

1450 Series 4" Thermal Fixed, Casement & Projected Windows







Product Information



WINCO RESERVES THE RIGHT TO MODIFY OR CHANGE INFORMATION WITHIN THIS BOOK WHEN DEEMED NECESSARY FOR PRODUCT IMPROVEMENT

PERFORMANCE

The Series 1450 window is a thermally broken mainframe and sash that exceeds the performance specification criteria as required by ANSI/AAMA for AW (Architectural Grade) windows.

<p>Fixed (Picture Window)</p>  <p>NAFS / AAMA 101 Test Size 60" x 99" Class: AW Performance Grade: 100 Air Infiltration: <0.0 CFM Water Infiltration Resistance: > 12 psf</p> <p>Can be Configured for ADA Compliance <input checked="" type="checkbox"/> Not-Applicable <input type="checkbox"/> Yes</p> <p>Can be configured to meet Windborne Debris Impact Resistance to ASTM E1886 / ASTM E1996 <input type="checkbox"/> Not Rated <input checked="" type="checkbox"/> Missile "D" <input type="checkbox"/> Missile "E"</p> <p>Product Type may be configured for Blast Resistant Installation <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes⁶</p>	 <p>$U_{COG}=0.20$ Btu/hr-ft²-°F Tripple Silver Low-E #2 x 90% Argon x Low-E No.4 example: SNX 62/27 or Solarban70 + IS20 or Sungate Therml</p>
	<p>NFRC Size ¹ 47" x 59" $U_{Window}=0.34$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>
	<p>NAFS Size ³ 60" x 99" $U_{Window}=0.29$ Btu/h-ft²-°f⁴ CRF= 65 (AAMA 1503)⁵</p>
	 <p>$U_{COG}=0.24$ Btu/hr-ft²-°F Tripple Silver Low-E #2 x 90% Argon x Uncoated example: SNX 62/27 or Solarban70</p>
	<p>NFRC Size ¹ 47" x 59" $U_{Window}=0.38$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>
	<p>NAFS Size ³ 60" x 99" $U_{Window}=0.34$ Btu/h-ft²-°f⁴ CRF= 65 (AAMA 1503)⁵</p>
	 <p>$U_{COG}=0.29$ Btu/hr-ft²-°F Double Silver Low-E #2 x 100% Air x Uncoated example: SN-68 or Solarban60</p>
	<p>NFRC Size ¹ 47" x 59" $U_{Window}=0.42$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>
	<p>NAFS Size ³ 60" x 99" $U_{Window}=0.38$ Btu/h-ft²-°f⁴ CRF= 65 (AAMA 1503)⁵</p>
	 <p>$U_{COG}=0.34$ Btu/hr-ft²-°F Single Silver Low-E #2 x 100% Air x Uncoated example: ES73 or Energy Advantage (Air, Aluminum Box-Spacer)</p>
	<p>NFRC Size ¹ 47" x 59" $U_{Window}=0.45$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>
	<p>NAFS Size ³ 60" x 99" $U_{Window}=0.41$ Btu/h-ft²-°f⁴ CRF= __ (AAMA 1503)⁵</p>
 <p>$U_{COG}=0.47$ Btu/hr-ft²-°F Uncoated x 100% Air x Uncoated example: Clear over Clear (Air, Aluminum Box-Spacer)</p>	
<p>NFRC Size ¹ 47" x 59" $U_{Window}=0.56$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>	
<p>NAFS Size ³ 60" x 99" $U_{Window}=0.52$ Btu/h-ft²-°f⁴ CRF= __ (AAMA 1503)⁵</p>	

This information is based on current product design, sealed dual glazing, warm edge spacers and testing standards. Solar Heat Gain Coefficient (SHGC) is not predicted since this is highly variable with Glass Tint & Low-E Coating Product. Please contact WINCO for project specific information.

¹ NFRC 101 Test & Rating Size

² Based on NFRC 100/200/500 Rating and LBNL Window 7.8 Simulations following NFRC Protocols

³ AAMA 101 (NAFS) Gateway Test Size

⁴ Based on LBNL Window Simulations following NFRC Protocols

⁵ AAMA 101 Test Size and AAMA 1503 Test Protocol

⁶ Blast Resistant Configuration is highly dependant on Product Size, Blast Design Load(s) and Project Specific Glass, Frame & Connection Response (Required Level of Protection, Allowable Hazard Level)

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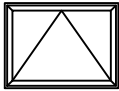





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PERFORMANCE

The Series 1450 window is a thermally broken mainframe and sash that exceeds the performance specification criteria as required by ANSI/AAMA for AW (Architectural Grade) windows.

