Engineering Evaluation Report #5510ML-08132026

Prepared by:
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Manufacturer:
PGT Industries, LLC
3400 Precision Drive
N. Venice, FL 34275

Product Description:
HR5510 Series Impact-Resistant Vinyl Horizontal Roller Window, (LMI), FL-1844

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).

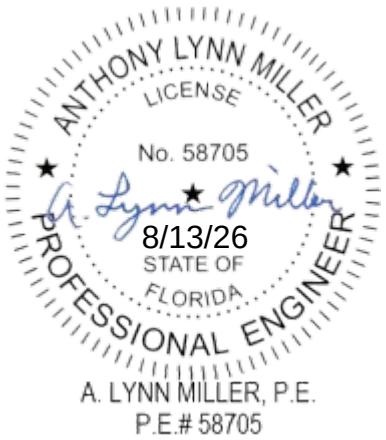
Supporting Technical Documentation:
1. Approval Document: Drawing number HR5510-LM-HVHZ-ML, signed and sealed by A. Lynn Miller, P.E.
2. Test Report No.: FTL-8072, FTL-8073, FTL-8074, FTL 19-9037 & 20-2107.1-4, signed and sealed by Idalmis Ortega, P.E.
Fenestration Testing Laboratories, Medley, FL 33166

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 E1300-24, 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.



SERIES HS50 FL MONOLAM GLAZING
IMPACT RESISTANT HORIZONTAL ROLLER

ELEVATION FOR TYP. EQUAL LEG FRAME SHOWN AS OX CONFIGURATION

ELEVATION FOR TYP. FIN OR J-CHANNEL FRAME SHOWN AS OX CONFIGURATION ARCHIVED THROUGH THE MAS P/N

ELEVATION FOR TYP. FLANGE FRAME SHOWN AS XOX CONFIGURATION

GENERAL NOTES	1
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INSTALLATION FLANGE & COVER LEGEND	3
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VISIBLE LIGHT FORMULAS
(EQUAL LITE: XO & OX)

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Glass Type	Description
1	[illegible]
2	[illegible]



GLASS TYPE 1

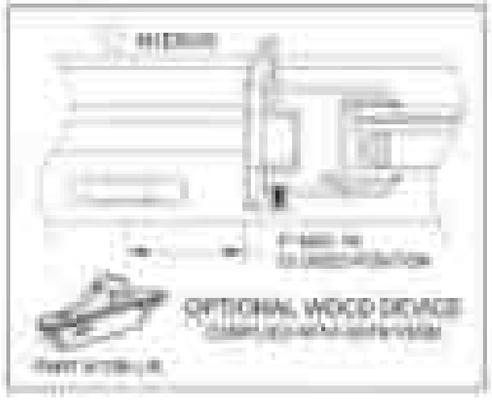


GLASS TYPE 2

Group	Position	Substrate	Min. Edge Distance	Min. Embedment
A	#10 SMS Into Steel 16 GA. (Fin. #10-32)	Aluminum Fin (0.070" Min.)	0.25"	0.250"
		Steel, 43ksi	0.25"	0.250"
		Steel (0.122" Min.)	0.25"	0.250"
		Aluminum, 6063-T5	0.25"	0.250"
	5/16" Head Wedge-Lok	Aluminum Fin (0.070" Min.)	0.75"	1.25"
		Concrete over Steel	1"	1.25"
		Aluminum Fin (0.070" Min.)	1"	1.25"
B	#10 SMS Into Steel 16 GA. (Fin. #10-32)	Aluminum Fin (0.070" Min.)	0.75"	1.25"
		Steel, 43ksi	0.25"	0.250"
		Steel (0.122" Min.)	0.25"	0.250"
		Aluminum, 6063-T5	0.25"	0.250"
	1/4" Steel Wedge-Lok	Aluminum Fin (0.070" Min.)	1"	1.25"
	1/4" #10-32 Installer	Aluminum Fin (0.070" Min.)	1"	1.25"
	1/4" Slot 32 Agent Lock	Aluminum Fin (0.070" Min.)	1"	1.25"
C	1/2" Steel Wedge-Lok	Concrete over Steel	0.75"	1.25"
		Aluminum, 6063-T5	1"	1.25"
D	1/2" #10-32 Installer	Concrete over Steel	0.75"	1.25"
		Aluminum, 6063-T5	0.75"	1.25"
	1/2" Slot 32 Agent Lock	Concrete over Steel	0.75"	1.25"
		Aluminum, 6063-T5	1"	1"

