

CHAPTER 7

INTEGRITY WOOD ULTREX POLYGON

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ATTENTION:

- Specifications and technical data are subject to change without notice.
- Allow 1/16" (1.59 mm) tolerance on all measurements.
- For answers to technical questions about Integrity products you may call our Integrity Support Line: 1-800-587-2712.
- Website: www.integritywindows.com

UNIT FEATURES / NFRC VALUES / ABBREVIATIONS

FRAME:

The frame exterior is made of Ultrex®, an advanced fiber reinforced material that is exceptionally resistant to thermal conductance. The interior is clear pine, kiln dried to a moisture content of 8-12% at time of fabrication. Water-repellent, preservative treated in accordance with WDMA I.S.4. Composite frame thickness is 2 1/16" (52 mm). Frame width is 4 9/16" (116 mm). 4/4 clear pine interior stop is applied to all units. Ultrex frame is .080" (2 mm) thick. Available in stone white, pebble gray, bronze, or evergreen colors.

JAMB EXTENSION:

4 9/16" (116 mm) is standard. 6 9/16" (167 mm) and 6 13/16" (173) jamb extension available factory applied or in lineal lengths for field application.

INSTALLATION:

Folding nailing fin. Optional installation brackets available for Polygons without nailing fin intended for masonry application.

GLAZING:

All units manufactured with IG 3/4" (19 mm) Low E II with Argon. All glass is of a select quality complying with Federal Specifications DD-G-451D, ASTM C 1036-85. Insulating glass is manufactured and tested to pass level CBA, ASTM E 772-92 and is IGCC certified. The glazing seal is a silicone bedding on the exterior. The interior glazing is made up of a pressure sensitive adhesive foam tape applied to the wood glazing bead.

RECTANGLES ONLY:

Interior/Exterior Simulated Divided Lites (SDL):

Interior bar: 7/8" (22 mm) wide bars. Pine bare wood or factory applied white finish, to match interior. Exterior bar: Ultrex, 7/8" (22 mm) wide bars, finish to match exterior. Pattern: rectangular or prairie cuts. Due to size limitation, 6 or 9 lite Prairie cut may apply. Default is 9 lite for stand alone units.

Grilles-Between-the-Glass (GBG) Size Limitations May Apply:

Interior bar: 11/16" (17 mm) contoured aluminum bar placed between two panes of glass. Pattern: rectangular or prairie cut. Due to size limitation, 6 or 9 lite Prairie cut may apply. Default is 9 lite for stand alone units. Exterior color determined by frame color. White interior.

PERFORMANCE RATING:

Complies with ANSI/AAMA/WDMA/I.S. 2/NAFS-02.

THERMAL PERFORMANCE:

CERTIFIED NFRC UNIT VALUES					
NFRC Glazing Type	Values U-Factor	R-Value Operator/Stationary	Solar Heat Gain Coefficient	Visible Light Transmission	Energy Star
Unit Type Integrity Polygon Size Tested - f/s 47" x 59"					
Low E II Argon	0.29	3.45	0.35	.61	N, NC, SC, S
Low E II Air	0.33	3.03	0.35	.61	N, NC, SC, S
Low E II Argon GBG	0.30	3.33	0.32	.54	N, NC, SC, S
Low E II Air GBG	0.35	2.86	0.32	.54	N, NC, SC, S
Low E II Argon SDL	0.29	3.45	0.32	.54	N, NC, SC, S
Low E II Air SDL	0.33	3.03	0.32	.54	N, NC, SC, S

Product Values are determined using the National Fenestration Rating Council Procedure for determining fenestration product thermal values.

U-Value - (Btu/hr-sq ft-°F) Lower the U-Value, the greater the resistance to heat flow and better its insulating value.

R-Value - (1/U-Value) Higher the R-Value, the greater the resistance to heat flow and better its insulating value.

VLT - Visible Light Transmittance - Percentage of visible light transmitted through the unit.

SHGC - Solar Heat Gain Coefficient - The lower a window's SHGC, the less solar heat it transmits, and the greater its shading ability.

ABBREVIATIONS

CA = Casement

DH = Double Hung

FS = Frame Size

GBG = Grille between glass

GL = Glider

ICAP = Integrity Casement / Awning Picture

IRT = Integrity Round Top

IDG = Direct Glaze Polygon

IQCIR = Integrity Quarter Circle

MO = Masonry Opening

mm = Millimeters

OM = Outside measurement

R = Right Handed

RO = Rough Opening

SDL = Simulated Divided Lites

Sq. ft. = Square feet

Note: Capillary tubes are required for IG units at high elevations. Argon will not be furnished in units with capillary tubes.

SIZING GUIDELINES / MEASUREMENT CONVERSIONS

Multiple assemblies can be factory mullied:
up to 1 unit wide by 2 units high

DIRECT GLAZE UNIT FOR ICA/IAWN:

up to 4 units wide by 1 unit high

MAXIMUM ROUGH OPENING not to exceed 113" X 71 5/8"

up to 2 units wide by 2 units high

MAXIMUM ROUGH OPENING not to exceed 73" X 94 3/4"

DIRECT GLAZE UNIT FOR ITDH/ITGL:

up to 4 units wide by 1 unit high

MAXIMUM ROUGH OPENING not to exceed 113 1/2" X 76 1/4"

up to 2 units wide by 2 units high

MAXIMUM ROUGH OPENING not to exceed 84" X 92"

DIRECT GLAZE UNIT FOR ISPD/ISFD:

up to 1 unit wide by 2 units high

MAXIMUM ROUGH OPENING not to exceed 72" X 100 1/2"

DIRECT GLAZE UNIT FOR IIFD:

up to 3 units wide by 1 unit high

MAXIMUM ROUGH OPENING not to exceed 109 15/16" X 96"

up to 2 units wide by 2 units high

MAXIMUM ROUGH OPENING not to exceed 73 5/8" X 102 1/2"

NOTE: FIELD MULLING WINDOW ASSEMBLIES BEYOND THE ABOVE LIMITATIONS IS NOT RECOMMENDED.

FIELD MULLING DOOR ASSEMBLIES BEYOND 110" X 112" IS NOT RECOMMENDED.

MAXIMUM UNIT R.O.: 110" (2794mm) in width or height not to exceed 49 square feet of rough opening.

MINIMUM UNIT R.O. SIZE: Width: 13 7/8" (352 mm) Height: 13 3/8" (340 mm).

