



**Series 510**  
**2 7/16" Heavy Commercial Projected Window**

**Configurations** Project-In • Project-Out • Casement Pivot • Top-Hinged • Fixed

Series 510 retains an AAMA Heavy Commercial and Architectural Grade rating to meet the most demanding specifications. Designed for educational, office or healthcare facilities, the 510 window system is an attractive product for a wide range of applications. Multiple glazing options give you flexibility to meet specific design requirements. A thermal barrier in the frame and sash improves thermal performance enhancing energy saving potential. Offered with a complete line of sub frames, mullions and architectural sills the 510 window provides the complete solution for your fenestration needs.

**Features**

**Benefits**

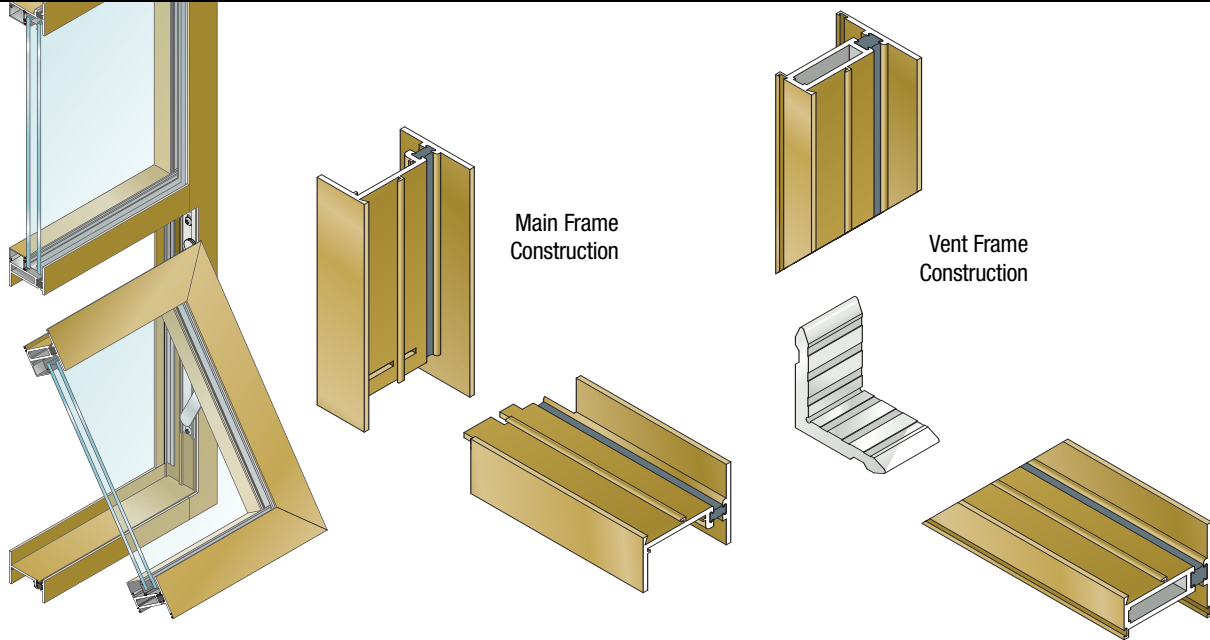
Thermal barrier in vent/sash and frame	Improves thermal performance Enhances energy saving potential
Vertical or horizontal stacking members	Increases configuration options
Accommodates glazing units from 3/16" to 2" depth	Expands design and energy savings options
Dual glazing with optional integral blinds	Improved energy savings and interior light or privacy control with low maintenance
Angle reinforced vent corners	Improves sash/vent rigidity
Pressure equalization	Superior water resistance
Screen frames of extruded aluminum alloy are available	Stronger more durable screens
Accessory line of subframes, mullions, and architectural sills	Allows custom designs with standard product
Anodized and painted finishes available	Unlimited options to answer economic and aesthetic concerns