Group	Position	Substrate	Min. Edge Distance	Min. Embedment
E	#12 SMS Into Steel 16 GA. (Fin. #12-24)	Aluminum Fin (0.070" Min.)	0.25"	0.250"
F	#12 Magnesium Bonding Nut	Aluminum Fin (0.070" Min.)	0.25"	0.250"
	#12 SMS Into Aluminum 16 GA. (Fin. #12-24)	Aluminum Fin (0.070" Min.)	0.25"	0.250"
		Aluminum, 6063-T5	0.25"	0.250"
		Steel (0.122" Min.)	0.25"	0.250"
		Steel, 43ksi	0.25"	0.250"
	#12 SMS Into Aluminum 16 GA. (Fin. #12-24)	Aluminum Fin (0.070" Min.)	0.25"	0.250"
		Aluminum, 6063-T5	0.25"	0.250"
		Steel (0.122" Min.)	0.25"	0.250"
		Steel, 43ksi	0.25"	0.250"

USER INSTRUCTIONS

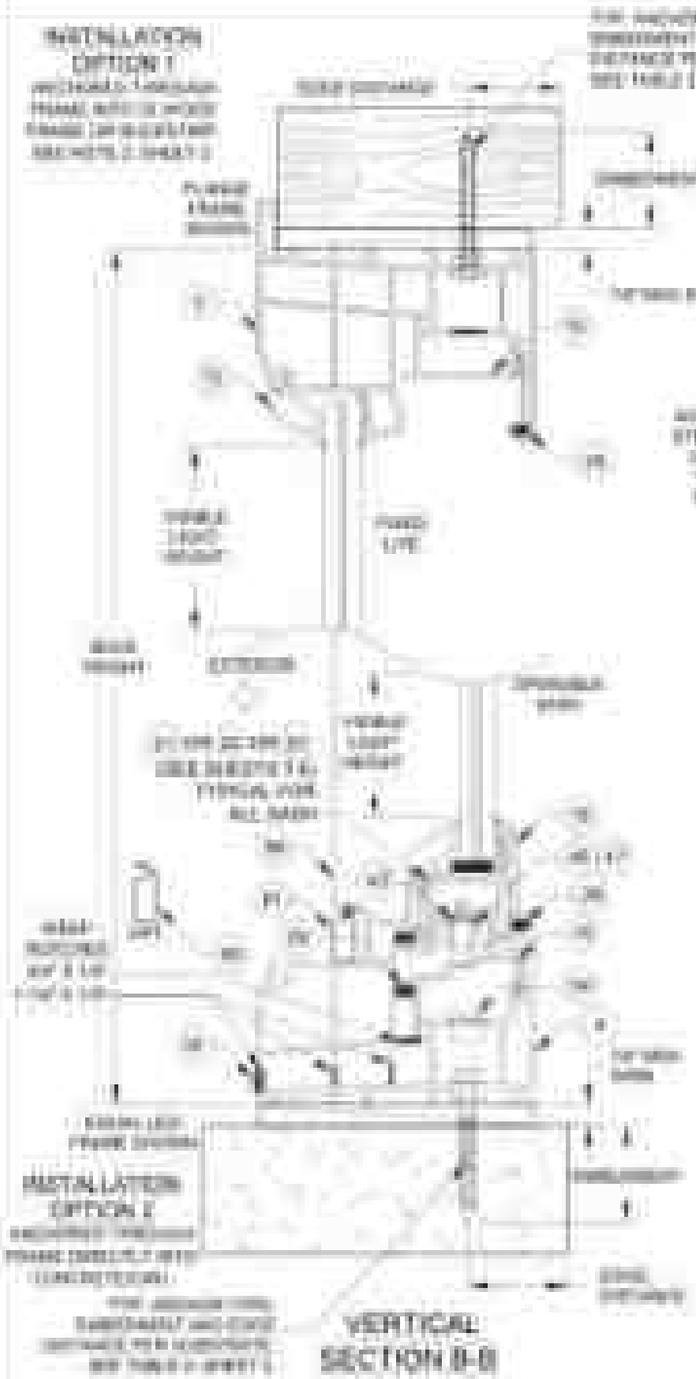


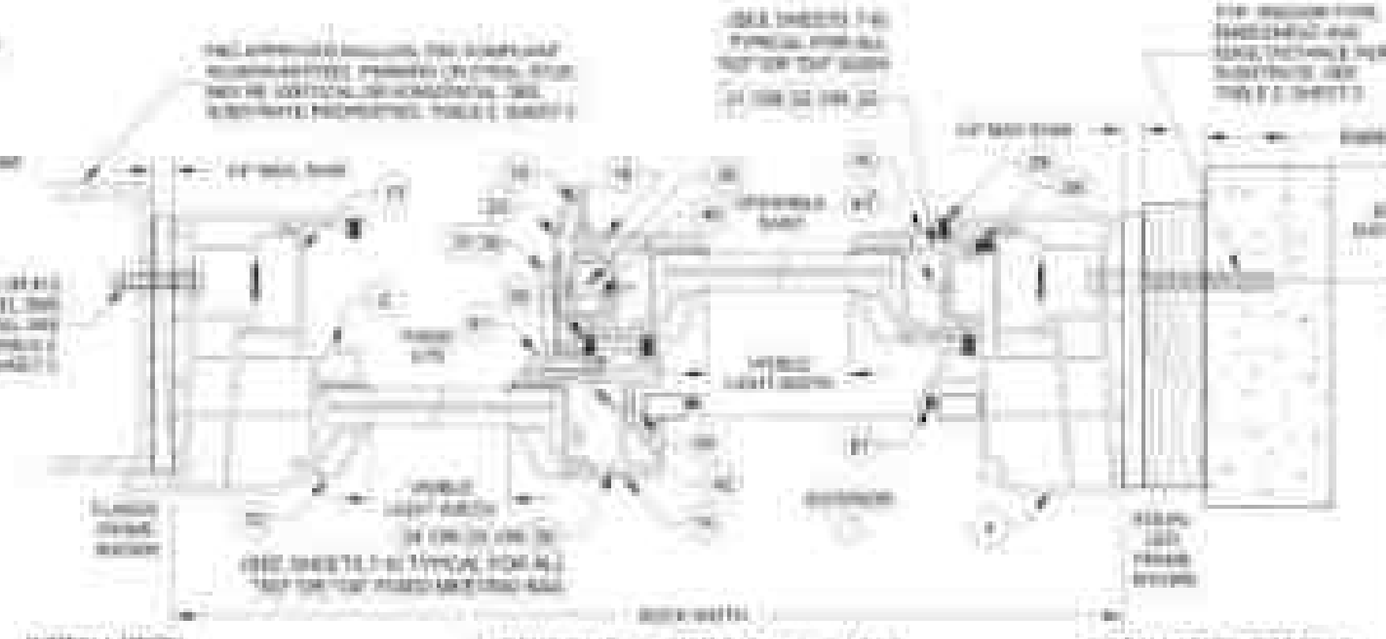
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PROFESSIONAL GLASS TECHNOLOGY

PROFESSIONAL ENGINEER