MINIMUM SHORT LEG R.O.: 8" for P4-5, P4-6, P5-1,

MINIMUM P8 R.O.: 19 1/8" (486 mm) x 19 1/8" (486 mm) - minimum F/S short leg 7 1/2" (191 mm)

ANGLE PITCHES: Available pitches for the following shapes:

P3 = 3/12 to 36/12.

P4, P5 = Maximum Pitch 36/12.

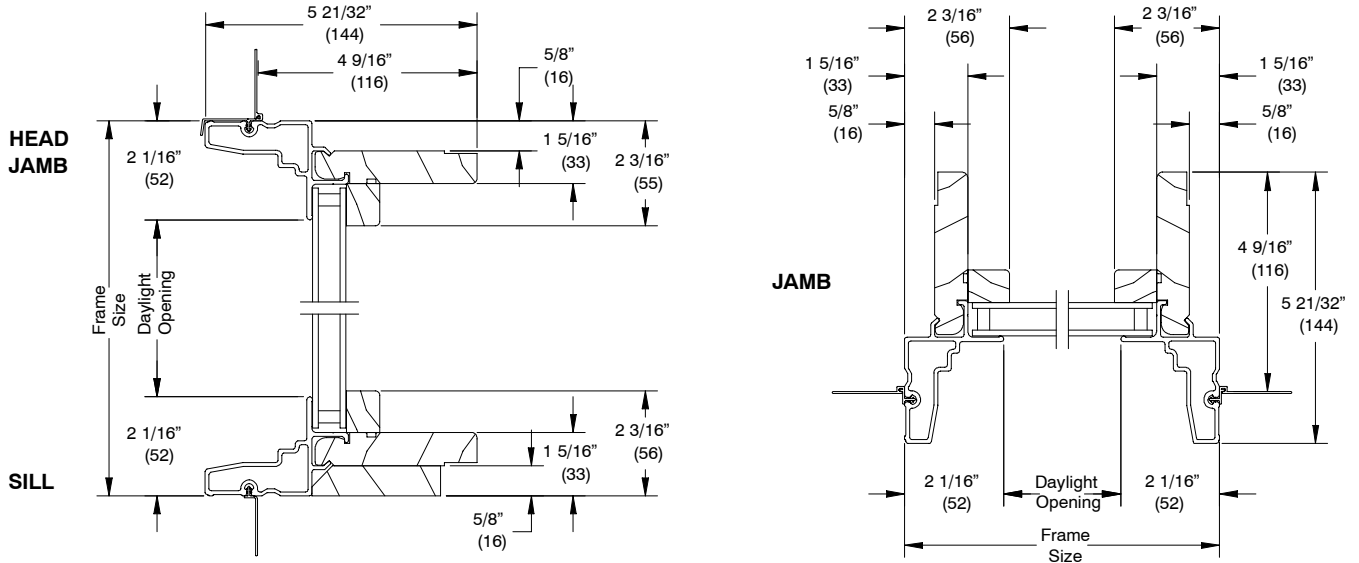
ROUGH OPENING TABLE FOR ASSEMBLIES	
WIDTH:	Single unit Rough Opening width MINUS 1" = Frame width. ADD all frame widths PLUS 1" = Total Rough Opening width.
HEIGHT:	Single unit Rough Opening height MINUS 1/2" = Frame height. ADD all frame heights PLUS 1/2" = Total Rough Opening height.
NOTE:	Assemblies using DG Rectangle units with 6 9/16" or 6 13/16" jambs for ITDH/ITGL/DR, add 1/4" to width and 1/8" to height of Rough Opening.
NOTE:	Polygon shapes are unavailable factory mullied.

MEASUREMENT CONVERSIONS - RECTANGULAR UNITS ONLY

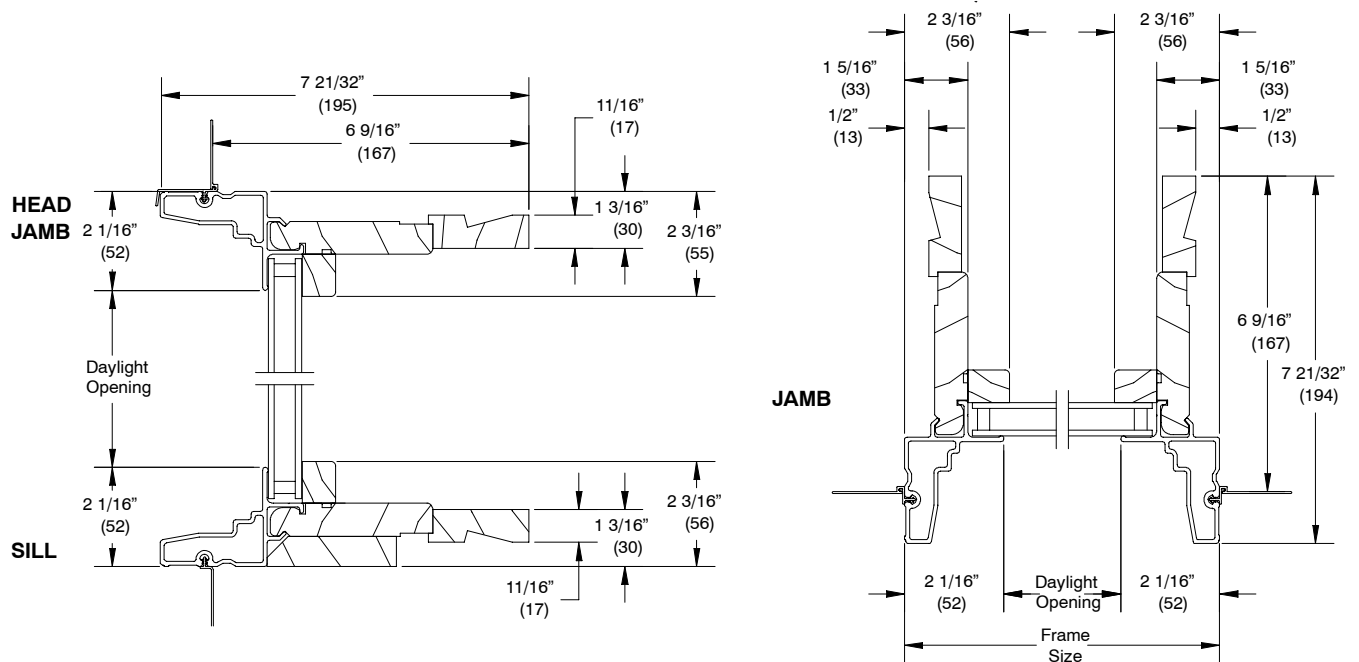
POLYGON Rough Opening to	WIDTH		HEIGHT	
	Imperial	Metric	Imperial	Metric
Masonry Opening	- 1/2"	- 13 mm	- 1/4"	- 6 mm
OM of Frame	- 1"	- 25 mm	- 1/2"	- 13 mm
Interior Daylight Opening	- 5 3/8"	- 137 mm	- 4 7/8"	- 124 mm
OM of Glass	- 3 7/8"	- 98 mm	- 3 3/8"	- 85 mm