Manufacturer  
 Of  
 Architectural  
 And  
 Commercial  
 Grade  
 Windows,  
 Curtain Walls,  
 Entrances,  
 And  
 Storefronts

EFCO CORPORATION  
 1000 COUNTY RD  
 MONETT, MO 65708  
 800.221.4169



# Series 510 Thermal 2 7/16" Heavy Commercial Projected Windows



## Performance Data

### Projected Architectural Grade

AAMA Rating (101-97)	AP-AW65
Air Infiltration	<.10 cfm/sf @ 6.24 psf
Water	No Leakage @ 12.0 psf
Structural	±97.5 psf
CRF-Frame (1503-98)	60°
CRF-Glass (1503-98)	59°
U-Value (1503-98)	.54°
U-value (NFRC-97)	.54°

### Casement Architectural Grade

AAMA Rating (NAFS-02)	C-AW100
Air Infiltration	<.10 cfm/sf @ 6.24 psf
Water	No Leakage @ 15.0 psf
Structural	±150.0 psf
CRF-Frame (1503-98)	57°
CRF-Glass (1503-98)	60°
U-Value (1503-98)	.55°
U-Value (NFRC-97)	.54°

A = Estimated values and/or designations  
 B = Non-standard size or configuration  
 C = Dual glazed  
 D = 1" Insulated - 1/4" clear, 1/2" air, 1/4" clear  
 E = 1" Insulated - 1/4" clear (Low Emissivity), 1/2" air, 1/4" clear  
 F = 1" Insulated - 1/4" clear (Low Emissivity), 1/2" argon, 1/4" clear  
 G = 1" Insulated - 1/4" clear, 1/2" air, 1/4" clear (Low Emissivity)

### Pivot Heavy Commercial

AAMA Rating (101-88)	VP-HC45
Air Infiltration	<.10 cfm/ft. @ 6.24 psf
Water	No Leakage @ 8.0 psf
Structural	±67.5 psf
CRF (1503.1)	56°
U-Value (1503.1)	.56°

S-510 Hardware Chart	Butt Hinges	4-Bar Arms	Friction Adjuster	Key Release Limit Arm	Rotor Operator*	Cam Handle	Pole Ring Cam Handle	Pole Ring Pull**	Access Controlled Lock	Lift Lock
Project-In		S				S	0		0	
Project-Out		S				S	0	0	0	
Casement Inswing With 4-Bar Arms		S				S	0		0	
Casement Outswing With 4-Bar Arms		S				S	0		0	0
Casement Inswing With Butt Hinges	S		0	0		S	0		0	
Casement Outswing With Butt Hinges	S		S	0	0	S	0		0	0
Vertical Pivot						0			S	
Horizontal Pivot				S		0			S	

Some size restrictions may apply depending on hardware selected.  
 \*-Casements requiring rotor operators will be furnished with lift locks, providing vents meet minimum width requirements.  
 \*\*-Pole ring pull will be furnished on project-out vents when optional pole ring cam handle is selected.

0-Optional  
 S-Standard  
 blank - N/A

S-510 Glazing Chart	Polycarbonate			Glass or Panel																
	1/8"	3/16"	1/4"	1/8"	.156**	3/16"	.200**	1/4"	1/4"***	1/2"	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"	1-1/2"	1-3/4"	2"	
Monolithic & Insulated Glass	A	A	A			A	A	A	A	A	A	A		A	A	A	A	A	A	A
Dual Glazing	Exterior Lite	I	I	I	I	I	I	I	I		I		A			A				
	Interior Lite	A	A	A		A	A	A	A											

\*-Obscure Glass Thickness  
 \*\*-Laminated Glass Thickness

A-Available Glazing Option  
 I-Internal Blinds Can Be Used With This Type of Dual Glazing  
 blank - N/A

## Main Frame Construction

The frame is constructed from .125" nominal material wall thickness aluminum of 6063-T6 alloy with a depth of 2 7/16". An equal leg frame is standard. Corners are of mortise and tenon construction and back sealed with a small-joint seam sealer. See Illustration 1.