<p>Project Out Awning (PO)</p>  <p>NAFS / AAMA 101 Test Size 60" x 36" Class: AW Performance Grade: 100 Air Infiltration: <0.02 CFM Water Infiltration Resistance: > 12 psf</p> <p>Can be Configured for ADA Compliance <input type="checkbox"/> Not-Applicable <input checked="" type="checkbox"/> Yes</p> <p>Can be configured to meet Windborne Debris Impact Resistance to ASTM E1886 / ASTM E1996 <input type="checkbox"/> Not Rated <input checked="" type="checkbox"/> Missile "D" <input checked="" type="checkbox"/> Missile "E"</p> <p>Product Type may be configured for Blast Resistant Installation <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes⁶</p>	 <p>$U_{COG}=0.20$ Btu/hr-ft²-°F Tripple Silver Low-E #2 x 90% Argon x Low-E No.4 example: SNX 62/27 or Solarban70 + IS20 or Sungate Therml</p>	
	<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.45$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>	
	<p>NAFS Size³ 60" x 36" $U_{Window} = 0.39$ Btu/h-ft²-°f⁴ CRF= 59 (AAMA 1503)⁵</p>	
	 <p>$U_{COG}=0.24$ Btu/hr-ft²-°F Tripple Silver Low-E #2 x 90% Argon x Uncoated example: SNX 62/27 or Solarban70</p>	
	<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.48$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>	
	<p>NAFS Size³ 60" x 36" $U_{Window} = 0.42$ Btu/h-ft²-°f⁴ CRF= 59 (AAMA 1503)⁵</p>	
	 <p>$U_{COG}=0.29$ Btu/hr-ft²-°F Double Silver Low-E #2 x 100% Air x Uncoated example: SN-68 or Solarban60</p>	
	<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.51$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>	
	<p>NAFS Size³ 60" x 36" $U_{Window} = 0.46$ Btu/h-ft²-°f⁴ CRF= 59 (AAMA 1503)⁵</p>	
	 <p>$U_{COG}=0.34$ Btu/hr-ft²-°F Single Silver Low-E #2 x 100% Air x Uncoated example: ES73 or Energy Advantage (Air, Aluminum Box-Spacer)</p>	
	<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.53$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>	
	<p>NAFS Size³ 60" x 36" $U_{Window} = 0.48$ Btu/h-ft²-°f⁴ CRF= __ (AAMA 1503)⁵</p>	
 <p>$U_{COG}=0.47$ Btu/hr-ft²-°F Uncoated x 100% Air x Uncoated example: Clear over Clear (Air, Aluminum Box-Spacer)</p>		
<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.61$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>		
<p>NAFS Size³ 60" x 36" $U_{Window} = 0.58$ Btu/h-ft²-°f⁴ CRF= __ (AAMA 1503)⁵</p>		

This Information is based on current product design, sealed dual glazing, warm edge spacers and testing standards. Solar Heat Gain Coefficient (SHGC) is not predicted since this is highly variable with Glass Tint & Low-E Coating Product. Please contact WINCO for project specific information.

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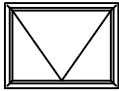





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PERFORMANCE

The Series 1450 window is a thermally broken mainframe and sash that exceeds the performance specification criteria as required by ANSI/AAMA for AW (Architectural Grade) windows.

<p>Project In Hopper (PI)</p>  <p>NAFS / AAMA 101 Test Size 60" x 36" Class: AW Performance Grade: 100 Air Infiltration: <0.01 CFM Water Infiltration Resistance: > 12 psf</p> <p>Can be Configured for ADA Compliance <input type="checkbox"/> Not-Applicable <input checked="" type="checkbox"/> Yes</p> <p>Can be configured to meet Windborne Debris Impact Resistance to ASTM E1886 / ASTM E1996 <input checked="" type="checkbox"/> Not Rated <input type="checkbox"/> Missile "D" <input type="checkbox"/> Missile "E"</p> <p>Product Type may be configured for Blast Resistant Installation <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes⁶</p>	 <p>$U_{COG}=0.20$ Btu/hr-ft²-°F Tripple Silver Low-E #2 x 90% Argon x Low-E No.4 example: SNX 62/27 or Solarban70 + IS20 or Sungate Therml</p>	
	<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.45$ Btu/h-ft²-°f²</p>	Same performance as simulated PO Awning, NFRC does not differentiate between swing direction
	<p>NAFS Size³ 60" x 99" $U_{Window} = 0.39$ Btu/h-ft²-°f⁴</p>	CRF= 59 (AAMA 1503) ⁵
	 <p>$U_{COG}=0.24$ Btu/hr-ft²-°F Tripple Silver Low-E #2 x 90% Argon x Uncoated example: SNX 62/27 or Solarban70</p>	
	<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.47$ Btu/h-ft²-°f²</p>	Same performance as simulated PO Awning, NFRC does not differentiate between swing direction
	<p>NAFS Size³ 60" x 99" $U_{Window} = 0.42$ Btu/h-ft²-°f⁴</p>	CRF= 59 (AAMA 1503) ⁵
	 <p>$U_{COG}=0.29$ Btu/hr-ft²-°F Double Silver Low-E #2 x 100% Air x Uncoated example: SN-68 or Solarban60</p>	
	<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.50$ Btu/h-ft²-°f²</p>	Same performance as simulated PO Awning, NFRC does not differentiate between swing direction
	<p>NAFS Size³ 60" x 99" $U_{Window} = 0.45$ Btu/h-ft²-°f⁴</p>	CRF= 59 (AAMA 1503) ⁵
	 <p>$U_{COG}=0.34$ Btu/hr-ft²-°F Single Silver Low-E #2 x 100% Air x Uncoated example: ES73 or Energy Advantage (Air, Aluminum Box-Spacer)</p>	
	<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.53$ Btu/h-ft²-°f²</p>	Same performance as simulated PO Awning, NFRC does not differentiate between swing direction
	<p>NAFS Size³ 60" x 99" $U_{Window} = 0.49$ Btu/h-ft²-°f⁴</p>	CRF= 59 (AAMA 1503) ⁵
 <p>$U_{COG}=0.47$ Btu/hr-ft²-°F Uncoated x 100% Air x Uncoated example: Clear over Clear (Air, Aluminum Box-Spacer)</p>		
<p>NFRC Size¹ 59" x 24" $U_{Window} = 0.60$ Btu/h-ft²-°f²</p>	Same performance as simulated PO Awning, NFRC does not differentiate between swing direction	
<p>NAFS Size³ 60" x 99" $U_{Window} = 0.57$ Btu/h-ft²-°f⁴</p>	CRF= -- (AAMA 1503) ⁵	