SECTION DETAILS

DIRECT GLAZE CASEMENT/AWNING- POLYGON STAND ALONE - 4 9/16"

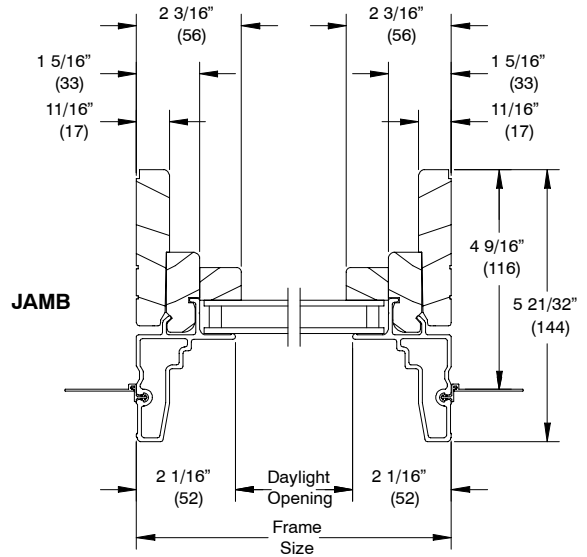
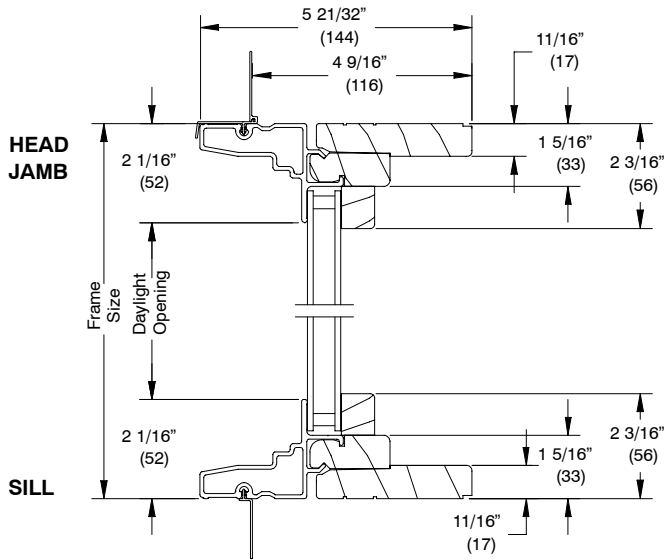


DIRECT GLAZE CASEMENT/AWNING - POLYGON STAND ALONE- 6 9/16"

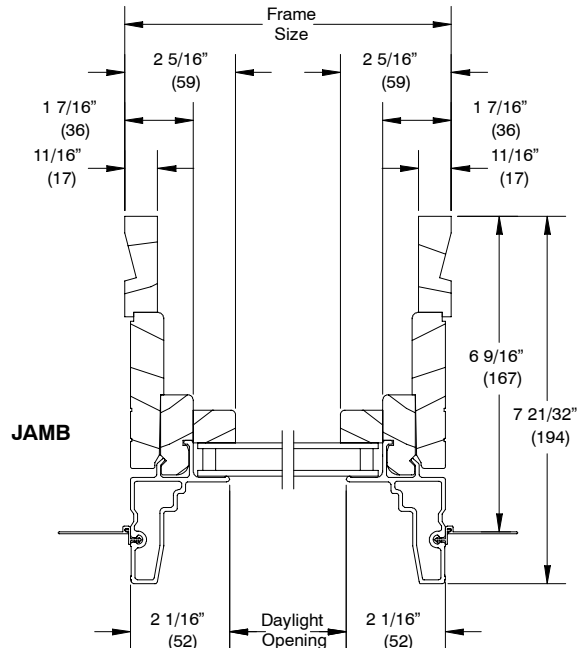
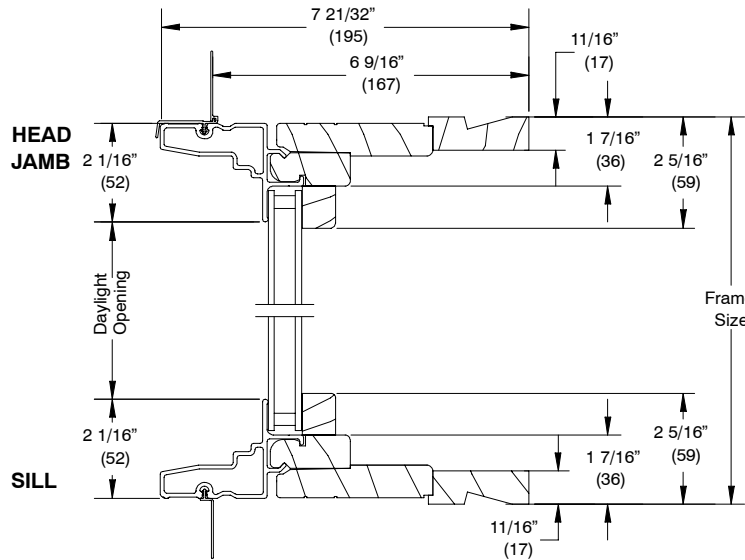


