



Shadowline™ **2 7/16" Heavy Commercial Projected Window**

Configurations Casement Out • Project Out • Fixed

This window retains an AAMA Heavy Commercial rating to meet the most demanding specifications. The Shadowline family window system is an attractive, narrow sightline product for a wide range of applications. Vents and fixed lites are indistinguishable. The thermal barrier provides enhanced thermal performance, while multiple glazing options provide flexibility to meet specific design requirements. Offered with a complete line of sub frames, mullions and architectural sills, the Shadowline window provides the complete solution for your fenestration needs.

Features

Benefits

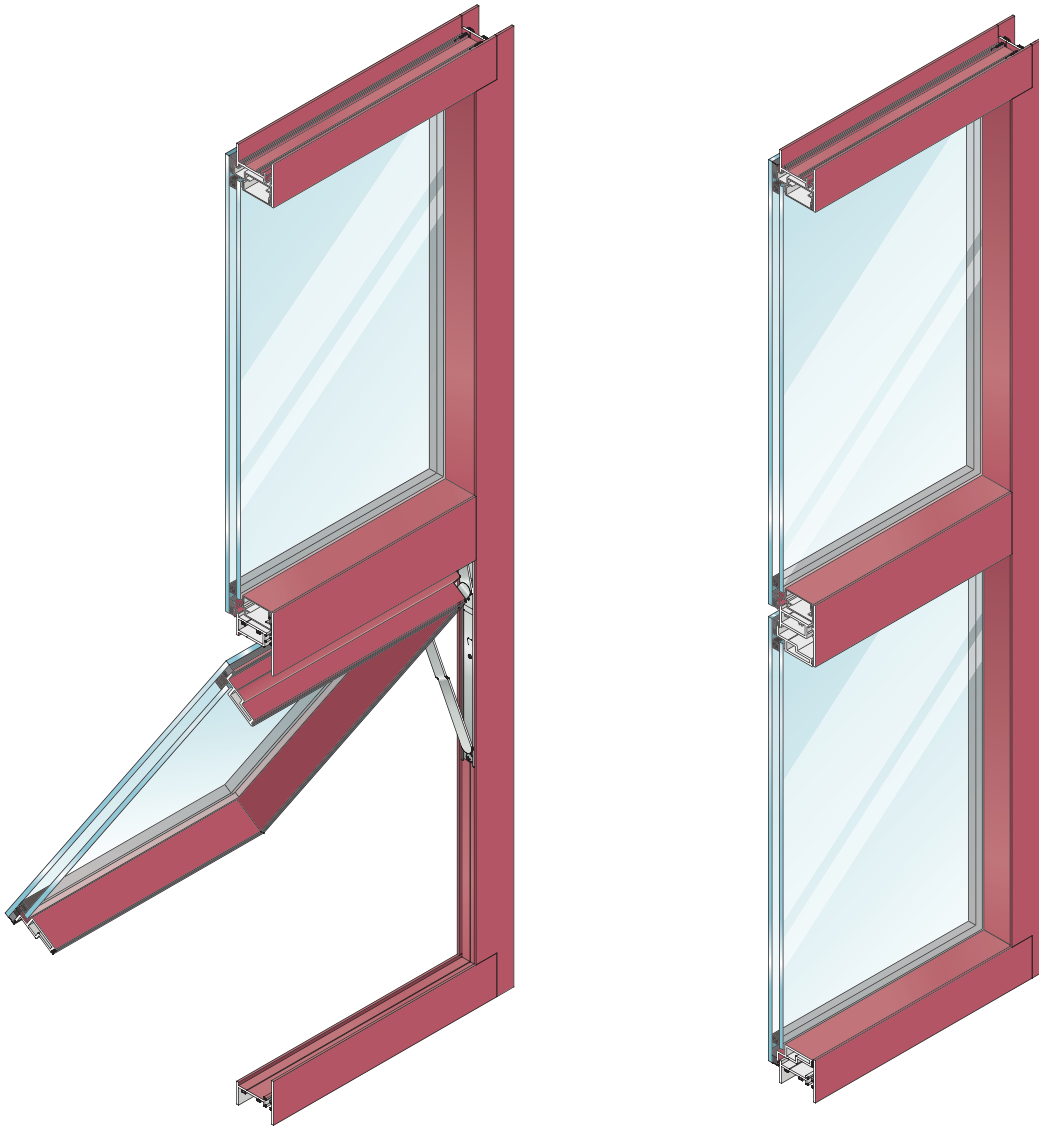
Vents and fixed lites are indistinguishable	Narrow sightline gives a butt-glazed appearance
Thermal barrier in frame consisting of two part, high density polyurethane	Improves U-Value performance and enhances energy saving potential
Monolithic glazing is available in 1/8", 3/16", or 1/4" glass	Flexibility in design requirements for glazing
Insulated units available in 1/8", 3/8", and 1/2" depths	Flexibility in design requirements and energy saving options
Reglazing of units is accomplished from the interior of the building	Eliminates the need for staging or scaffolds
Exterior lite of the insulated unit is larger than the interior lite	Covers the frame and vents members - gives the ribbon window appearance (reflective glass recommended on exterior lite)
Angle reinforced vent corners	Improves sash/vent rigidity
Pressure equalization	Superior water resistance
Vertical or horizontal stacking members	Increases configuration options
Screen frames are extruded aluminum alloy	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



