



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

EFCO CORPORATION
1000 COUNTY RD
MONETT, MO 65708
800.221.4169



Series 590 Thermal 2 7/16" Heavy Commercial Projected Replication Window

Configurations Casement Out • Projected Out • Fixed

Series 590 retains an AAMA Heavy Commercial rating to meet the most demanding specifications. Designed to replicate the "putty-glazed" appearance of steel windows, the 590 window system is an attractive product for a wide range of applications. Thermal barriers in the frame improve thermal performance enhancing energy saving potential. Offered with a complete line of sub frames, mullions and architectural sills the 590 window provides the complete solution for your fenestration needs.

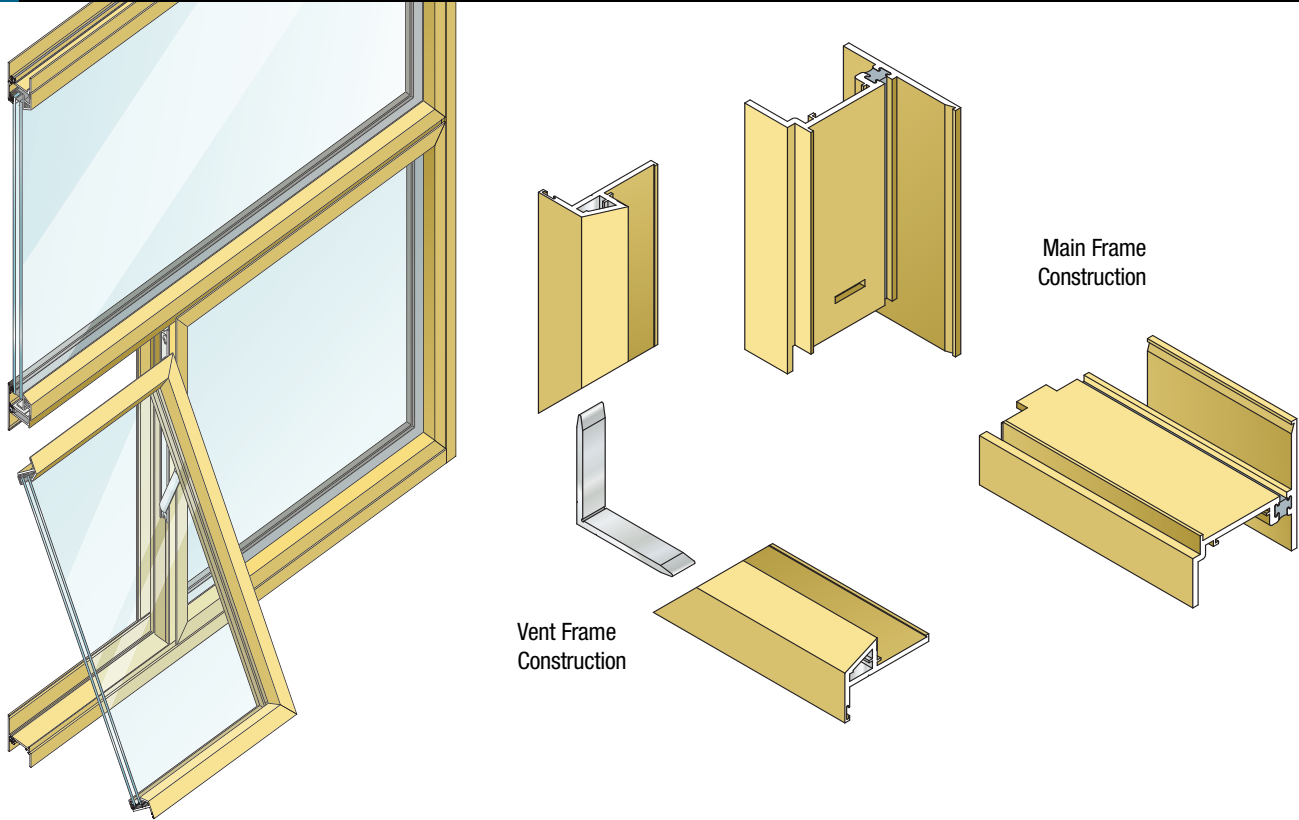
Features

Benefits

Thermal barrier in vent/sash and frame	Improves thermal performance Enhances energy saving potential
Angle reinforced vent corners	Improves sash/vent rigidity
Vertical or horizontal stacking members	Increases configuration options
Pressure equalization	Superior water resistance
Wide variety of locking and operating hardware available	Permits hardware options to address specific requirements
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