SECTION DETAILS

**DIRECT GLAZE DOUBLE HUNG, GLIDER, DOORS
 POLYGON STAND ALONE- 4 9/16"**

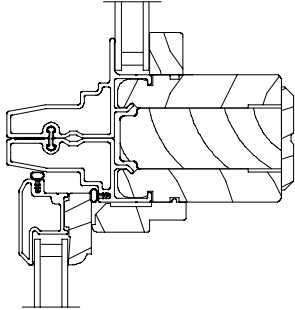


**DIRECT GLAZE DOUBLE HUNG, GLIDER, DOORS
 POLYGON STAND ALONE- 6 9/16"**

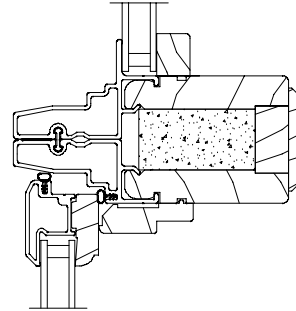


SECTION DETAILS - HORIZONTAL MULLION DETAILS

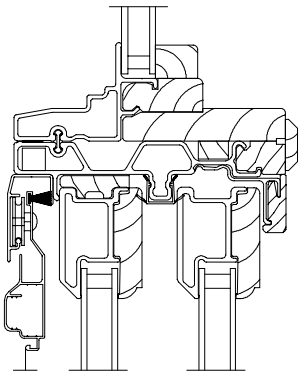
MULLIONS



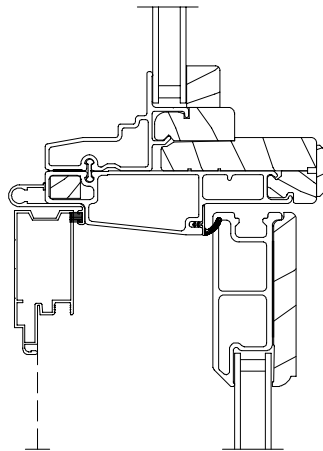
**DIRECT GLAZE POLYGON/TRANSOM
 OVER CASEMENT/AWNING
 W/STRUCTURAL MULL REINFORCEMENT BLOCK**



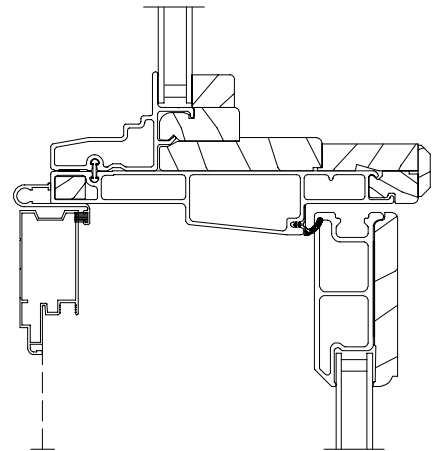
**DIRECT GLAZE POLYGON/TRANSOM
 OVER CASEMENT/AWNING**



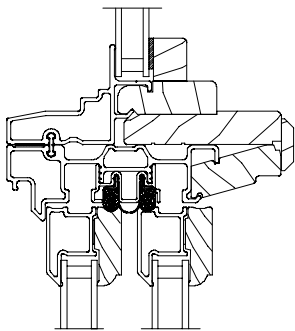
**DIRECT GLAZE POLYGON/TRANSOM
 OVER SLIDING PATIO DOOR**



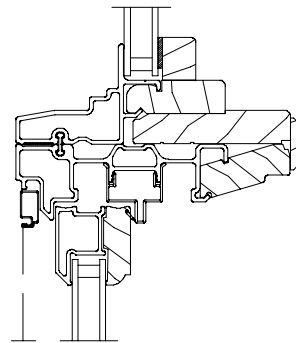
**DIRECT GLAZE POLYGON/TRANSOM
 OVER INSWING FRENCH DOOR**



**DIRECT GLAZE POLYGON/TRANSOM
 OVER 6 9/16" INSWING FRENCH DOOR**

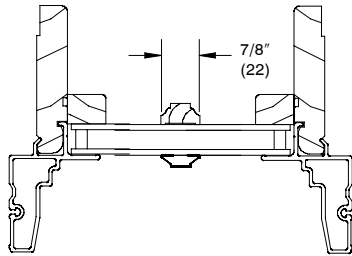


**DIRECT GLAZE POLYGON/TRANSOM
 OVER ITGL GLIDER**

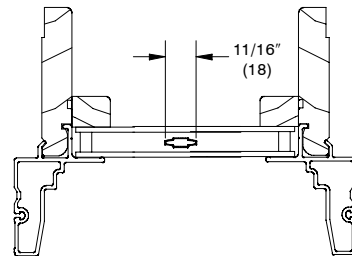


**DIRECT GLAZE POLYGON/TRANSOM
 OVER DOUBLE HUNG**

DIRECT GLAZE RECTANGLE CASEMENT/AWNING



SIMULATED DIVIDED LITE



ALUMINUM GRILLE BETWEEN GLASS

Prairie Lite Cuts					
Lite Cut	Minimum DLO	Maximum		Minimum	
		RO Width	RO Height	RO Width	RO Height
SDL without Bar					
9-Lite	4"	110"	109 1/2"	>24 1/2"	> 24"
6-Lite Top	4"	110"	24"	16 1/2"	16"
6-Lite Top LH or RH	4"	24 1/2"	109 1/2"	16 1/2"	16"
GBG					
9-Lite	4"	85 3/4"	85 1/4"	>24 1/2"	> 24"
6-Lite Top	4"	85 3/4"	24"	16 1/2"	16"
6-Lite Top LH or RH	4"	85 3/4"	85 1/4"	16 1/2"	16"