## Vent Frame Construction

The 2 7/16" deep vent consists of tubular aluminum members with .125" nominal material wall thickness of 6063-T6 alloy. Vent corners are mitered, angle reinforced, crimped, cold epoxy welded, and back sealed with a small-joint seam sealer. See Illustration 2.

## Weather Stripping

All vents are dual weather-stripped with a dual durometer Santoprene® gasket. The exterior gasket is intentionally omitted at the vent bottom rail for project-out vents and at the vent top rail for project-in vents. This allows the air to pressure equalize the void between the vent and frame. Each vent utilizes the pressure equalization technique for superior water resistance performance. Two holes or slots per vent through the window frame facilitate weepage.

## Screens

Full width hinged wickets or fully hinged screens are available.

Screen frames are extruded 6063-T6 aluminum alloy. 18 x 16 mesh screens are available in fiberglass and .011" diameter aluminum. 18 x 18 mesh screens are available in .009" diameter stainless steel.

## Thermal Barrier

All frames and vents are thermally improved using the latest technology in two-part, high density polyurethane. See Illustration 3.

## Hardware

Locking cam handles, access controlled locks, and keepers are of cast white bronze in a US25D finish.

4-bar arms are fabricated from stainless steel meeting AAMA 904.1 requirements.

Butt hinges are fabricated from extruded aluminum of 6063-T6 alloy with stainless steel pins.

See Hardware Chart for available hardware types.

## Glazing

Windows are inside glazed with an extruded aluminum snap-in glazing bead.

Glazing of 3/16" to 2" can be accommodated. Dual glazing is also available in 1/8", 3/16", and 1/4" glass.

Between the glass aluminum blinds are available with dual glazed windows.

See the Glazing Chart for the exact size.