This Information is based on current product design, sealed dual glazing, warm edge spacers and testing standards. Solar Heat Gain Coefficient (SHGC) is not predicted since this is highly variable with Glass Tint & Low-E Coating Product. Please contact WINCO for project specific information.

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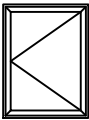





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PERFORMANCE

The Series 1450 window is a thermally broken mainframe and sash that exceeds the performance specification criteria as required by ANSI/AAMA for AW (Architectural Grade) windows.

 <p>Project Out Casement (POC)</p> <p>NAFS / AAMA 101 Test Size 36" x 60" Class: AW Performance Grade: 100 Air Infiltration: <0.07 CFM Water Infiltration Resistance: > 12 psf</p> <p>Can be Configured for ADA Compliance <input type="checkbox"/> Not-Applicable <input checked="" type="checkbox"/> Yes</p> <p>Can be configured to meet Windborne Debris Impact Resistance to ASTM E1886 / ASTM E1996 <input type="checkbox"/> Not Rated <input checked="" type="checkbox"/> Missile "D" <input checked="" type="checkbox"/> Missile "E"</p> <p>Product Type may be configured for Blast Resistant Installation <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes⁶</p>	 <p>$U_{COG}=0.20$ Btu/hr-ft²-°F Tripple Silver Low-E #2 x 90% Argon x Low-E No.4 example: SNX 62/27 or Solarban70 + IS20 or Sungate Therml</p>
	<p>NFRC Size ¹ 24" x 59" $U_{Window}=0.45$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>
	<p>NAFS Size ³ 36" x 60" $U_{Window}=0.39$ Btu/h-ft²-°f⁴ CRF= 59 (AAMA 1503)⁵</p>
	 <p>$U_{COG}=0.24$ Btu/hr-ft²-°F Tripple Silver Low-E #2 x 90% Argon x Uncoated example: SNX 62/27 or Solarban70</p>
	<p>NFRC Size ¹ 24" x 59" $U_{Window}=0.47$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>
	<p>NAFS Size ³ 36" x 60" $U_{Window}=0.42$ Btu/h-ft²-°f⁴ CRF= 59 (AAMA 1503)⁵</p>
	 <p>$U_{COG}=0.29$ Btu/hr-ft²-°F Double Silver Low-E #2 x 100% Air x Uncoated example: SN-68 or Solarban60</p>
	<p>NFRC Size ¹ 24" x 59" $U_{Window}=0.50$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>
	<p>NAFS Size ³ 36" x 60" $U_{Window}=0.45$ Btu/h-ft²-°f⁴ CRF= 59 (AAMA 1503)⁵</p>
	 <p>$U_{COG}=0.34$ Btu/hr-ft²-°F Single Silver Low-E #2 x 100% Air x Uncoated example: ES73 or Energy Advantage (Air, Aluminum Box-Spacer)</p>
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	<p>NAFS Size ³ 36" x 60" $U_{Window}=0.49$ Btu/h-ft²-°f⁴ CRF= -- (AAMA 1503)⁵</p>
 <p>$U_{COG}=0.47$ Btu/hr-ft²-°F Uncoated x 100% Air x Uncoated example: Clear over Clear (Air, Aluminum Box-Spacer)</p>	
<p>NFRC Size ¹ 24" x 59" $U_{Window}=0.60$ Btu/h-ft²-°f² CI= __ (NFRC 501)²</p>	
<p>NAFS Size ³ 36" x 60" $U_{Window}=0.49$ Btu/h-ft²-°f⁴ CRF= -- (AAMA 1503)⁵</p>	

