

Series 510-I Thermal 2-7/16" Heavy Commercial Projected Window



CONFIGURATIONS

Project-In • Project-Out • Casement • Fixed

Series 510-I retains an AAMA Architectural Grade rating to meet the most demanding specifications. Designed for educational, office or healthcare facilities, the 510-I window system is an attractive product for a wide range of applications. Multiple glazing options give you flexibility to meet specific design requirements. The thermal barrier is achieved with E-Strut™ thermal isolators providing enhanced thermal performance and allows dual finish capability. Offered with a complete line of sub frames, mullions and architectural sills the 510-I window provides the complete solution for your fenestration needs.

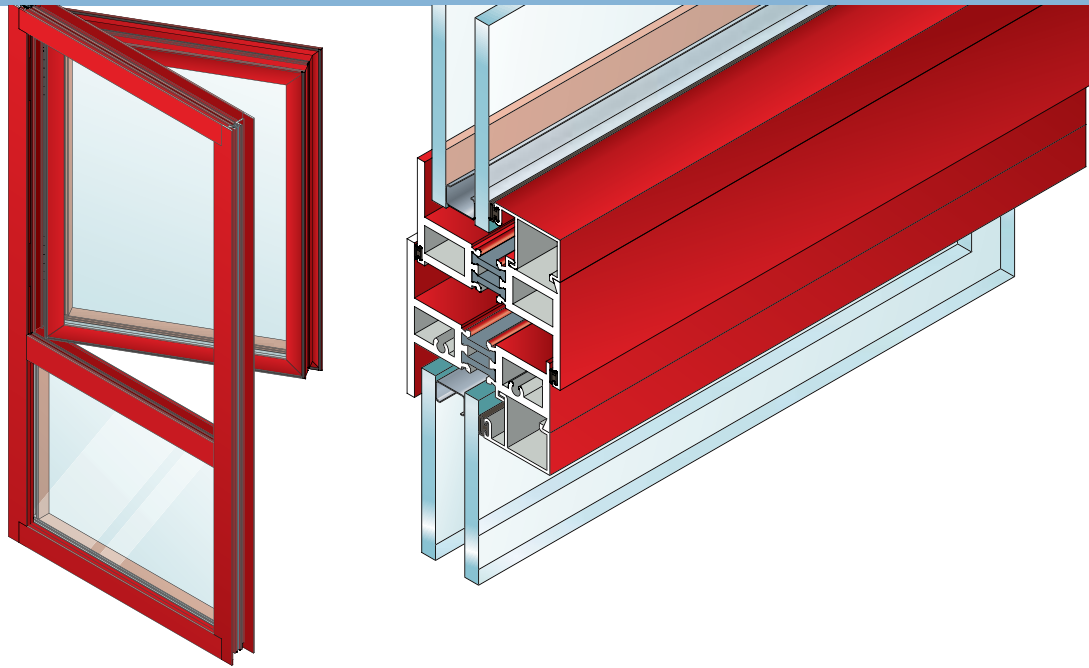
Features

Benefits

E-Strut™ thermal isolator	Improves U-Value performance Dual finish capability Completely eliminates dry shrinkage
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
Pressure equalization	Superior water resistance
Angle reinforced vent corners	Improves sash/vent rigidity
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 or painted finishes available	Multiple options to answer economic and aesthetic concerns



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PERFORMANCE DATA

PROJECTED ARCHITECTURAL GRADE

AAMA RATING (A440-05)	AP-AW100
AIR INFILTRATION	<.10 CFM/SF @ 6.24 PSF
WATER	NO LEAKAGE @ 12.0 PSF
STRUCTURAL	±150.0 PSF
CRF-FRAME (1503-98)	59°
CRF-GLASS (1503-98)	53°

CASEMENT ARCHITECTURAL GRADE

AAMA RATING (101-97)	C-AW90
AIR INFILTRATION	<.10 CFM/SF @ 6.24 PSF
WATER	NO LEAKAGE @ 12.0 PSF
STRUCTURAL	±135.0 PSF
CRF-FRAME (1503-98)	58°
CRF-GLASS (1503-98)	56°

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)