Series 590 Thermal 2 7/16" Heavy Commercial Projected Replication Windows



Performance Data

Projected Heavy Commercial

Air Infiltration	<.10 cfm/sf @ 6.24 psf
Water	No Leakage @ 12.0 psf
Structural	±135 psf
CRF-Frame (1503.1)	46°
CRF-Glass (1503.1)	42°
U-Value (1503.1)	.59°

Casement Heavy Commercial

Air Infiltration	<.10 cfm/sf @ 6.24 psf
Water	No Leakage @ 12.0 psf
Structural	±120.0 psf
CRF-Frame (1503.1)	51°
CRF-Glass (1503.1)	55°
U-Value (1503.1)	.57°

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)

Top-Hinged Outswing Heavy Commercial

Air Infiltration	<.10 cfm/sf @ 6.24A psf
Water	No Leakage @ 6.0A psf
Structural	±60.0A psf
CRF-Frame (1503.1)	46° ^D
CRF-Glass (1503.1)	42° ^A
U-Value (1503.1)	.59° ^D

S-590 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				S	0		0	0
Casement Outswing With Butt Hinges	S		S	0	0	S	0		0	0

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-590 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					

*-Obscure Glass Thickness

** -Laminated Glass Thickness

A-Available Glazing Option
blank - N/A

Series 590 Thermal 2 7/16" Heavy Commercial Projected Replication Windows



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. Unequal leg frame is optional. Corners are mortised and tenoned and back sealed with 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, welded and back sealed with small-joint seam sealer. Vent frame appearance replicates putty-glazed steel sash. See Illustration 2.

Weather-Stripping

Each vent shall have one row of Santoprene® weather stripping installed in specifically designed dovetail grooves in the extrusion and one interior row of neoprene drive-in glazing gasket that also forms the interior seal. The exterior gasket is intentionally omitted at the vent bottom rail for project-out vents 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

Screen frames are extruded 6063-T6 aluminum alloy. Full width hinged wickets or fully hinged screens are available. 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 glazing bead and Santoprene drive-in wedge against the interior face of the glass. 1" insulated glass is accommodated.