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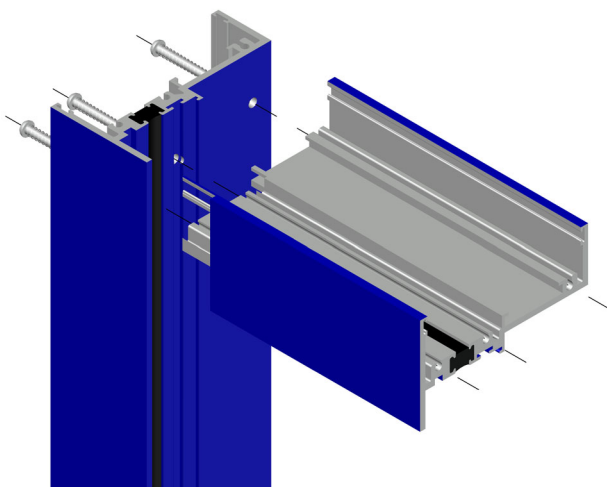
CONSTRUCTION

MATERIAL - The Series 1450 window is a 4" deep frame depth with a nominal wall thickness of .125 inch. All material is extruded from 6063-T6 alloy.

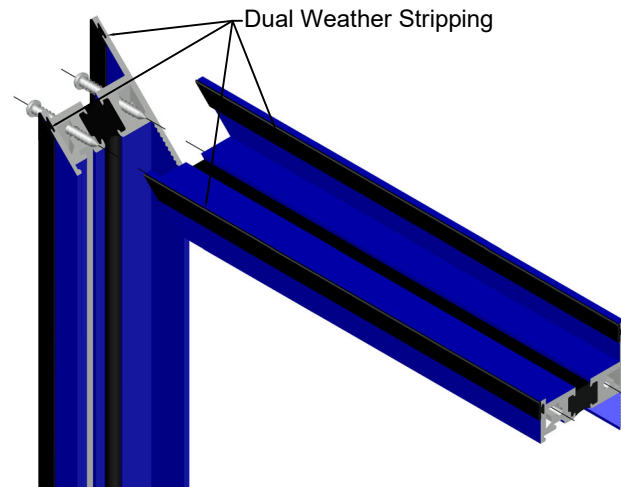
THERMAL BREAK - All framing members of the window system are thermally broken. Winco uses the Azon Azo Brader® process to mechanically condition the surface of the thermal cavity. The process runs the entire length of the extrusion and creates serrations that ensure proper adhesion of the structural polymer. The structural urethane is a high density 2 part formula providing optimum thermal performance for the most demanding conditions. The combination of the conditioning of the aluminum surface along with the two part urethane allows Winco to provide a full 10 year warranty against thermal break creep and shrinkage in accordance with AAMA 505-17.

WEATHER-STRIP - All operating ventilators have a double Santoprene®, non-shrinking dual durometer, thermoplastic rubber weather-stripping around the perimeter. One interior and one exterior.

FABRICATION - The main frame corners are coped and mechanically joined using two stainless steel spline screws per corner (fig 1). The vent is a hollow tube shaped extrusion for superior strength and rigidity. Vent corners are fully mitered and mechanically joined using two stainless steel spline screws per corner, aligning the members to form a hairline joint (fig 2). All frame joints are back sealed with small joint seam sealer providing a water tight joinery.