Shadowline™ 2 7/16" Heavy Commercial Projected Window



Performance Data

Project-Out Heavy Commercial	
Air Infiltration	<.10 cfm/sf @ 6.24 psf
Water	No Leakage @ 12.0 psf
Structural	±150.0 psf
CRF (1503.1)	.46 ^J
U-Value (1503.1)	.70 ^J

Casement Heavy Commercial	
AAMA Rating (A440-05)	C-AW95
Air Infiltration	<.10 cfm/sf @ 6.24 psf
Water	No Leakage @ 15.0 psf
Structural	±142.5 psf
CRF (1503.1)	.46 ^J
U-Value (1503.1)	.70 ^J

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)
 J = 15/16" Insulated - 1/4" clear, 7/16" air, 1/4" clear

Shadowline™ 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-Out		S				S	0	0	0	
Casement Outswing With 4-Bar Arms		S			0	S	0		0	0

Some size restrictions may apply depending on hardware selected.
 *-Casements requiring roto 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.

O -Optional
 S -Standard
 blank - N/A

Shadowline™ 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"	13/16"	7/8"	15/16"	1"	1-1/8"	1-1/4"	
Monolithic & Insulated Glass				A		A		A											

*-Obscure Glass Thickness
 **-Laminated Glass Thickness
 A-Available Glazing Option blank - N/A

Shadowline™ 2 7/16" Heavy Commercial Projected Window



Frame Construction

The frame is constructed from .125" nominal material wall thickness aluminum of 6063-T6 alloy with a depth of 2 7/16". Corners are of screw spline construction and sealed. 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 sealed. See Illustration 2.

Weather Stripping

All vents are dual weather-stripped with a dual-durometer gasket. The exterior gasket is intentionally omitted at the vent bottom rail, allowing 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. 18 x 16 fiberglass, .011" diameter aluminum, and .009" diameter stainless steel mesh screens are available with extruded 6063-T6 aluminum alloy frames.

Thermal Barrier

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

Hardware

Locking cam handles, lift locks, and keepers are of standard cast white bronze with a US25D finish. 4-bar arms are fabricated from stainless steel meeting AAMA 904.1 requirements. See the Hardware Chart for available hardware types.

Glazing

Windows are four-sided structurally glazed with silicone. Exterior lite of the insulated unit is larger than the interior lite to cover the frame and vent. When viewed from the exterior, the vent is indistinguishable from the fixed lites. Monolithic glazing is also available with 1/8", 3/16", or 1/4" glass. All vents and fixed units are factory glazed. Reglazing of units is accomplished from the interior of the building eliminating the need for staging or scaffolds.

