

FOR OX WINDOWS (XO SIMILAR):



FOR XOX WINDOWS:



PGT

VINYL HORIZONTAL ROLLER WINDOW (LMI) | 09/07/16

ANCHOR QTY TABLE - XO/OX | JENN ROSCIANKI

NO CHANGES THIS SHEET | 10/17/23

VIN RATIO | X OF X | VERSION LMI | R

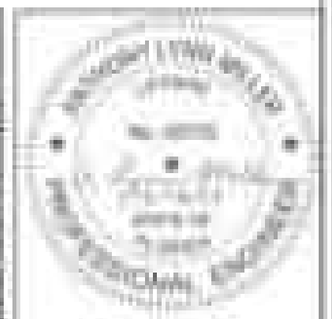


TABLE 1

Anchor Type (Fig. 1)	Frame Configuration	Min. Width / Height (in.)	Anchor Quantities for EVE Windows											
			24" Height	36" Height	48" Height	60" Height	72" Height	84" Height	24" Height	36" Height	48" Height	60" Height	72" Height	84" Height
			Anchor Group A						Anchor Group B					
1			Not Allowed											
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
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32														
33														
34														
35														
36														

Max. Anchor O.C. Spacing for "Integral-Fin" Installation	Anchor Group A	Anchor Group B
	6.0"	6.0"

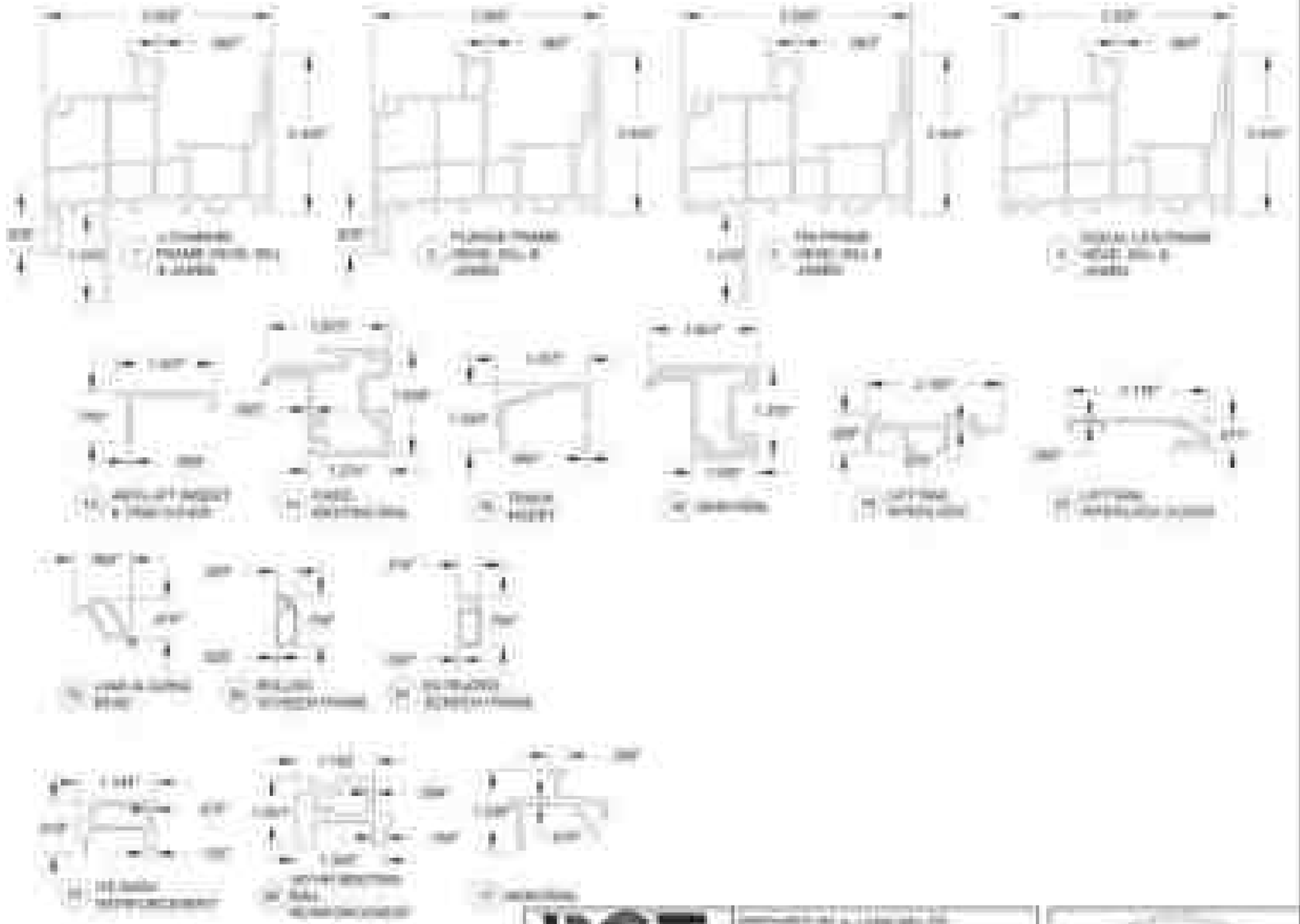
NOTES:

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VINYL HORIZONTAL ROLLER WINDOW (LMI)	09/07/16
ANCHOR QUANTITY TABLE - ECR	JEAN HONORARA
NO CHANGES THIS SHEET	10/17/22
1/8"=1'-0"	9

Bill of Material

#	Part #	Description	Material
1	[illegible]	Frame Head, Sill and Jambs - LH Exterior	PVC
2	[illegible]	Frame Head, Sill and Jambs - Flange	PVC
3	[illegible]	Frame Head, Sill and Jambs - Fin	PVC
4	[illegible]	Frame Head, Sill and Jambs - Extension	PVC
13	[illegible]	Sill Cap Insert - Trim Cover	PVC
14	[illegible]	Panel Meeting Rail	PVC
15	[illegible]	Track Insert	[illegible]
16	[illegible]	Insert Rail (Meeting, Top & Bottom)	PVC
17	[illegible]	Mainpanel	[illegible]
18	[illegible]	Pull Rail Insert	[illegible]
19	[illegible]	Pull Rail Interlock Cover	PVC
20	[illegible]	PC Type Reinforcement	[illegible]
21	[illegible]	PC Type Sliding Meeting Rail Reinforcement	[illegible]
22	[illegible]	[illegible] x 1 1/2" SS PH Screw	[illegible]
23	[illegible]	Weatherstrip - 180° x .250" Fin Fin	
24	[illegible]	Weatherstrip - 180° x .220" Fin Fin	
25		#8 x 1" SS PH Screw	[illegible]
26	[illegible]	#8 x 2 1/2" PH SMS Panel Meeting Rail Screw	[illegible]
27	[illegible]	Meeting Rail Screw Inserts	[illegible]
28	[illegible]	Sloped Sill Cover	PVC
29	[illegible]	Sill Cap Insert - Trim Cover	PVC
30	[illegible]	Auto Lock	[illegible]
31	[illegible]	Keeper Lock	[illegible]
32	[illegible]	Auto Lock Cover Assembly	[illegible]
33		#8 x 1 1/8" PH SMS Auto and Keeper Lock Screw	SS
34	[illegible]	Auto and Keeper Lock Fastener	[illegible]
35	[illegible]	#8 x 1/2" PH SMS Keeper Screw	SS
36	[illegible]	#8 x 1/2" SHCS Reinforcement Screw	SS
37		Lockhandle Top Cover Assy	Nylon
38		Lockhandle Bottom Cover Assy	Nylon
39		Lockhandle Top Cover Assy	Nylon
40		Lockhandle Bottom Cover Assy	Nylon
41	[illegible]	Wheel	Nylon
42	[illegible]	Lock Meeting Stile	PVC
43		Weatherstrip, 3/8" Fin or Seal (Fin, Bb)	Elastomer
44		Fusing Block (1/8" x 1/2" x 6")	[illegible]
45	[illegible]	Pan Head Screw	Nylon
46	[illegible]	Extruded Screen Frame	Nylon
47		Extruded Screen Spline Bar	Nylon
48	[illegible]	Screen Corner Cap with Pull Ring	PVC
49	[illegible]	Screen Corner Cap No Pull Ring	PVC
50		Retainer Spring	SS
51	[illegible]	Screen Cloth	Fiberglass
52	[illegible]	1/4" Screen Spline (Recommended Color)	Vinyl



NOTES:
[illegible]

PGT	[illegible]		
VINYL HORIZONTAL ROLLER WINDOW (LMH)			[illegible]
ROW & EXTRUSIONS		JAMB HORIZONTAL	
CHANGED EXTRUSION			[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

SASH ASSEMBLY DETAIL

SCREEN ASSEMBLY DETAIL

FRAME ASSEMBLY DETAIL

EXPRESS LOCK DETAILS

Express Lock Bill of Material

#	Part #	Description	Material

PGT

VINYL HORIZONTAL ROLLER WINDOW (LMI)

ASSEMBLY

NO CHANGES THIS SHEET