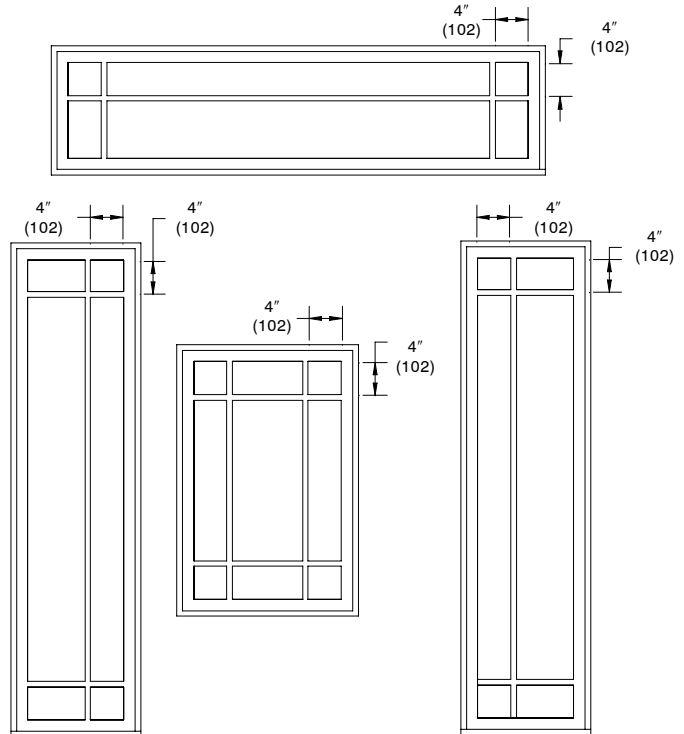
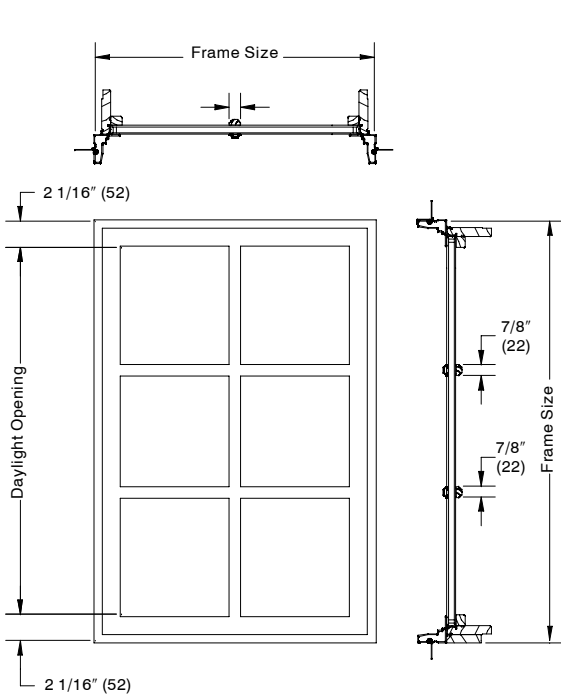
* Standard lite pattern is equal DLO rectangle.

* Special size direct glaze rectangles with prairie SDL or GBG will default to 4" daylight opening (DLO) corners may not align with standard unit prairie cuts unless specified at the time of order. Contact your Integrity representative for more information.

* Special size direct glaze guidelines:

NOTE: Only rectangle shape polygons are available with SDL or GBG

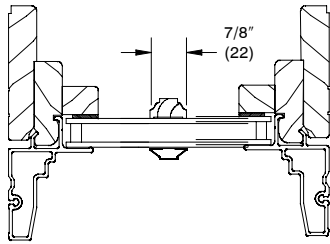
SDL



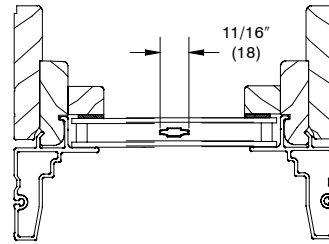
Conversion Formula:

$$\frac{\text{Total DLO} - \text{Total bar width}}{\text{Number of lites}} = \text{Individual DLO}$$

DIRECT GLAZE RECTANGLE DOUBLE HUNG, GLIDER AND DOORS



SIMULATED DIVIDED LITE



ALUMINUM GRILLE BETWEEN GLASS

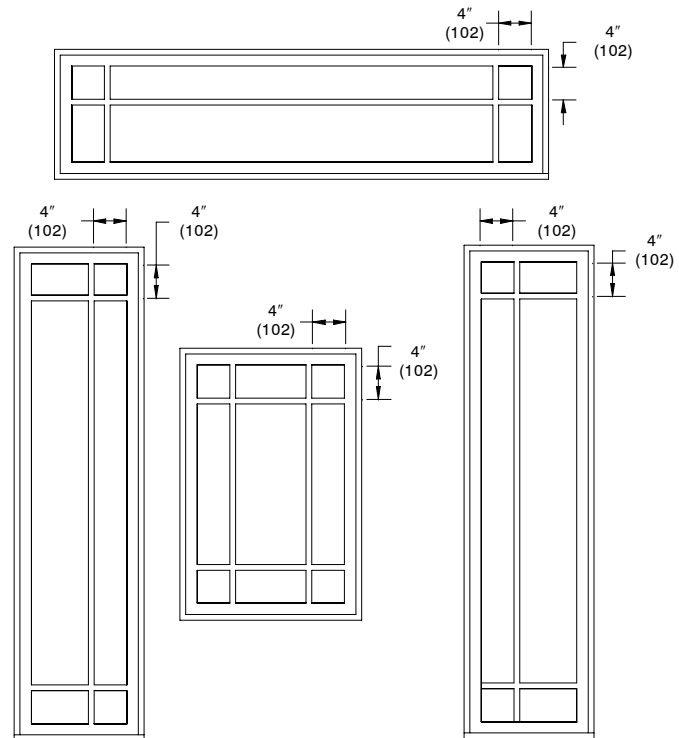
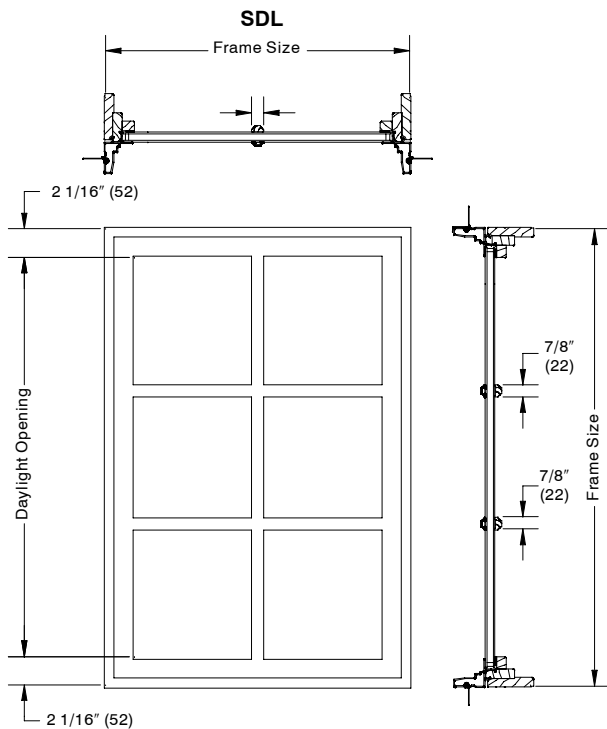
Prairie Lite Cuts					
Lite Cut	Minimum DLO	Maximum		Minimum	
		RO Width	RO Height	RO Width	RO Height
SDL without Bar					
9-Lite	4"	110"	109 1/2"	>24 1/2"	> 24"
6-Lite Top	4"	110"	24"	16 1/2"	16"
6-Lite Top LH or RH	4"	24 1/2"	109 1/2"	16 1/2"	16"
GBG					
9-Lite	4"	85 3/4"	85 1/4"	>24 1/2"	> 24"
6-Lite Top	4"	85 3/4"	24"	16 1/2"	16"
6-Lite Top LH or RH	4"	85 3/4"	85 1/4"	16 1/2"	16"

* Standard lite pattern is equal DLO rectangle.