INSTALLATION DETAILS FOR FLANGE AND EQUAL LEG FRAMES





INSTALLATION NOTES

1) ONE (1) ANCHORING METHOD ON THIS SHEET, FOR EACH SUBSTRATE AND FRAME MATERIAL COMBINATION, SHALL BE USED ON ANY SIZE OF THIS WINDOW.

2) WOOD BUCK'S (BUCKS NOT FOR FIRE RATED) TO BE SOLID PINE WITH MINIMUM 12 LOAD YEARS OF SERVICE. ALL WOOD BUCKS ARE OPTIONAL IF ONE CAN BE INSTALLED CORRECTLY TO SOLID SUBSTRATE. WOOD BUCKS NOT TO EXCEED 1 1/2" AND 1 1/2" THICK FOR VINYL/PVC INSTALLATION TO THE SUBSTRATE OF WOOD BUCKS TO BE ENGINEERED BY OTHERS OR AS APPROVED BY AUTHORITY HAVING JURISDICTION.

3) IF APPLICABLE, LOWER HEADER PER EQUIVALENT FRAME SIZE AND WINDOW REFERENCE APPROVAL. APPLIES TO FIXED AND VENT SYSTEMS.

07	11-07 REVISED PER INTERNAL COMMENTS

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VINYL HORIZONTAL SLIDER WINDOW