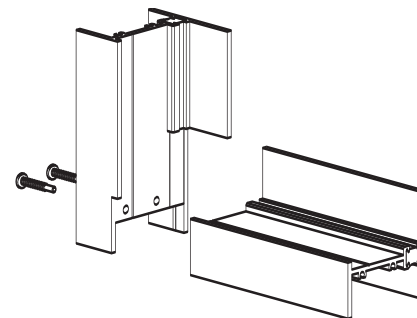


Illustration 1

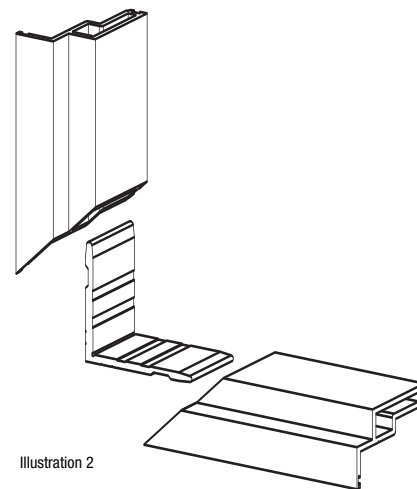


Illustration 2

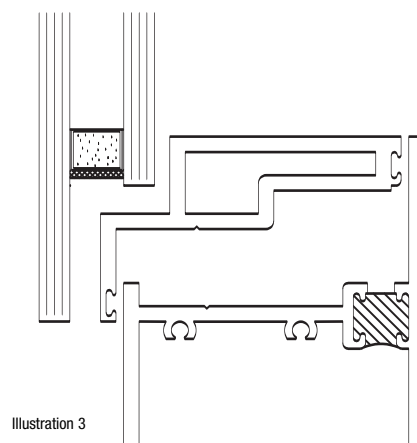
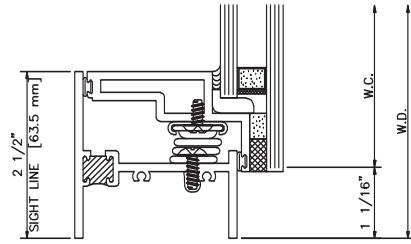
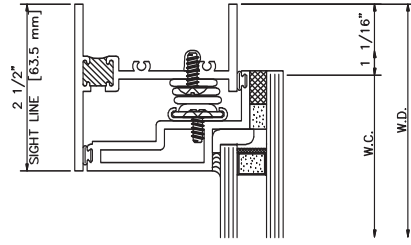


Illustration 3

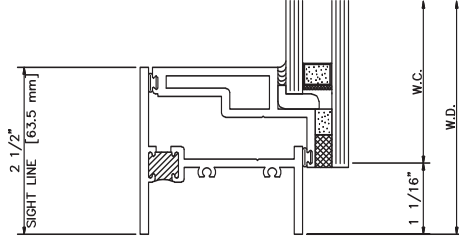
402 LEFT JAMB



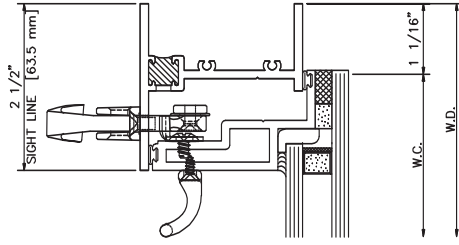
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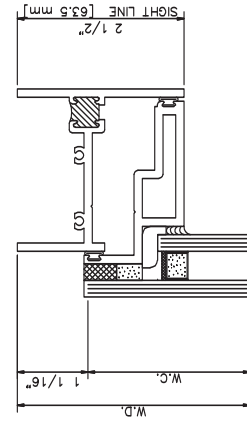
404 LEFT JAMB