* Special size direct glaze rectangles with prairie SDL or GBG will default to 4" daylight opening (DLO) corners may not align with standard unit prairie cuts unless specified at the time of order. Contact your Integrity representative for more information.

* Special size direct glaze guidelines:

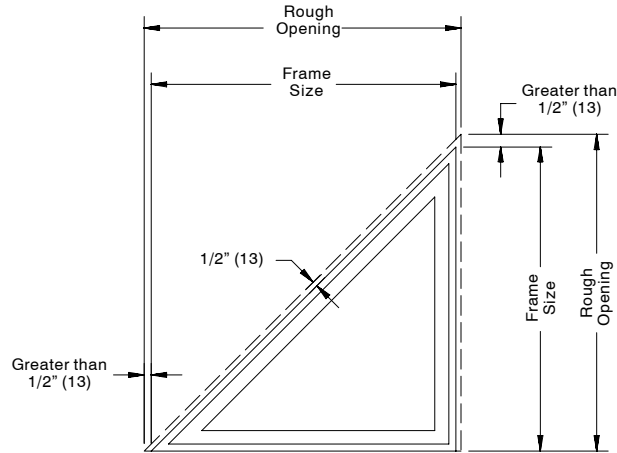
NOTE: Only rectangle shape polygons are available with SDL or GBG



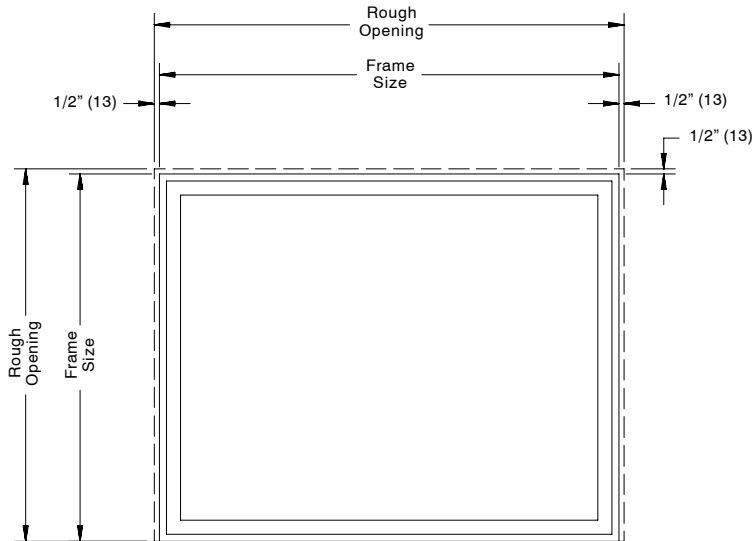
Conversion Formula:

$$\frac{\text{Total DLO} - \text{Total bar width}}{\text{Number of lites}} = \text{Individual DLO}$$

MEASUREMENT INFORMATION



SPECIAL ANGULAR SHAPE UNIT



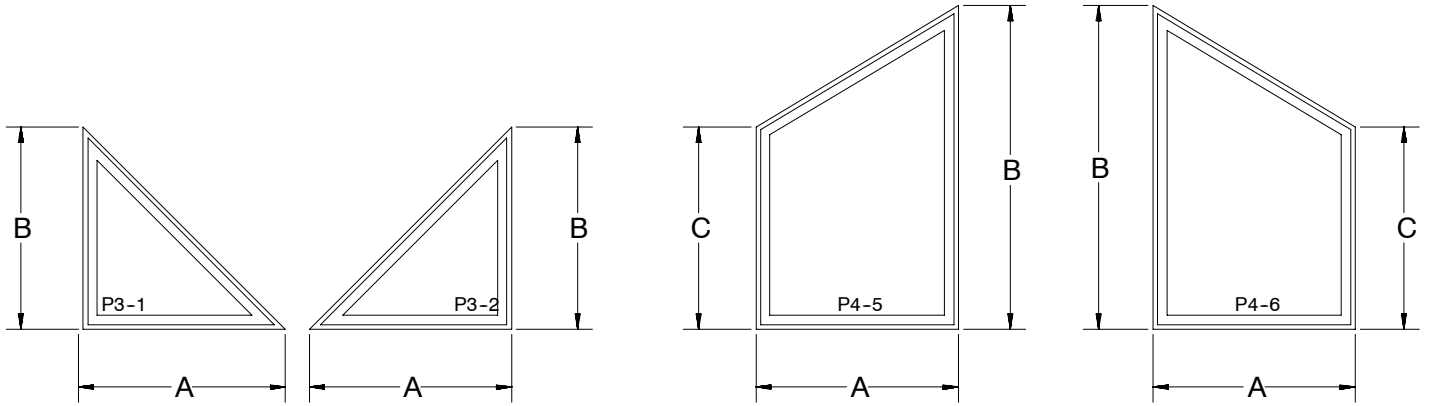
RECTANGULAR UNIT

Note:

On all units, we maintain our clearance or conversion dimension perpendicular to the frame. For this reason, standard rectangular conversions cannot be used for any unit involving angles. These must be calculated on an individual basis. If any dimension is critical (such as frame measurement to match lower unit) then order should be placed with that dimension. The order will be converted to the accurate rough opening. When calculating Angular shapes, contact your Integrity Representative.