(fig 1) Main Frame Construction



(fig 2) Vent Construction

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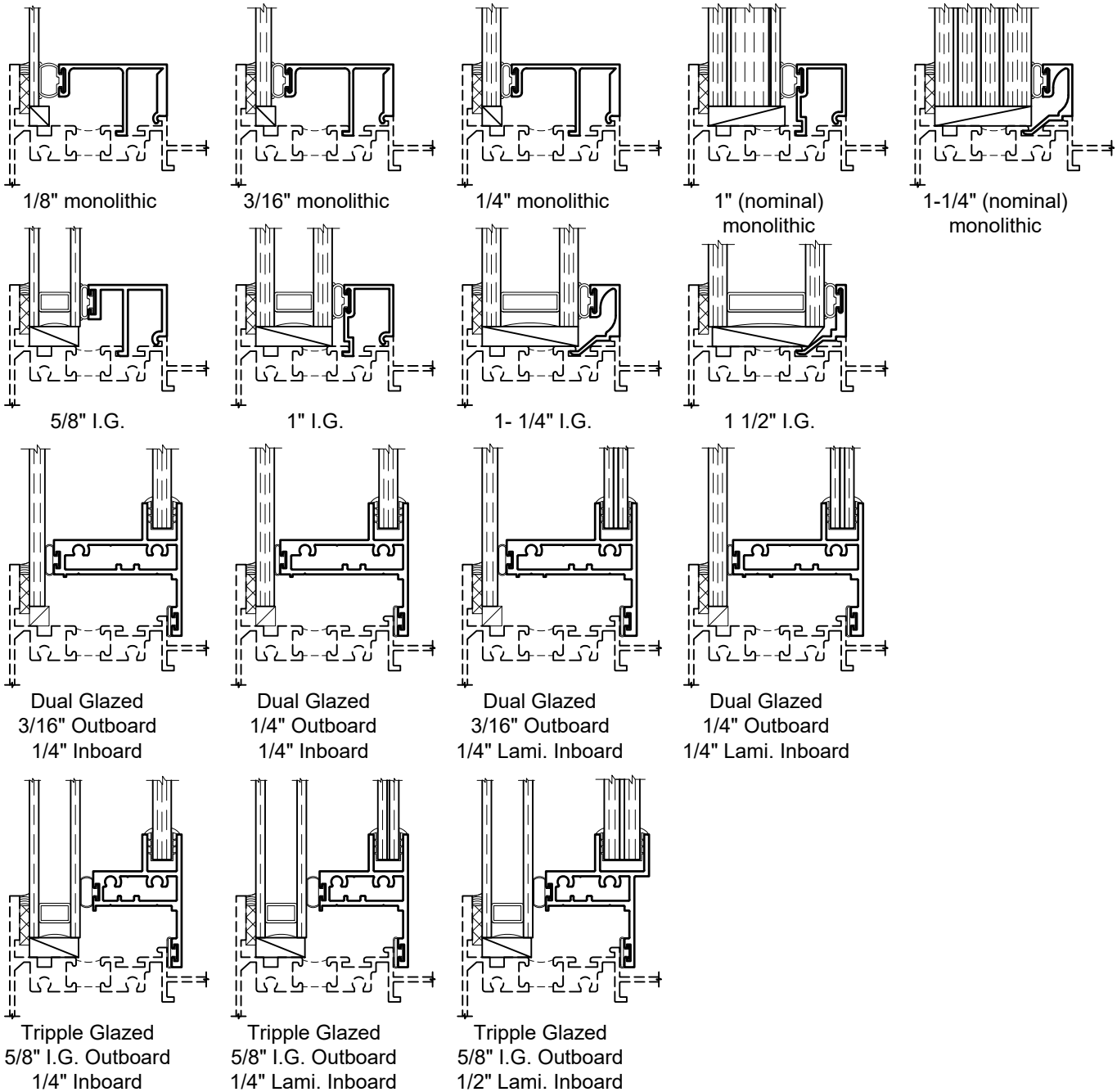
Product Information - Glass Options & Combination



GLAZING

The windows can be interior or exterior glazed with .050 thick extruded aluminum glazing beads accommodating thicknesses from 1/4" up to 1 1/2". Dual or triple glazing is an option utilizing an interior panel sash that can either be hinged with 4-bar stainless steel hinges or a more economical take out sash. Venetian blinds are available with the dual or triple glazed window options. See the quick reference chart below for all glazing options. For actual details refer to the glazing section in the back of the 1450 section for optional glazing and blind details.

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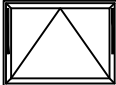
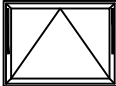
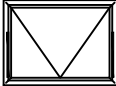


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Winco has different gaskets and glazing methods that can accommodate odd thicknesses of glass. If you do not see what you are looking for within this chart please contact your local representative for information regarding your specific project needs.

HARDWARE - Awning & Hopper Configurations

All exposed locking hardware, strikes and keepers are solid white bronze alloy with US25D brushed finish. All four bar arms, casement arms, friction arms and key release limit arms are stainless steel conforming to AAMA 904.1. Five knuckle butt hinges are fabricated of 6063-T6 aluminum with nylon bushings and a stainless steel hinge pin.

	<p>Project Out Awning (PO) w/ Default Hardware Kit</p> <p>Stainless Steel 4-Bar Hinges PO Cam Lock(s)¹</p>	<p><u>Optional Hardware Accessories:</u> Additional Jamb Mounted Lift Locks Access Control Cam Locks Additional Access Control Jamb Mounted Lift Locks Pole Ring Cam Lock(s)¹ Pole Ring Additional Pole Ring Lift Locks Non-Removable Limit Stop Key-Release Limit Stop</p>
	<p>Project Out Awning (PO) w/ Roto Operator</p> <p>Stainless Steel 4-Bar Hinge Jamb Mounted Lift Locks Pivot Shoe Roto Operator</p>	<p><u>Optional Hardware Accessories:</u> Pole Ring Lift Lock Non-Removable Limit Stop</p>
	<p>Project In Hopper (PI) w/ Default Hardware Kit</p> <p>Stainless Steel 4-Bar Hinges PI Cam Lock(s)¹</p>	<p><u>Optional Hardware Accessories:</u> Additional Jamb Mounted Lift Locks Access Control Cam Locks Additional Access Control Jamb Mounted Lift Locks Pole Ring Cam Lock(s)¹ Pole Ring Additional Pole Ring Lift Locks Non-Removable Limit Stop Key-Release Limit Stop</p>