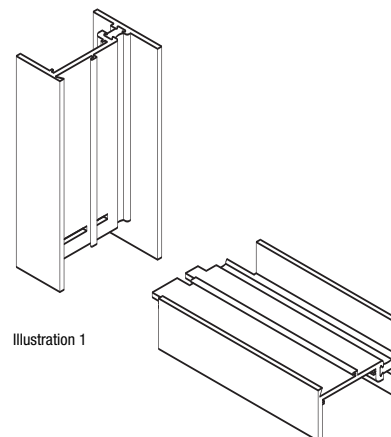


Illustration 1

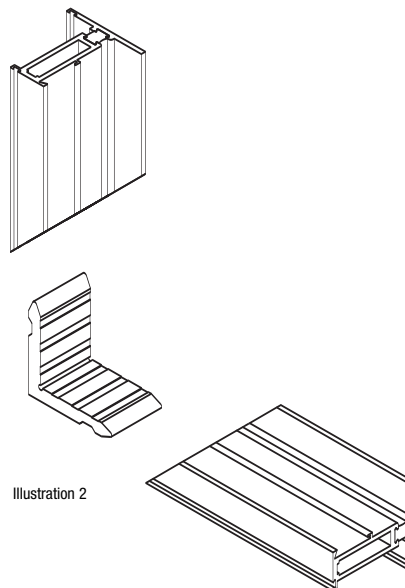


Illustration 2

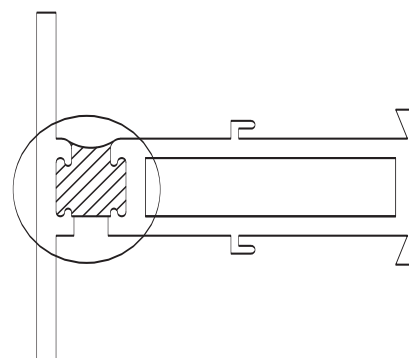
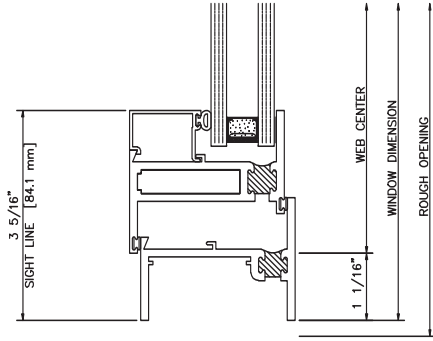
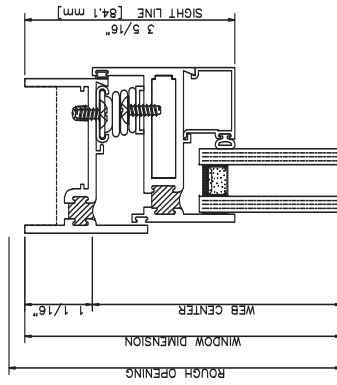
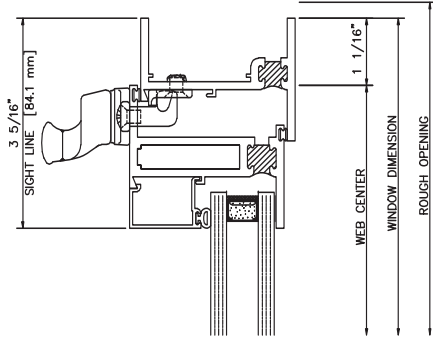


Illustration 3

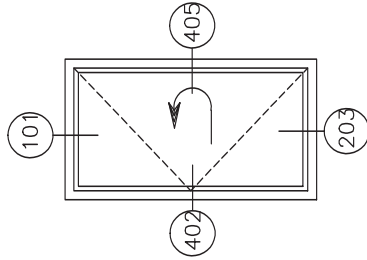
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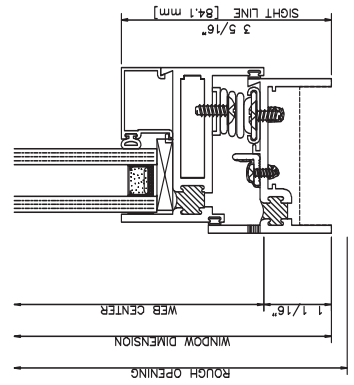
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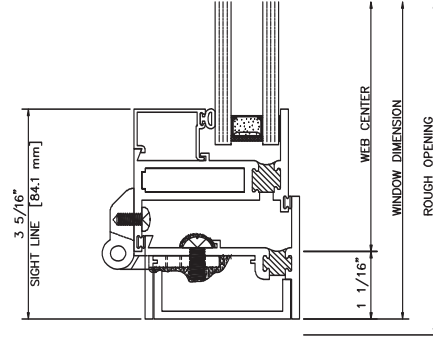
101 HEAD



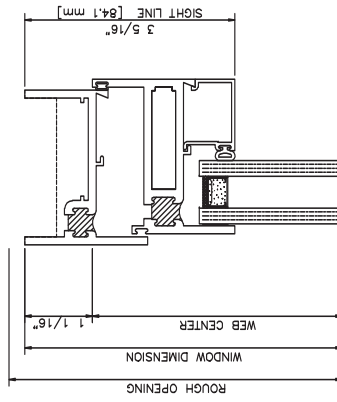
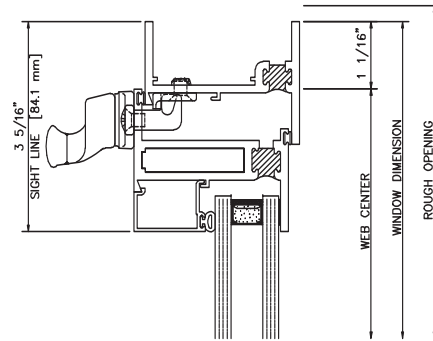
203 SILL