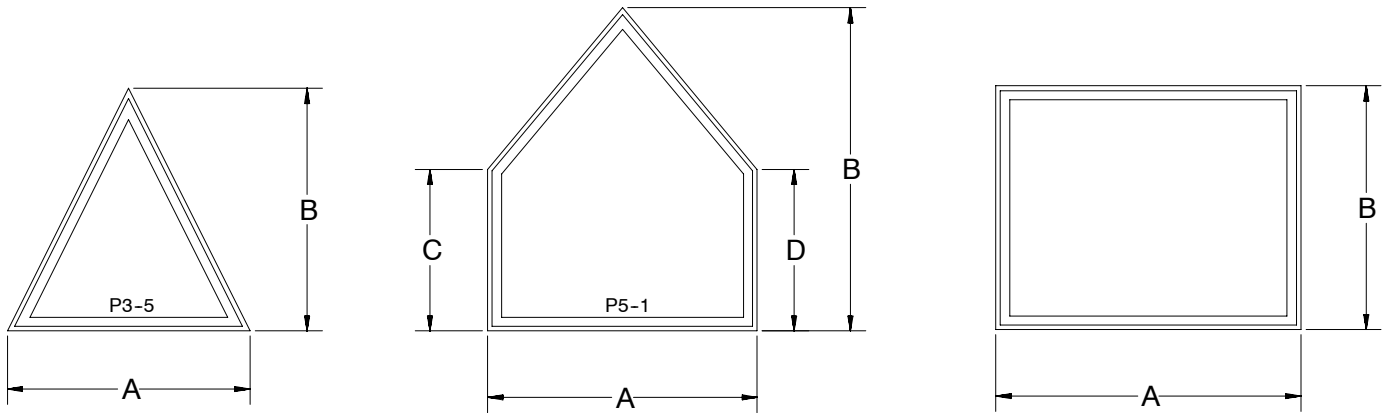
Rough opening tolerance is $1/2''$ (13) perpendicular to frame.
 Masonry opening tolerance is $1/4''$ (6) perpendicular to frame

MEASUREMENT INFORMATION



90° TRIANGLE

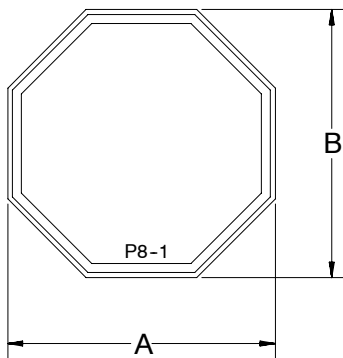
TRAPEZOID



ISOSCELES TRIANGLE

PENTAGON

90° RECTANGLE



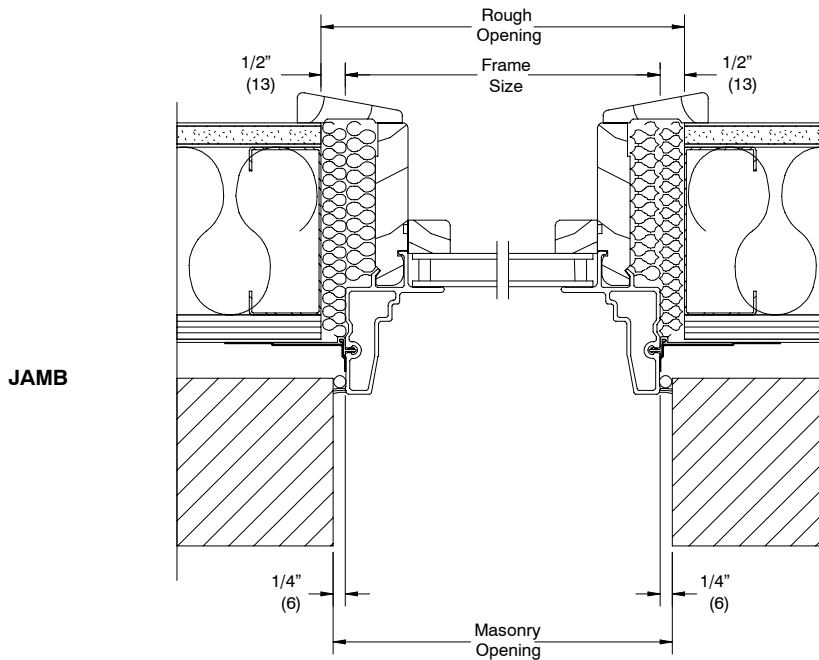
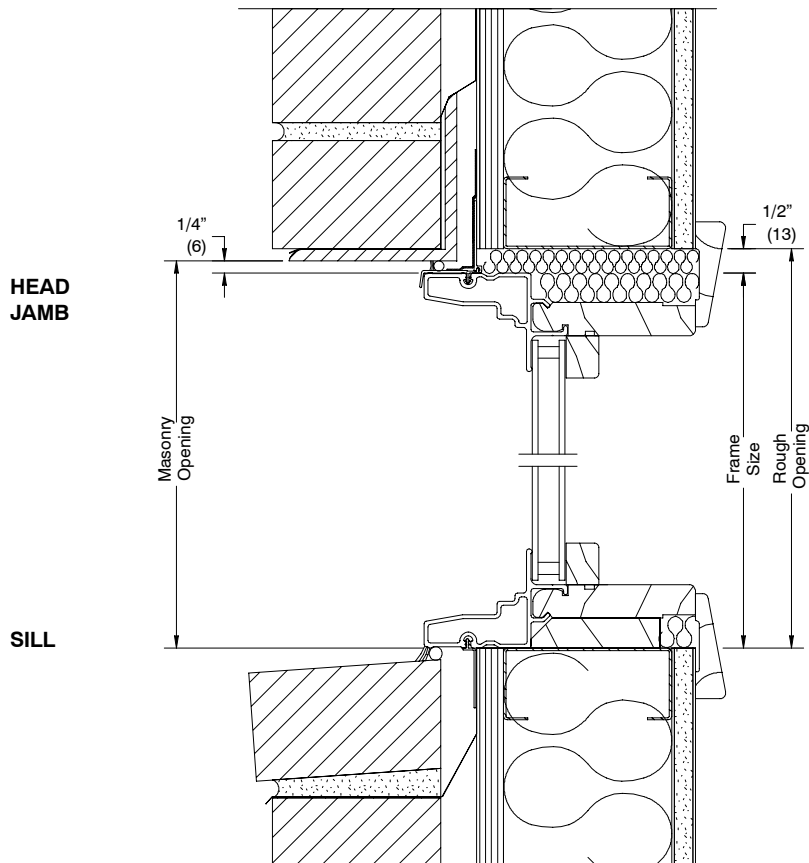
OCTAGON

How to Specify Dimensions:

When ordering a trapezoid, triangle, or rectangle window, provide a sketch of the unit as viewed from the exterior, also include key rough opening dimensions. Specify casement or other.