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Please contact WINCO for project specific information

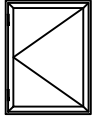
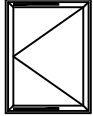
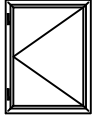
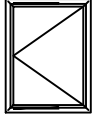
¹ Lock Quantity is dependent on Operable Vent Width & Height, Additional Locks can be specified, but minimum Qty is determined by WINCO Engineering

² Butt Hinge Quantity is dependent on Operable Vent Height, Additional Hinges can be specified, but minimum Qty is determined by WINCO Engineering

³ Combination of Casement Roto Operator and Concealed Hinges requires minimum Operable Vent Width to accommodate Hardware

HARDWARE - Casement Configurations

All exposed locking hardware, strikes and keepers are solid white bronze alloy with US25D brushed finish. All four bar arms, casement arms, friction arms and key release limit arms are stainless steel conforming to AAMA 904.1. Five knuckle butt hinges are fabricated of 6063-T6 aluminum with nylon bushings and a stainless steel hinge pin.

	<p>Project Out Casement (POC) w/ Butt Hinges</p> <p>Butt Hinges² Stainless Steel Friction Adjuster Single Point or Multi-Point Lift Lock(s)¹</p>	<p><u>Optional Hardware Accessories:</u> Casement Roto Operator Access Control Lift Locks Pole Ring Lift Lock(s)¹ Pole Ring Non-Removable Limit Stop Key-Release Limit Stop</p>
	<p>Project Out Casement (POC) w/ Concealed Hinges</p> <p>Stainless Steel 4-Bar Casement Hinges Single Point or Multi-Point Lift Lock(s)¹</p>	<p><u>Optional Hardware Accessories:</u> Casement Roto Operator³ Access Control Lift Locks Pole Ring Lift Lock(s)¹ Pole Ring Non-Removable Limit Stop Key-Release Limit Stop</p>
	<p>Project In Casement (PIC) w/ Butt Hinges</p> <p>Butt Hinges² Stainless Steel Friction Adjuster Single Point or Multi-Point Lift Lock(s)¹</p>	<p><u>Optional Hardware Accessories:</u> Access Control Lift Locks Pole Ring Lift Lock(s)¹ Pole Ring Non-Removable Limit Stop Key-Release Limit Stop</p>
	<p>Project In Casement (PIC) w/ Concealed Hinges</p> <p>Stainless Steel 4-Bar Casement Hinges Single Point or Multi-Point Lift Lock(s)¹</p>	<p><u>Optional Hardware Accessories:</u> Access Control Lift Locks Pole Ring Lift Lock(s)¹ Pole Ring Non-Removable Limit Stop Key-Release Limit Stop</p>

Please contact WINCO for project specific information

¹ Lock Quantity is dependent on Operable Vent Width & Height, Additional Locks can be specified, but minimum Qty is determined by WINCO Engineering

² Butt Hinge Quantity is dependent on Operable Vent Height, Additional Hinges can be specified, but minimum Qty is determined by WINCO Engineering

³ Combination of Casement Roto Operator and Concealed Hinges requires minimum Operable Vent Width to accommodate Hardware

SCREENS

FRAME - frames are fabricated from 6063-T6 extruded aluminum alloy and temper. All screen frames are miter cut and corner keyed. The corners are mechanically crimped together for durability. The screen frame is finished to match the window frame.

MESH - Standard 0.011" aluminum screen wire mesh is produced from 5154 alloy with 18x16 pattern in Charcoal or Aluminum color. All mesh is applied to the screen frame with a roller spline making for easy and quick replacements. Optional fiberglass or 0.009" stainless steel mesh is available as an option.