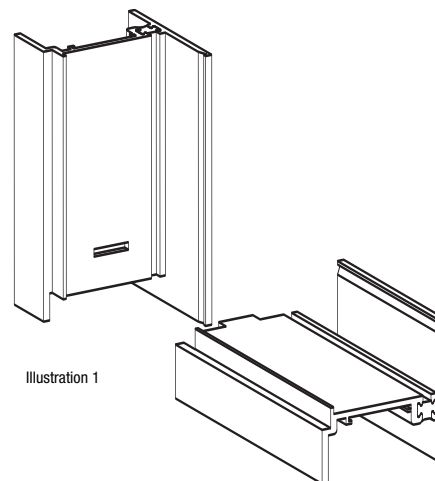


Illustration 1

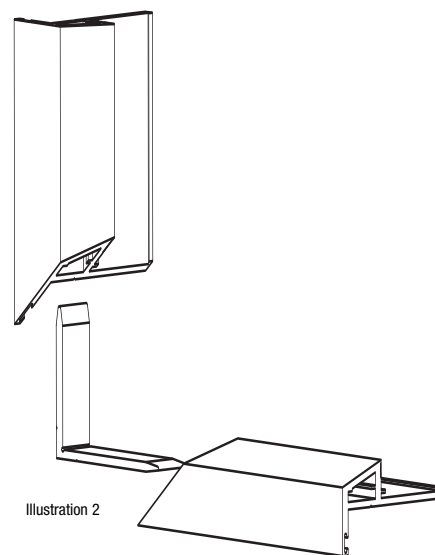


Illustration 2

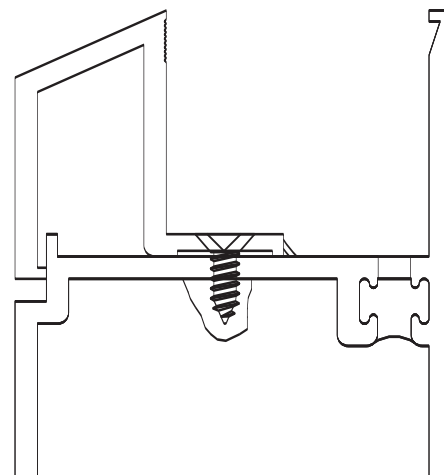
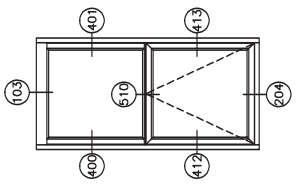
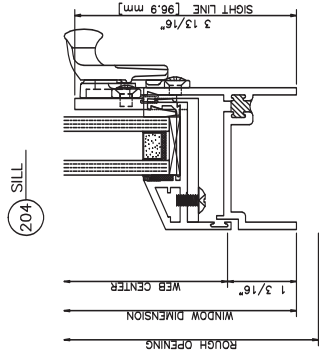
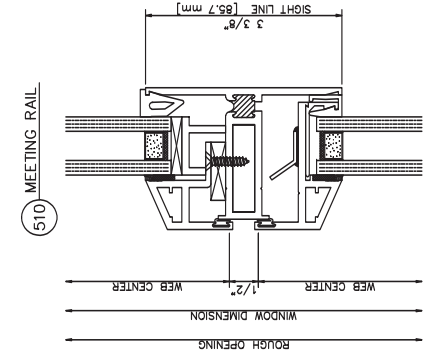
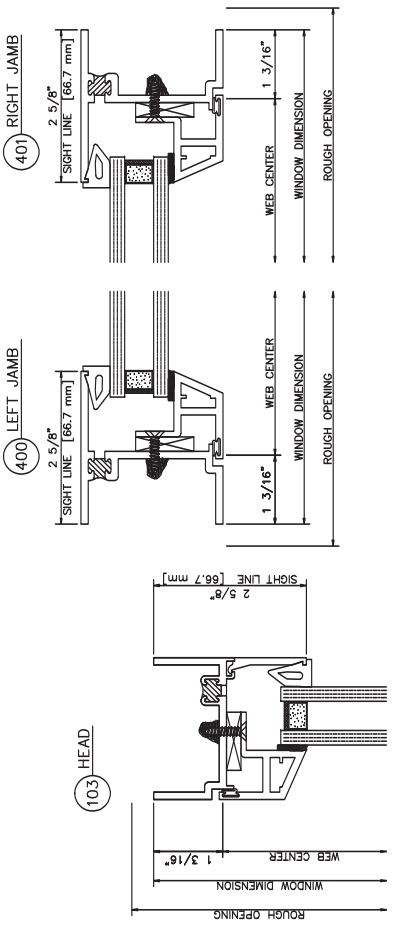
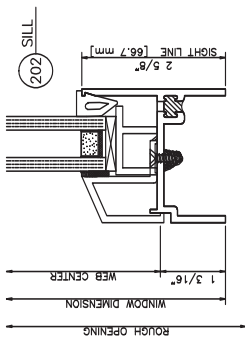
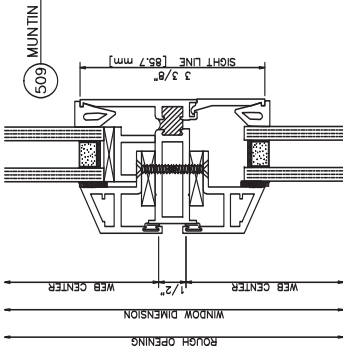
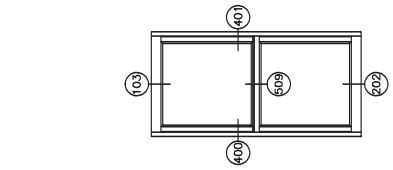
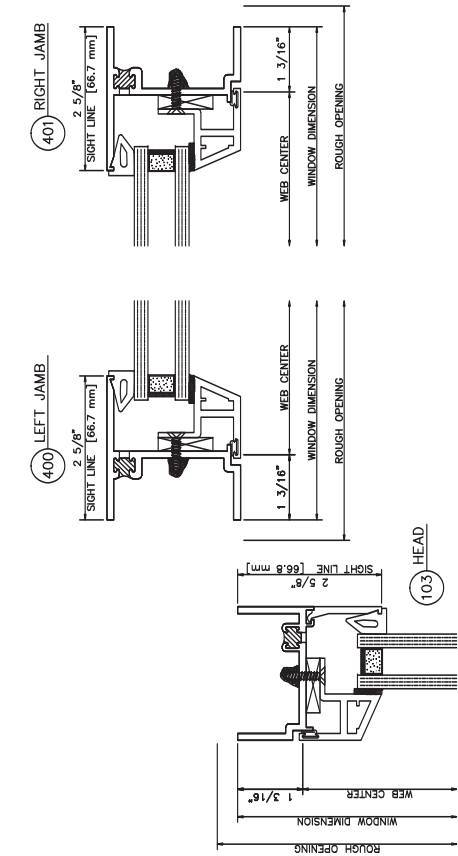


Illustration 3



590 Inside Glazed

Fixed

590 Inside Glazed

Fixed Over Projected

590 Inside Glazed
Fixed Over Casement • Butt Hinges • Lift Locks • Pull Handles