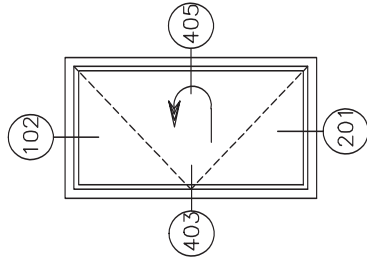
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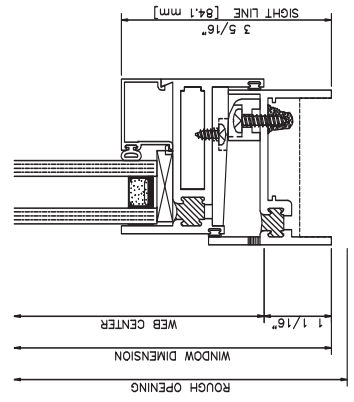
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102 HEAD



201 SILL



**510 Outside Glazed**

Caseament In • Left swing • 4 Bar Arms • Cam Locks

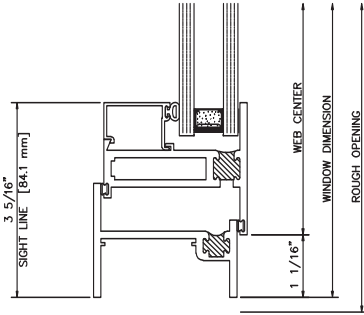
**510 Inside Glazed**

Caseament In • Left swing • Butt Hinges • Cam Locks

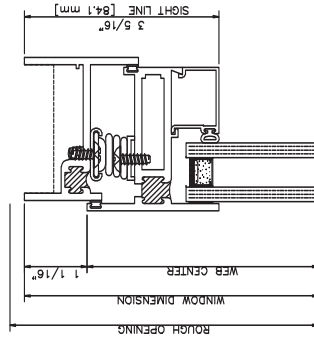
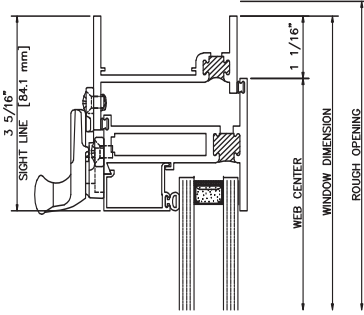
### 510 Inside Glazed

Casement Out • Left Swing • 4 Bar Arms • Cam Locks

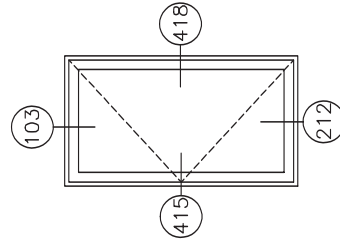
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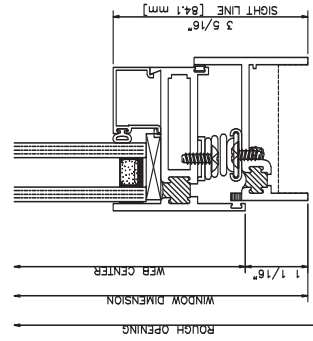
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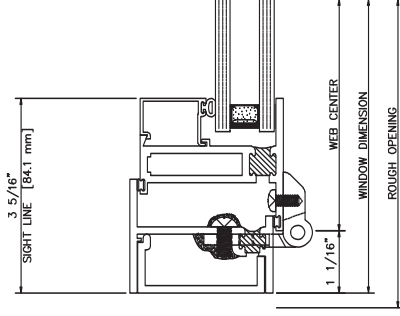
212 SILL