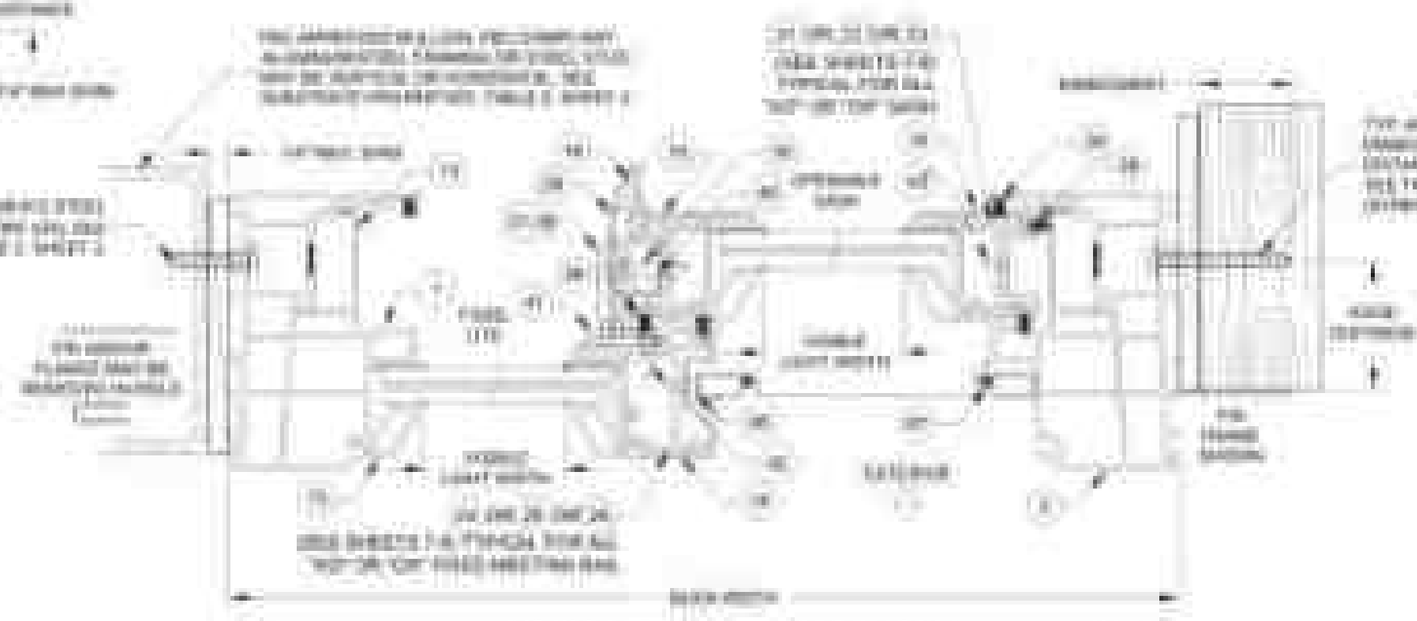
SET - FLANGE & EQUAL LEG FRAMES



INSTALLATION DETAILS FOR FIN AND J-CHANNEL FRAMES



VERTICAL SECTION D-D



HORIZONTAL SECTION C-C (DX)

INSTALLATION OPTION 7

INSTALLATION OPTION 8

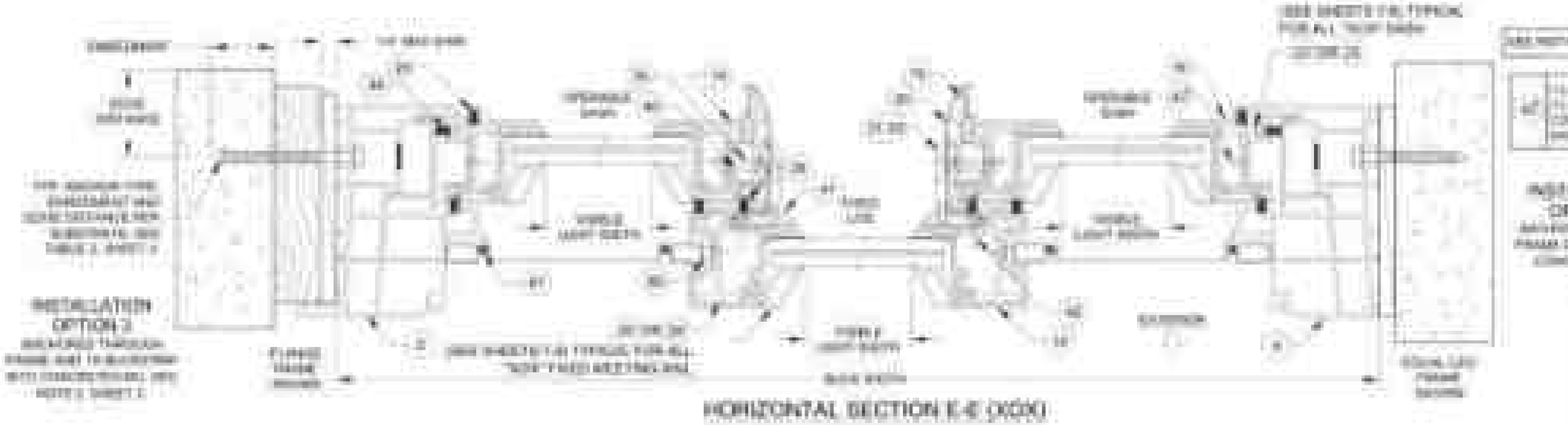
INSTALLATION OPTION 9

INSTALLATION NOTES:

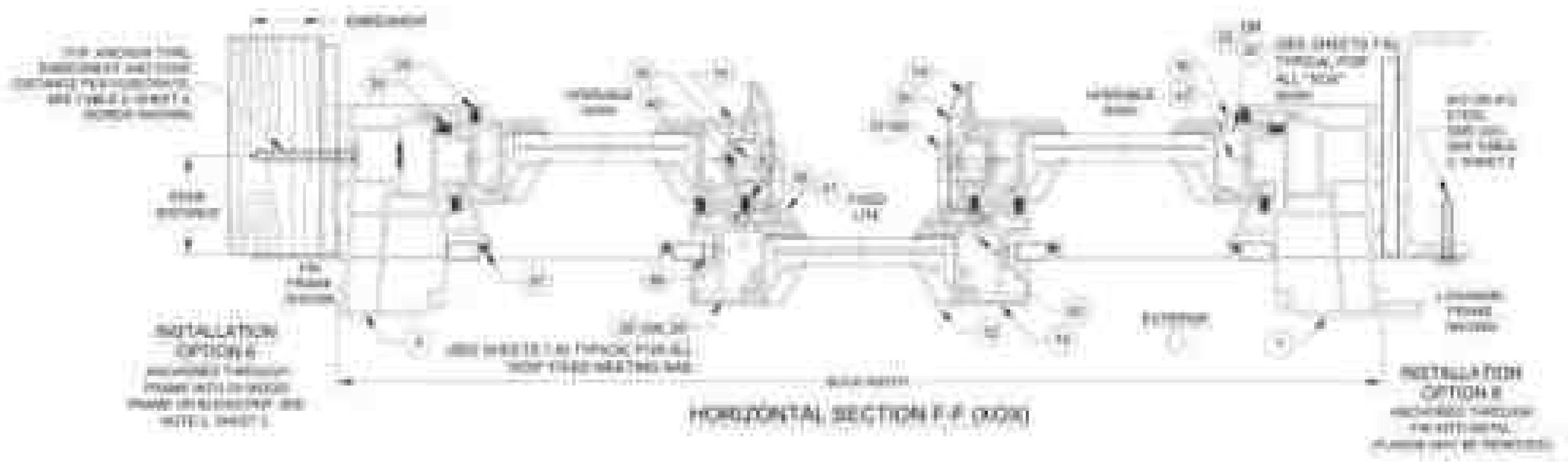
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HORIZ. INSTALLATION DETAILS: XOX, ALL FRAMES TYPES



HORIZONTAL SECTION E-E (XOXO)



HORIZONTAL SECTION F-F (XOXI)

Wind Zone 1 V	Design Pressure (lb/ft²) for XO or OX Windows					
Room Type	Window Size Range					
	up to 35 sq ft		up to 50 sq ft		up to 70 sq ft	
	+	-	+	-	+	-
Enclosed	30 PSF	30.0	-30.0	30.0	-30.0	30.0	-30.0
	40 PSF	40.0	-40.0	40.0	-40.0	40.0	-40.0
	50 PSF	50.0	-50.0	50.0	-50.0	50.0	-50.0
	60 PSF	60.0	-60.0	60.0	-60.0	60.0	-60.0
	70 PSF	70.0	-70.0	70.0	-70.0	70.0	-70.0
	80 PSF	80.0	-80.0	80.0	-80.0	80.0	-80.0
	90 PSF	90.0	-90.0	90.0	-90.0	90.0	-90.0
	100 PSF	100.0	-100.0	100.0	-100.0	100.0	-100.0
Partially Enclosed	30 PSF	30.0	-33.0	30.0	-36.0	30.0	-39.0
	40 PSF	40.0	-44.0	40.0	-48.0	40.0	-52.0
	50 PSF	50.0	-55.0	50.0	-60.0	50.0	-65.0
	60 PSF	60.0	-66.0	60.0	-72.0	60.0	-78.0
	70 PSF	70.0	-77.0	70.0	-84.0	70.0	-91.0
	80 PSF	80.0	-88.0	80.0	-96.0	80.0	-104.0
	90 PSF	90.0	-99.0	90.0	-108.0	90.0	-117.0
	100 PSF	100.0	-110.0	100.0	-120.0	100.0	-130.0

Wind Zone 1 A E	Opng Configuration	Nom. Width Range (in)	Design Pressure (lb/ft²) for XXX Windows					
			Window Area Range					
			up to 35 sq ft		up to 50 sq ft		up to 70 sq ft	
			+	-	+	-	+	-
Enclosed	30 PSF	Casement	21 3/4 - 72	30.0	-30.0	30.0	-30.0	30.0	-30.0
		XO, OX	73 3/8 - 144	30.0	-30.0	30.0	-30.0	30.0	-30.0
		XO, OX	73 3/8 - 96 3/8	30.0	-30.0	30.0	-30.0	30.0	-30.0
	40 PSF	Casement	21 3/4 - 72	40.0	-40.0	40.0	-40.0	40.0	-40.0
		XO, OX	73 3/8 - 144	40.0	-40.0	40.0	-40.0	40.0	-40.0
		XO, OX	73 3/8 - 96 3/8	40.0	-40.0	40.0	-40.0	40.0	-40.0
	50 PSF	Casement	21 3/4 - 72	50.0	-50.0	50.0	-50.0	50.0	-50.0
		XO, OX	73 3/8 - 144	50.0	-50.0	50.0	-50.0	50.0	-50.0
		XO, OX	73 3/8 - 96 3/8	50.0	-50.0	50.0	-50.0	50.0	-50.0
	60 PSF	Casement	21 3/4 - 72	60.0	-60.0	60.0	-60.0	60.0	-60.0
		XO, OX	73 3/8 - 144	60.0	-60.0	60.0	-60.0	60.0	-60.0
		XO, OX	73 3/8 - 96 3/8	60.0	-60.0	60.0	-60.0	60.0	-60.0
	70 PSF	Casement	21 3/4 - 72	70.0	-70.0	70.0	-70.0	70.0	-70.0
		XO, OX	73 3/8 - 144	70.0	-70.0	70.0	-70.0	70.0	-70.0
		XO, OX	73 3/8 - 96 3/8	70.0	-70.0	70.0	-70.0	70.0	-70.0
	80 PSF	Casement	21 3/4 - 72	80.0	-80.0	80.0	-80.0	80.0	-80.0
		XO, OX	73 3/8 - 144	80.0	-80.0	80.0	-80.0	80.0	-80.0
		XO, OX	73 3/8 - 96 3/8	80.0	-80.0	80.0	-80.0	80.0	-80.0
	90 PSF	Casement	21 3/4 - 72	90.0	-90.0	90.0	-90.0	90.0	-90.0
		XO, OX	73 3/8 - 144	90.0	-90.0	90.0	-90.0	90.0	-90.0
		XO, OX	73 3/8 - 96 3/8	90.0	-90.0	90.0	-90.0	90.0	-90.0
	100 PSF	Casement	21 3/4 - 72	100.0	-100.0	100.0	-100.0	100.0	-100.0
		XO, OX	73 3/8 - 144	100.0	-100.0	100.0	-100.0	100.0	-100.0
		XO, OX	73 3/8 - 96 3/8	100.0	-100.0	100.0	-100.0	100.0	-100.0