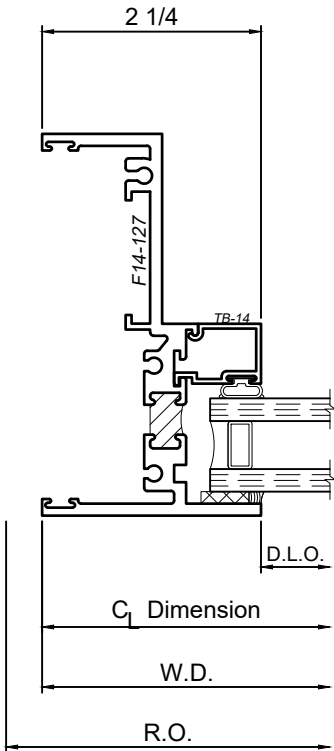
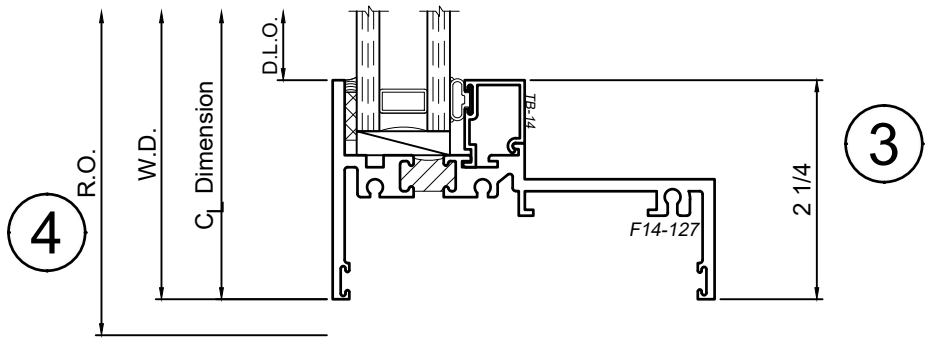
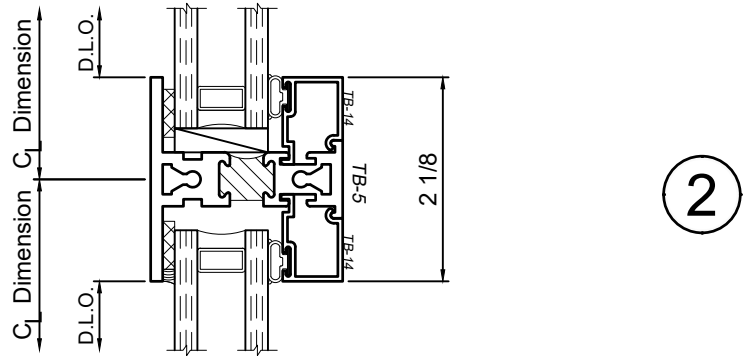
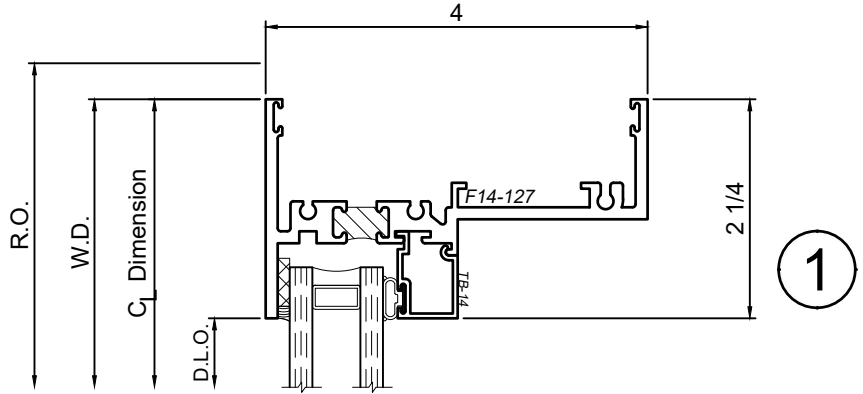
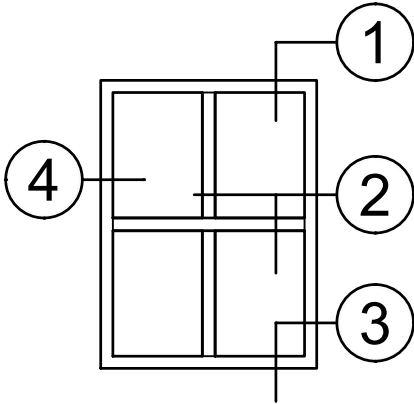
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Fixed - Picture Window



Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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SCALE 6"=1'-0"