510I THERMAL U-FACTORS*				
CENTER OF GLASS U-FACTOR	CONFIGURATION AND SIZE			
	PO** 59" X 24"	PO** 60" X 66"	PO CSMT** 24" X 59"	PO CSMT** 54" X 84"
0.48	0.64	0.52	0.64	0.57
0.34	0.56	0.46	0.56	0.56
0.28	0.52	0.42	0.52	0.42
0.24	0.50	0.38	0.50	0.39
0.20	0.47	0.36	0.48	0.36

* Based on NFRC 100
**NFRC Gateway size

S-510-I 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	O		O	
PROJECT-OUT		S				S	O	O	O	
CASEMENT INSWING WITH 4-BAR ARMS		S				S	O		O	
CASEMENT OUTSWING WITH 4-BAR ARMS		S				S	O		O	O
CASEMENT INSWIN WITH BUTT HINGES	S		O	O		S	O		O	
CASEMENT OUTSWING WITH BUTT HINGES	S		S	O	O	S	O		O	O

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

S-510-I 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	EXTERIOR LITE	A	A		A	A	A	A	A	A	A	A	A	A	A				A	A	A
	INTERIOR LITE																				
DUAL GLAZING	EXTERIOR LITE	I	I		I	I	I	I	I	I	I	I	I	I	I						
	INTERIOR LITE	A	A		A	A	A	A	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



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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 screw spline 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. 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 isolated with two thermal struts consisting of glass reinforced polyamide nylon, mechanically crimped in raceways extruded in the exterior and interior extrusions. 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" and 1/4" glass. Between the glass aluminum blinds are available with dual glazed windows. See the Glazing Chart for the exact size.