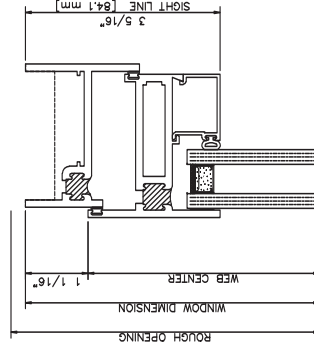
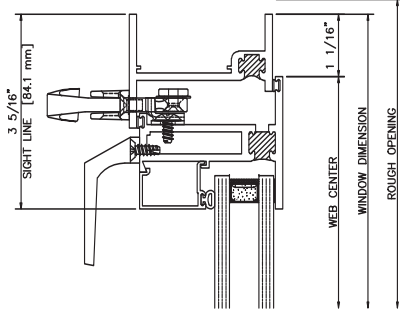
### 510 Inside Glazed

Casement Out • Left Swing • Butt Hinges • Lift Locks • Pull Handles

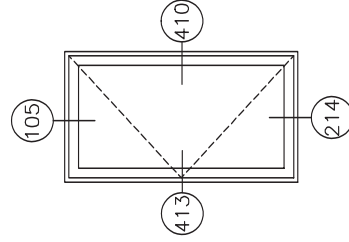
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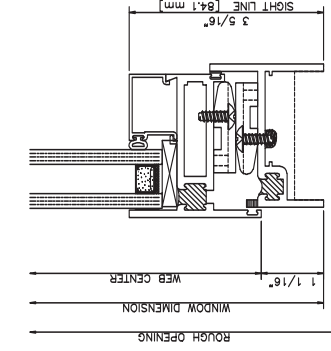
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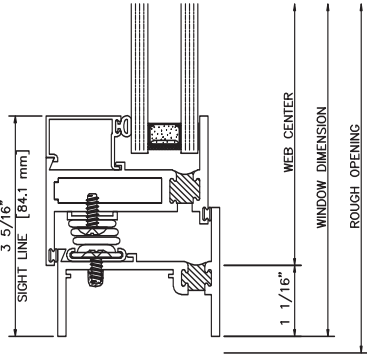
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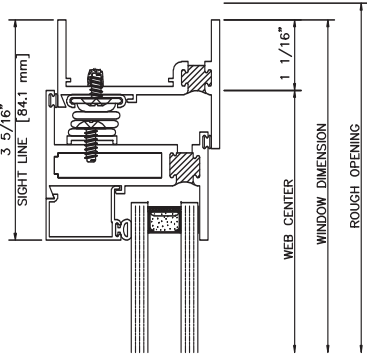
214 SILL