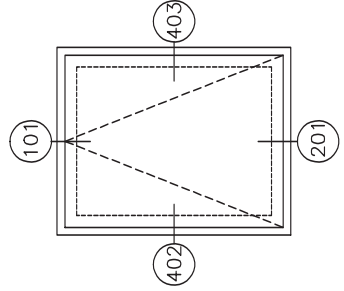
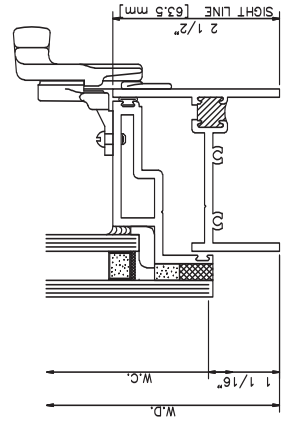
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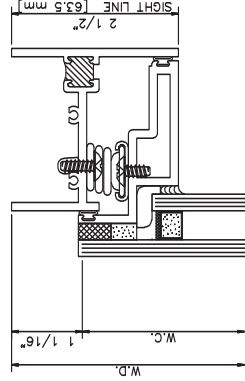
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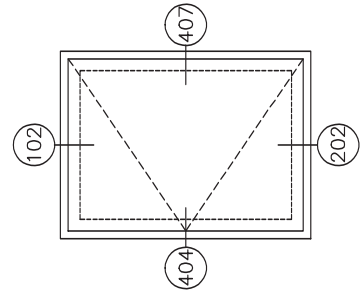
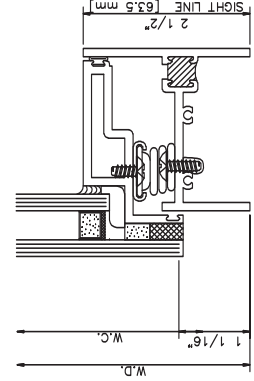
201 SILL



102 HEAD



202 SILL



Shadowline Project Out

Inside Glazed

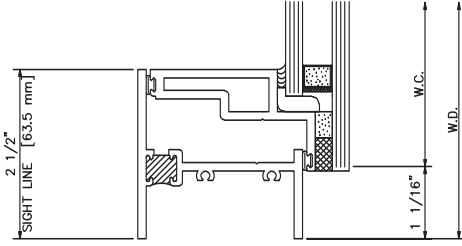
Shadowline Casement Out

Inside Glazed

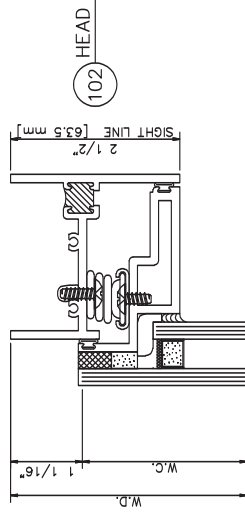
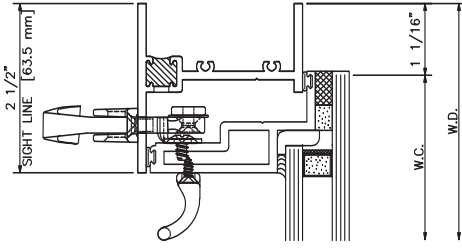
Shadowline Fixed

Inside Glazed

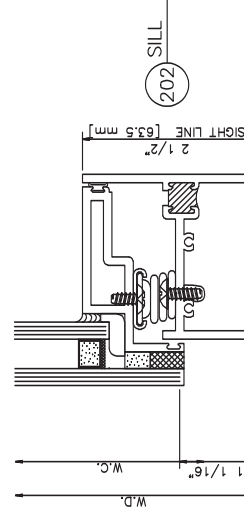
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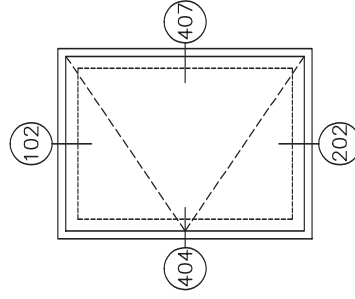
407 RIGHT JAMB



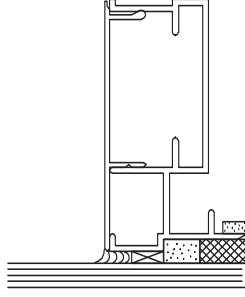
102 HEAD



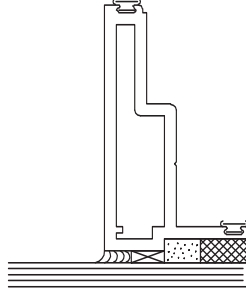
202 SILL



FRAME
1/4"
MONOLITHIC



VENT
1/4"
MONOLITHIC



Shadowline Glazing