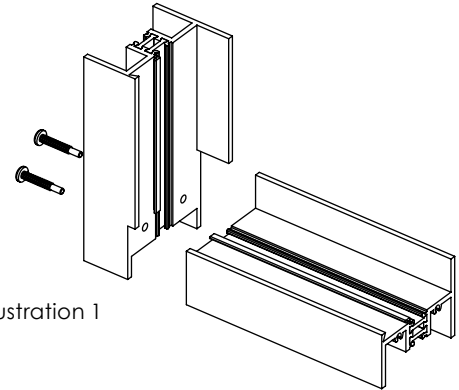


Illustration 1

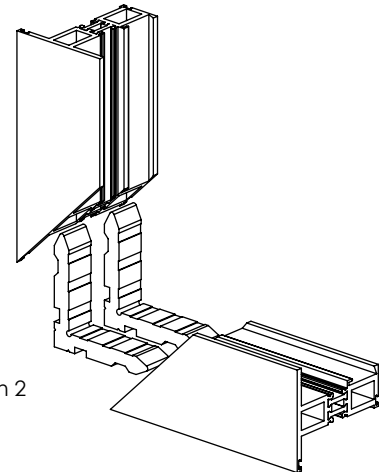


Illustration 2

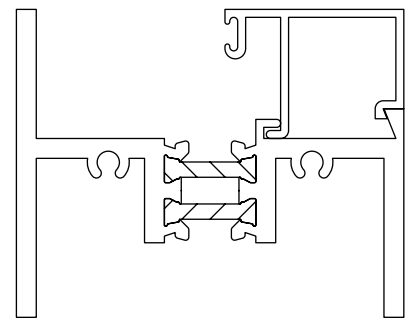
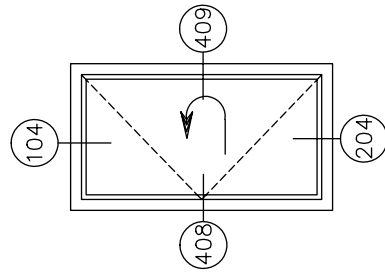
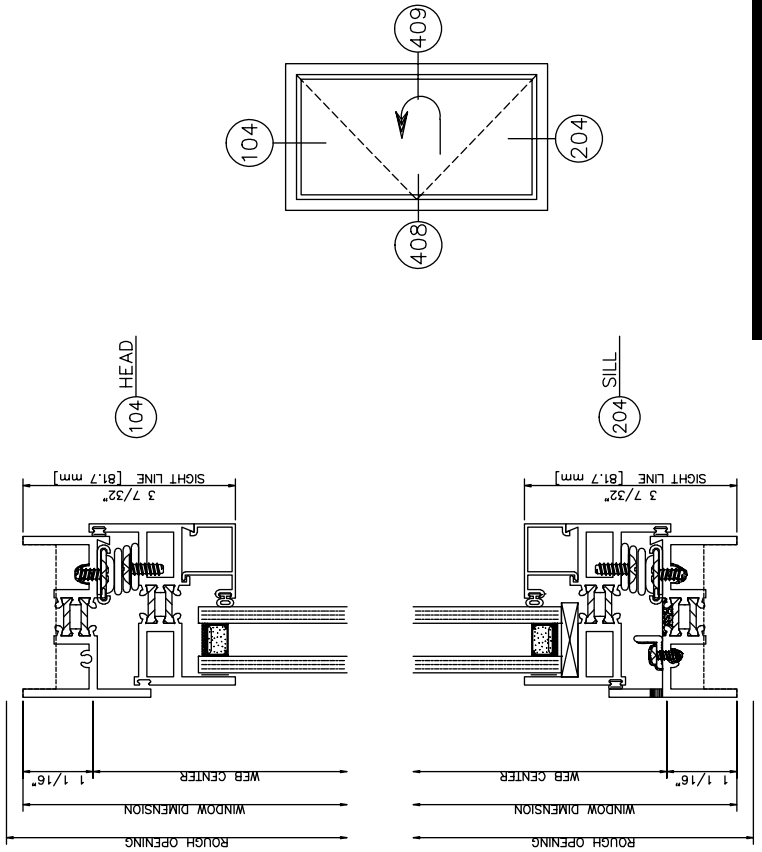
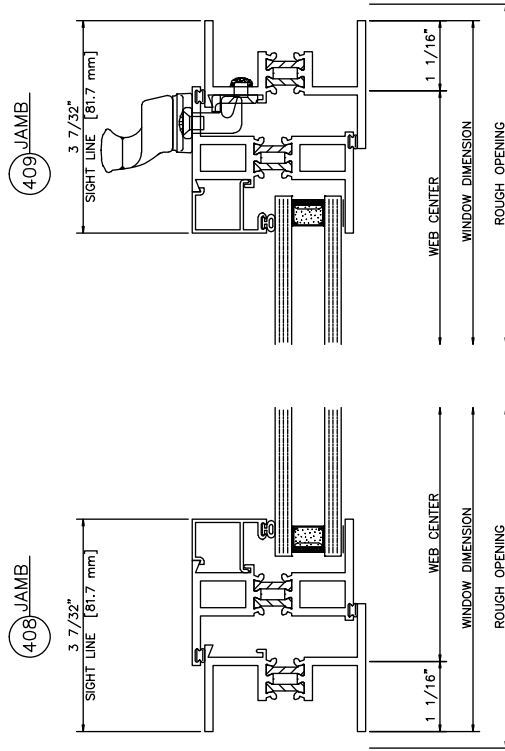
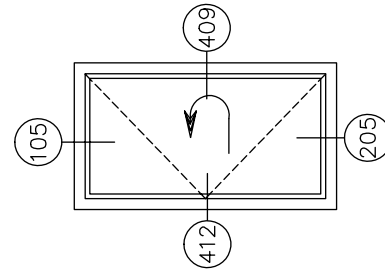
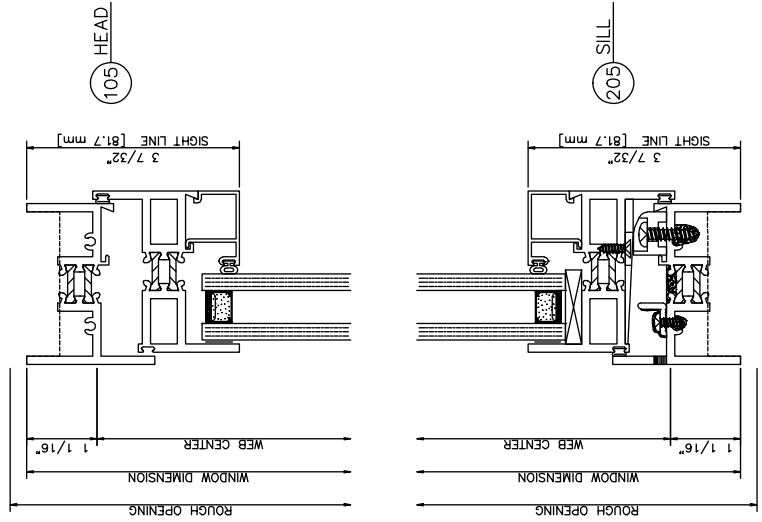
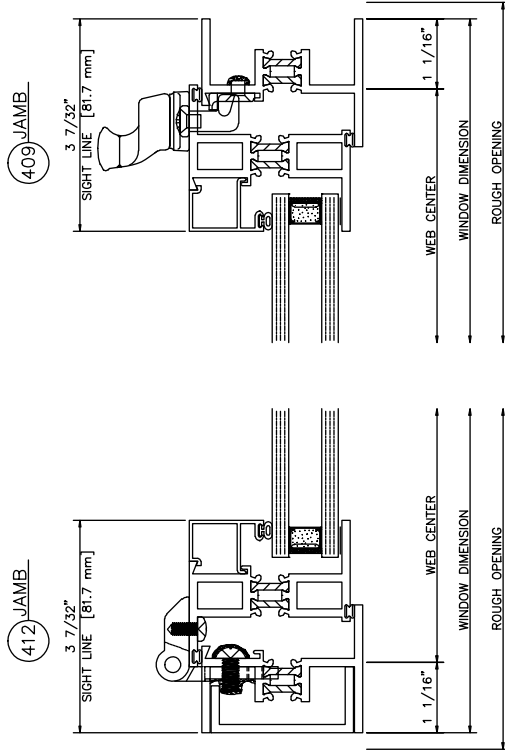