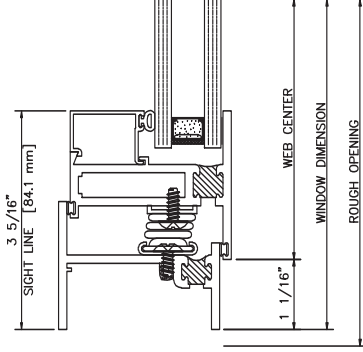
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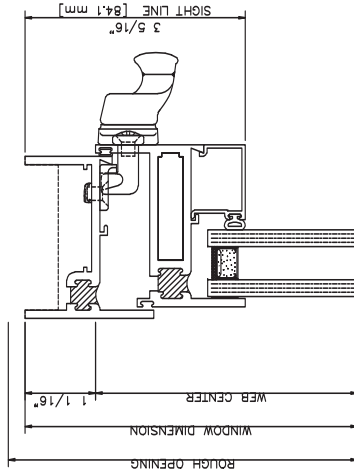
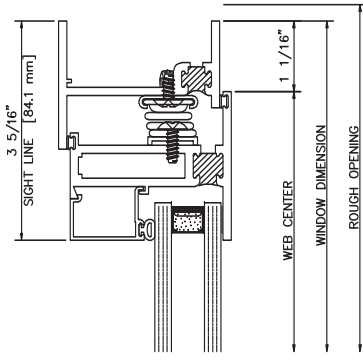
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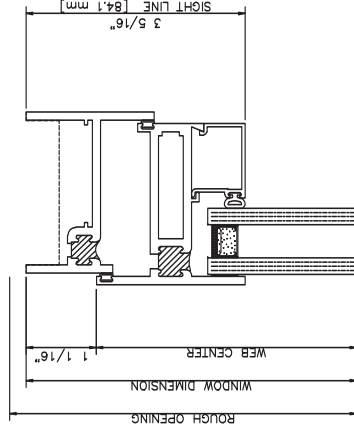
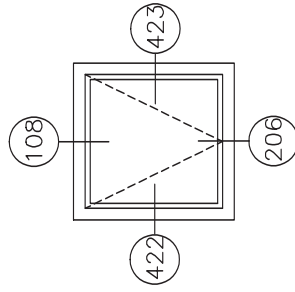
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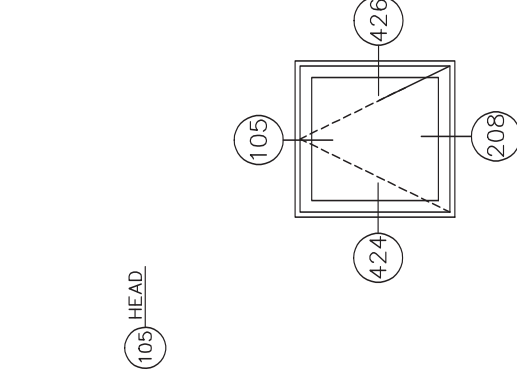
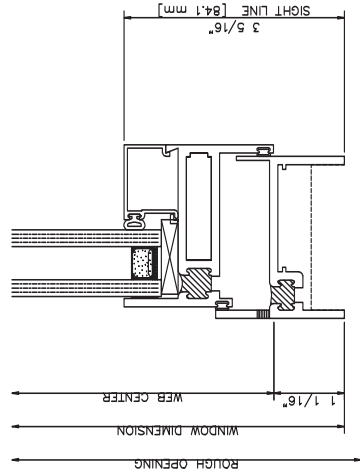
426 JAMB



108 HEAD



206 SILL



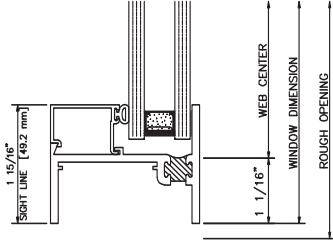
105 HEAD

208 SILL

### 510 Inside Glazed

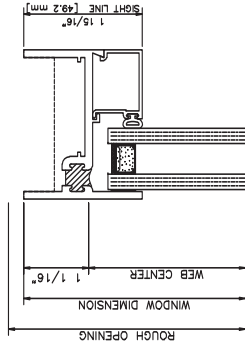
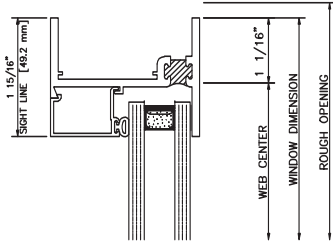
Fixed

400 JAMB

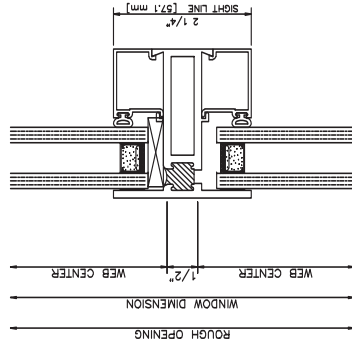


100 HEAD

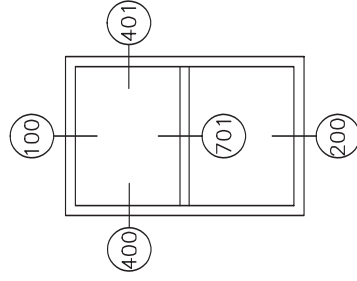
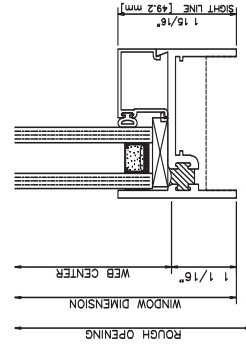
401 JAMB