SECTION DETAIL
FOR WINDOW WITH
LEVEL 5N REINFORCEMENT

NOTES

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NOTE 6:

Glass Types 1 & 2	Sash Width (in.)	Anchor Quantities for XO or OX Windows									
		31" Height		37" Height		49" Height		54" Height		61" Height	
Panel Lower Sq.		Head & Sill	Jamb	Head & Sill	Jamb	Head & Sill	Jamb	Head & Sill	Jamb	Head & Sill	Jamb
		Anchor Group A									
Window Rock Height 29-1/2"	29-1/2"	12.141"	Not Allowed								
	38"	15.397"									
	38"	17.397"									
	42"	20.397"									
	46"	23.397"									
	50"	26.397"									
	70"	36.897"									
		Anchor Group B									
Window Rock Height 29-1/2"	29-1/2"	12.141"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	38"	15.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	38"	17.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	42"	20.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	46"	23.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	50"	26.397"	2HDH2	2	2HDH2	2	2HDH2	4	2HDH2	4	2HDH2	4
	70"	36.897"	2HDH2	2	2HDH2	2	2HDH2	4	2HDH2	4	2HDH2	4

Glass Types 1 & 2	Sash Width (in.)	Anchor Quantities for XO or OX Windows									
		31" Height		37" Height		49" Height		54" Height		61" Height	
Panel Lower Sq.		Head & Sill	Jamb	Head & Sill	Jamb	Head & Sill	Jamb	Head & Sill	Jamb	Head & Sill	Jamb
		Anchor Group C									
Window Rock Height 29-1/2"	29-1/2"	12.141"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	38"	15.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	38"	17.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	42"	20.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	46"	23.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	50"	26.397"	2HDH2	2	2HDH2	2	2HDH2	4	2HDH2	4	2HDH2	4
	70"	36.897"	2HDH2	2	2HDH2	2	2HDH2	4	2HDH2	4	2HDH2	4
		Anchor Group D									
Window Rock Height 29-1/2"	29-1/2"	12.141"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	38"	15.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	38"	17.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	42"	20.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	46"	23.397"	1HDH1	2	1HDH1	2	1HDH1	4	1HDH1	4	1HDH1	4
	50"	26.397"	2HDH2	2	2HDH2	2	2HDH2	4	2HDH2	4	2HDH2	4
	70"	36.897"	2HDH2	2	2HDH2	2	2HDH2	4	2HDH2	4	2HDH2	4

Max Anchor O.C. Spacing for "Integral-Fin" Installation	Anchor Group B	Anchor Group C	Anchor Group D
	6"	6"	6"

NOTES:
1. PLEASE DIMENSIONS ARE SIZED AND TO HAND BLACK HEIGHT SEE WIDTH e.g. 36W/72H IS AN EXA THE WINDOW IS 36 WIDE X

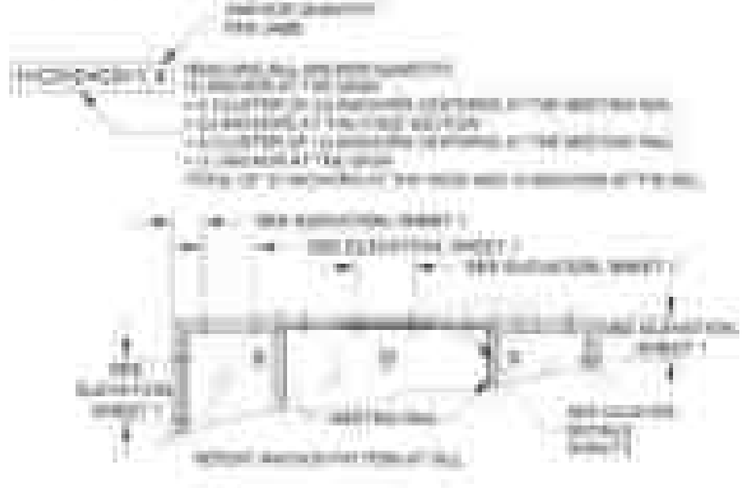
2. FOR EACH ALT (PANEL ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION SHOWN ON THE TABLE