Illustration 3





510-I Inside Glazed

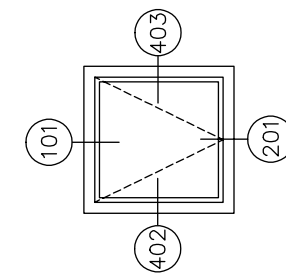
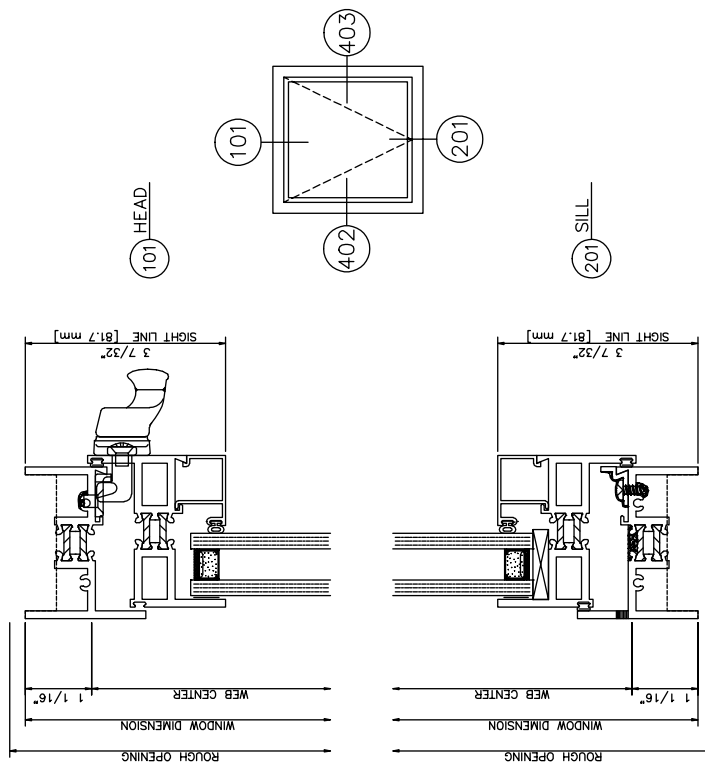
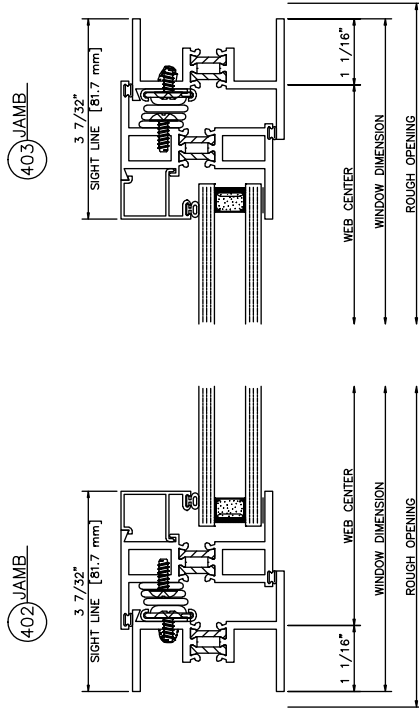
Caseament In • Left Swing • 4 Bar Arms • Cam Lock