701 MUNTIN



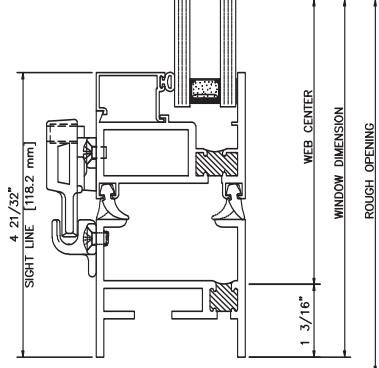
200 SILL



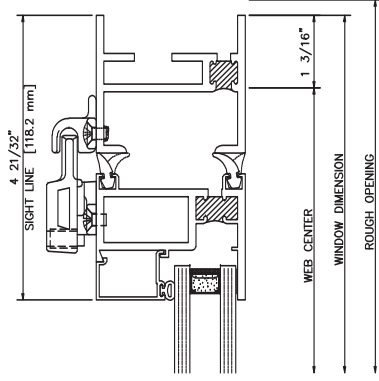
### 510 Inside Glazed

Vertical Pivot

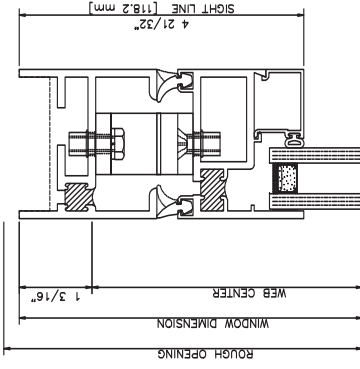
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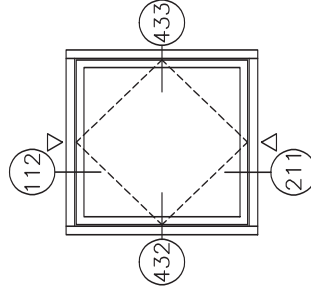
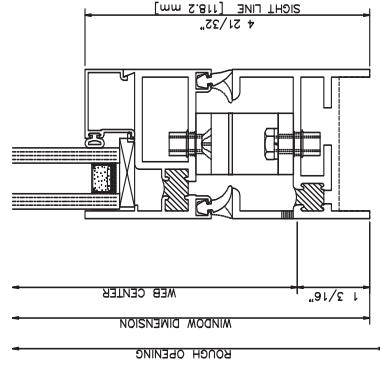
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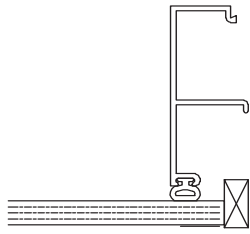
112 HEAD



211 SILL

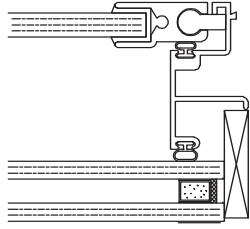


1/4" GLAZE



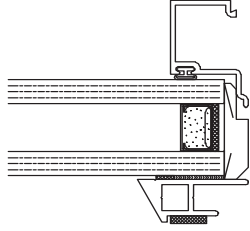
ER65 - 1/4" INTERIOR PANEL

5/8" INSULATED 3/16" - 3/16"



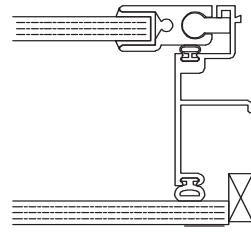
1" INSULATED 1/4" - 1/4"

WITH GRID



ER65 - 1/4" INTERIOR PANEL

1/4" GLAZE



ER65 - 1/4" INTERIOR PANEL

1/4" GLAZE