GUIDE TO USING ANCHOR QUANTITY TABLES:

FOR OX WINDOWS (XO SIMILAR):



FOR XOX WINDOWS:



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ARCHITECTURAL SOLUTIONS

ANCHOR QUANTITY TABLE

PROFESSIONAL ENGINEER

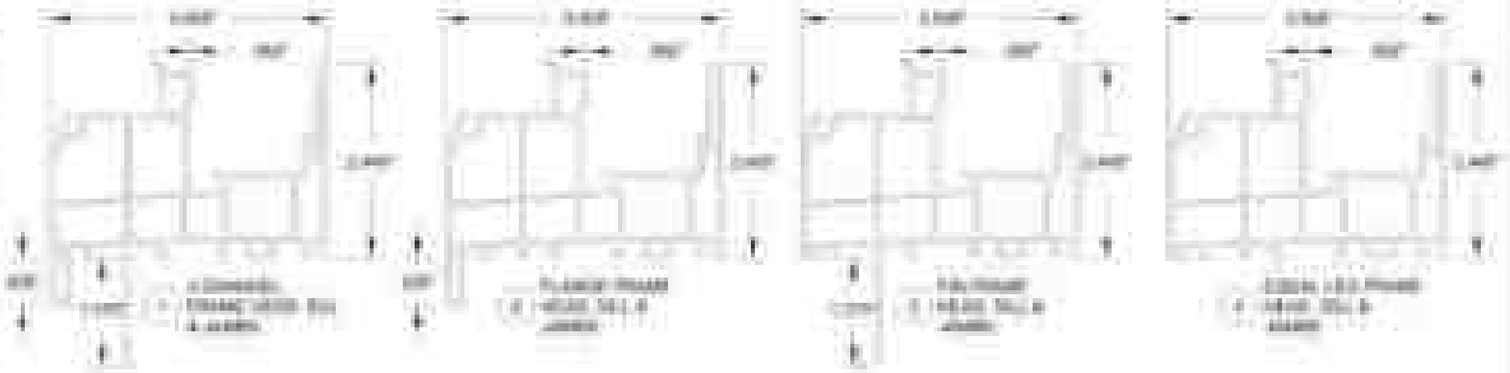
TABLE 1

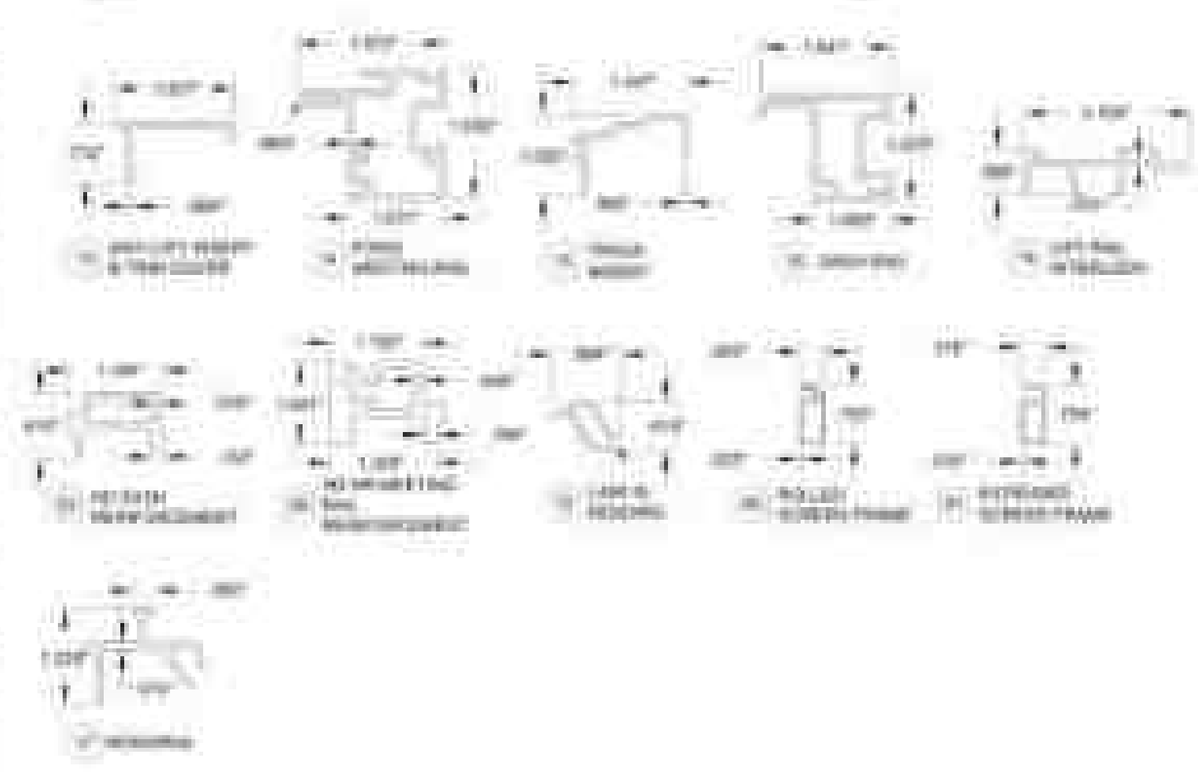
Anchor Quantities for ECO Windows

Interior Type (1 & 2)	Door Configuration	Rough Opening Width (in.)	24" Height Head @ 0°	24" Height Head @ 90°	48" Height Head @ 0°	48" Height Head @ 90°	84" Height Head @ 0°	84" Height Head @ 90°
Wood, Jamb Mount			**Anchor Group A**					
			Not Allowed					
			Anchor Group B					

Bill of Materials

#	Part #	Description	Material
1	820101	8" Nylon Head, 1/2 wire jamb - 2 Channel	PVC
2	820102	8" Nylon Head, 1/2 wire jamb - Flange	PVC
3	820103	8" Nylon Head, 1/2 wire jamb - C.C.	PVC
4	820104	8" Nylon Head, 1/2 wire jamb - Z-post Flg.	PVC
11	820110	Sash Lift Assist - Front Cover	PVC
12	820111	Pivot Meeting Rail	PVC
13	820112	Check Assist	Metal, Pl. w/
14	820113	Head Rail Weep - Top & Bottom	PVC
15	820114	Bumper	Metal, Pl. w/
16	820115	Lift Rail Bracket	Metal, Pl. w/
17	820116	Lift Rail Bracket Cover	Plastic
18	820117	Lift Cam Spring/Retainer	Metal, Pl. w/
19	820118	Fill Hole, Water Meeting Rail Reinforcement	Metal, Pl. w/
21	7108140PHL	#8 x 1-1/4" PH, Pan SDS Recessed Screw	410 SS
22	91464	Weatherstrip, 157" x .228" Fin Flip	
23	91718	Weatherstrip, 157" x .228" Fin Flip	