510-I Inside Glazed

Caseament In • Left Swing • Butt Hinge • Cam Lock

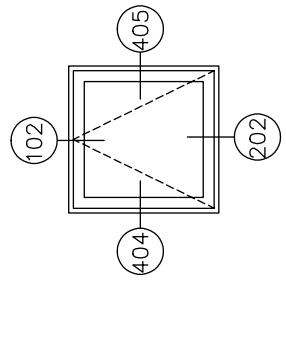
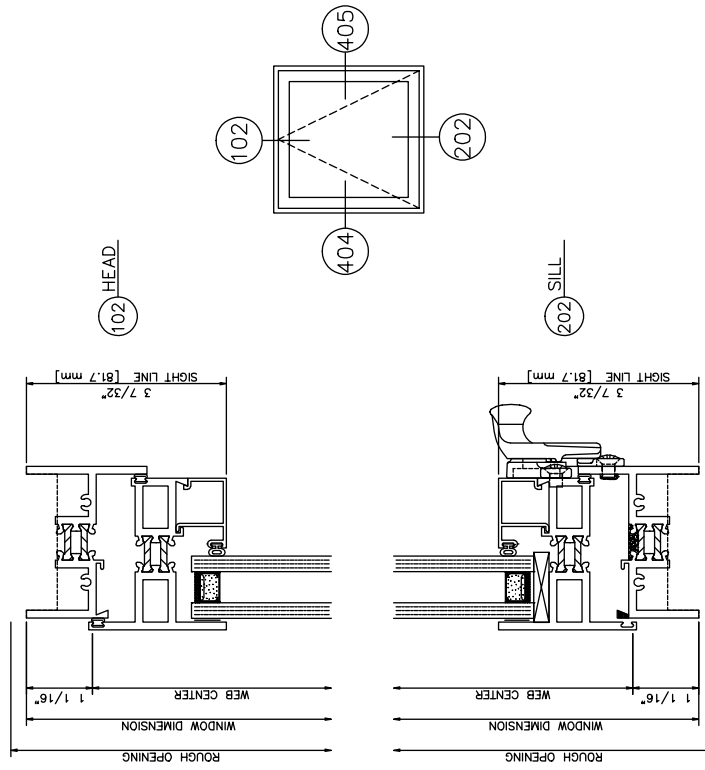
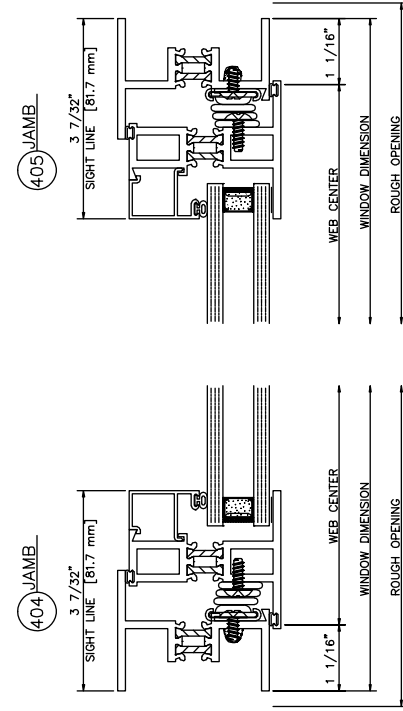
510-I Inside Glazed

Project In



510-I Inside Glazed

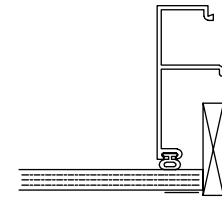
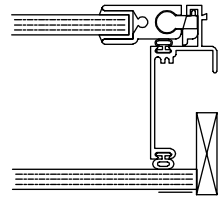
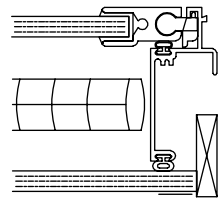
Project Out



ER65 - 1/4" INTERIOR PANEL
1/4" GLAZE
5/8" BLINDS

ER65 - 1/4" INTERIOR PANEL
1/4" GLAZE

1/4" GLAZE



1" INSULATED
1/4"-1/4"
WITH GRID

ER65 - 1/4" INTERIOR PANEL
5/8" INSULATED
3/16"-3/16"