Example:

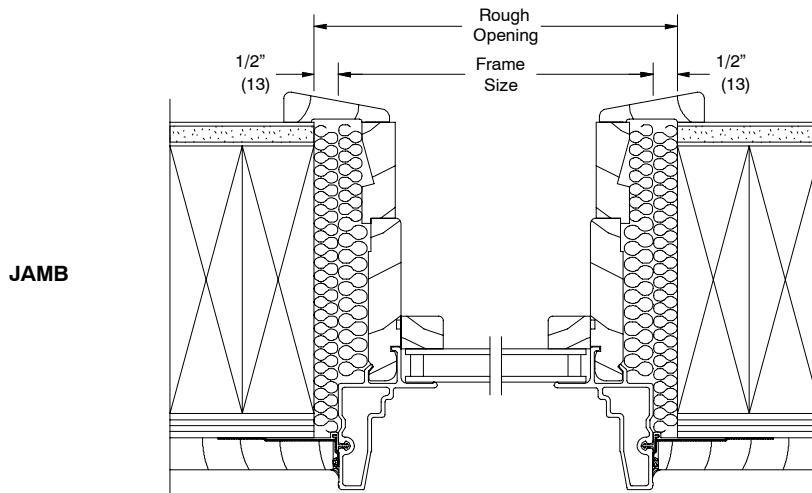
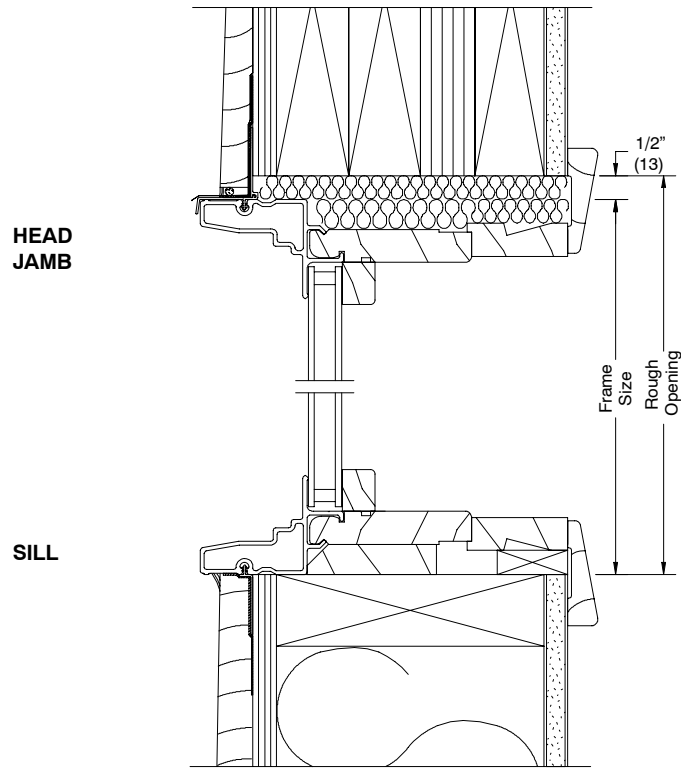
To order a window of a trapezoid opening, provide the measurements of A, B, and C as indicated. For other shapes, give the dimensions shown.



BRICK VENEER WITH STEEL FRAME CONSTRUCTION

NOTE:

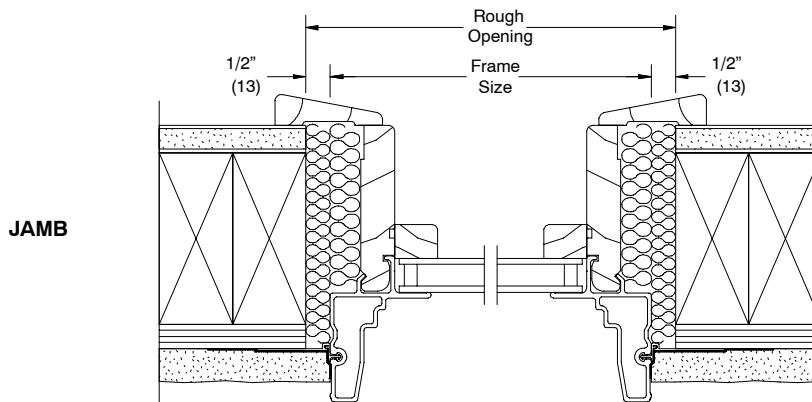
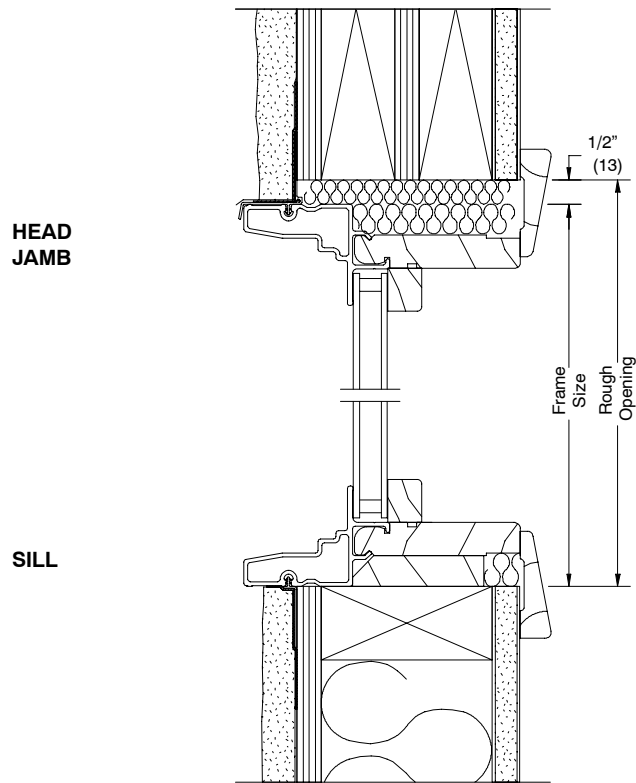
The above wall sections represent typical wall conditions, these details are not intended as installation instructions. Please refer to the installation instructions provided with the purchased units.



WOOD SIDING WITH 2X6 FRAME CONSTRUCTION

NOTE:

The above wall sections represent typical wall conditions, these details are not intended as installation instructions. Please refer to the installation instructions provided with the purchased units.



STUCCO WITH 2X4 FRAME CONSTRUCTION

NOTE:

The above wall sections represent typical wall conditions, these details are not intended as installation instructions. Please refer to the installation instructions provided with the purchased units.