24		#8 x 1" PH, Pan SDS Antenna Mounting Screws	410 SS
31	7600128PHS	#8 x 1-1/2" PH, PW SMS (Front Meeting Rail Screw)	410 SS
32	7108PHP	Shoe Lock Cover Support Plate	Metal, Pl. w/
33	7108SP	Shoe, Sub Cover	PVC
34	7108SP	Interlock Cover Hole Plug	PVC
35	7108SP	Sash Lock	Cast Zinc
36	7108SL	Keeper Lock	Cast Zinc
37	7108SK	Sash Lock Cover w/Screw	Cast Zinc
38		#8 x 1-1/2" PH, PW SDS (Lock and Keeper Lock Screw)	SS
41	7108SP	Sash and Keeper Lock Gasket	Foam Tape
42	7600PHS	#8 x 3/4" PH, PW SDS Retainer Screw	SS
43	91107PS	#8 x 1/2" PAN Tek Reinforcement Screws	SS
44		Lockstrip Top Corner Key	Nylon
45		Lockstrip Bottom Corner Key	Nylon
46		Lockstrip Top Corner Key	Nylon
47		Lockstrip Bottom Corner Key	Nylon
48	7108SB	Shoe	Nylon
49	820103	Cam Striking Insert	Steel
50		Reinforcing, 1/2" Thick w/ Hole .161" .063"	Stainless
51		Striking Block 2-1/8" x 1-1/4" x .81"	ETHM
52	91111	Rail Armrest Cream	Vinyl
53	91112	Extruded Screen Frame	Metal
54		Extruded Screen Spreader Bar	Vinyl
55	7108SPK	Screen Corner Key with Pull Ring	Nylon
56	91104/7108SK	Screen Corner Key W/ Pull Ring	ACC
57	7108SPB	Screen Spring	SS
58	91107SB	Screen Pull	Fiberglass
59	91103/91111	1/2" Screen Spline (Mitre/Interlock Rolled)	Vinyl







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SASH ASSEMBLY DETAILS

SCREEN ASSEMBLY DETAILS

FRAME ASSEMBLY DETAILS

EGRESS LOCK DETAILS

Egress Lock Bill of Material			
#	Part #	Description	Material

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