1450 Series 4" Thermal Fixed, Casement & Projected Windows

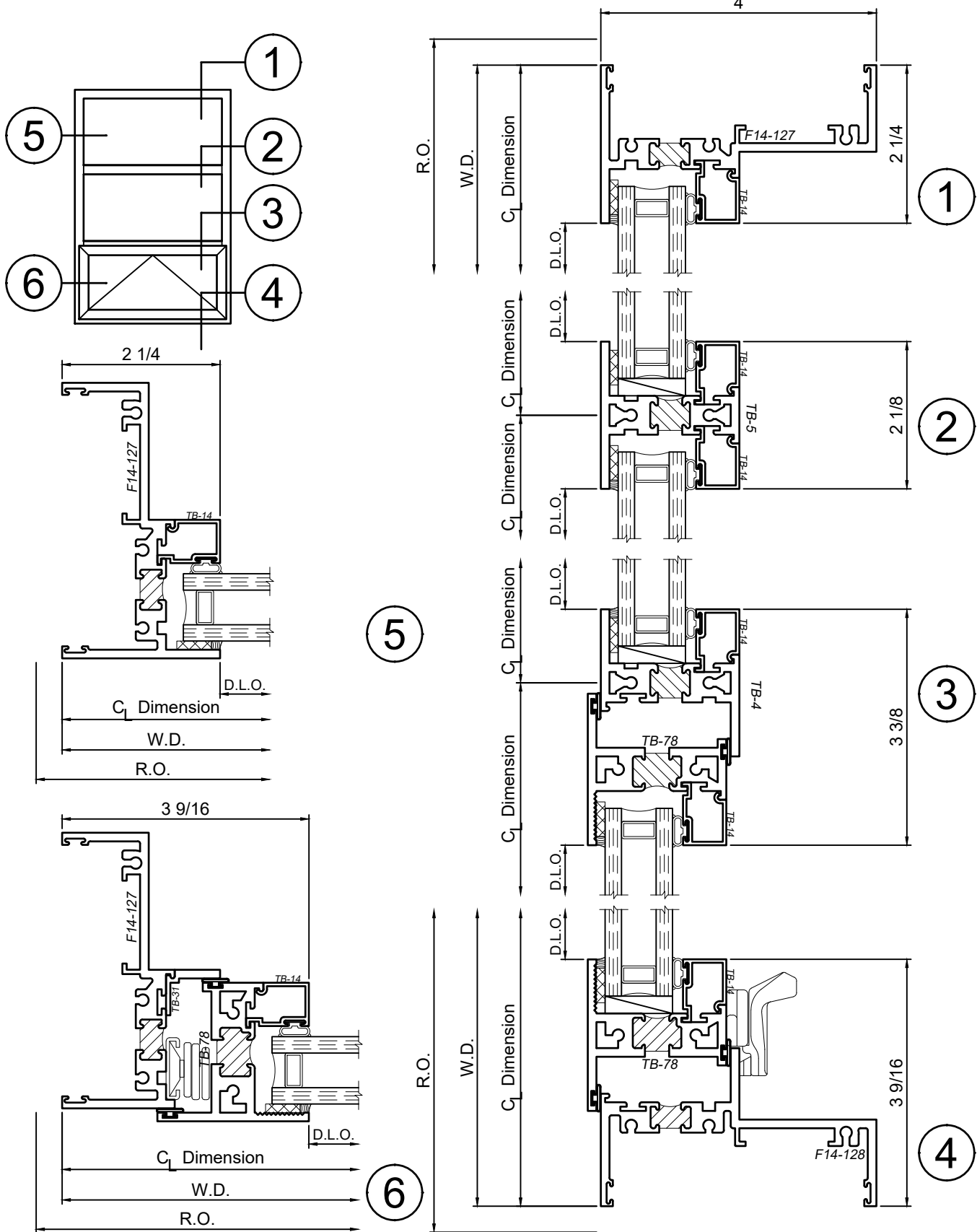
Product Details - Project Out - Awning



Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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SCALE 6"=1'-0"

1450 Series 4" Thermal Fixed, Casement & Projected Windows

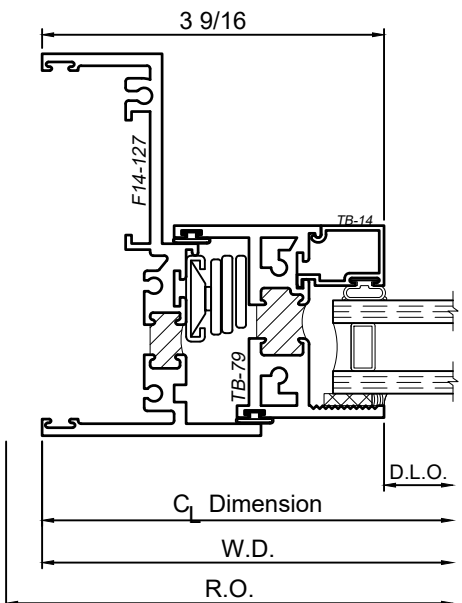
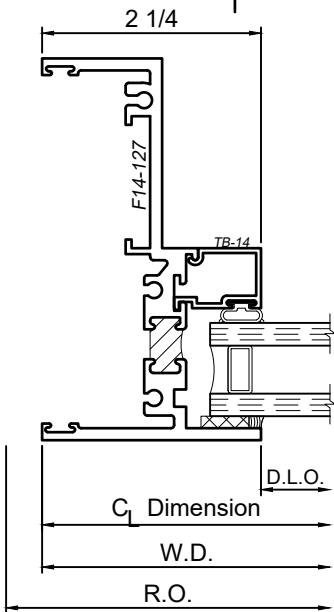
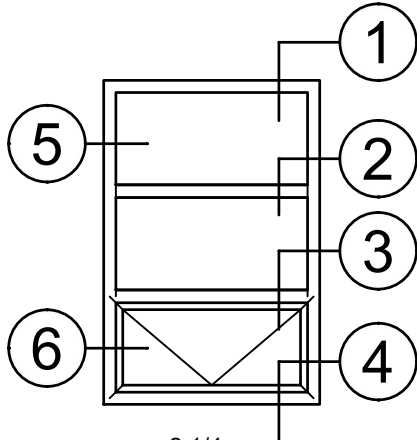
Product Details - Project In - Hopper



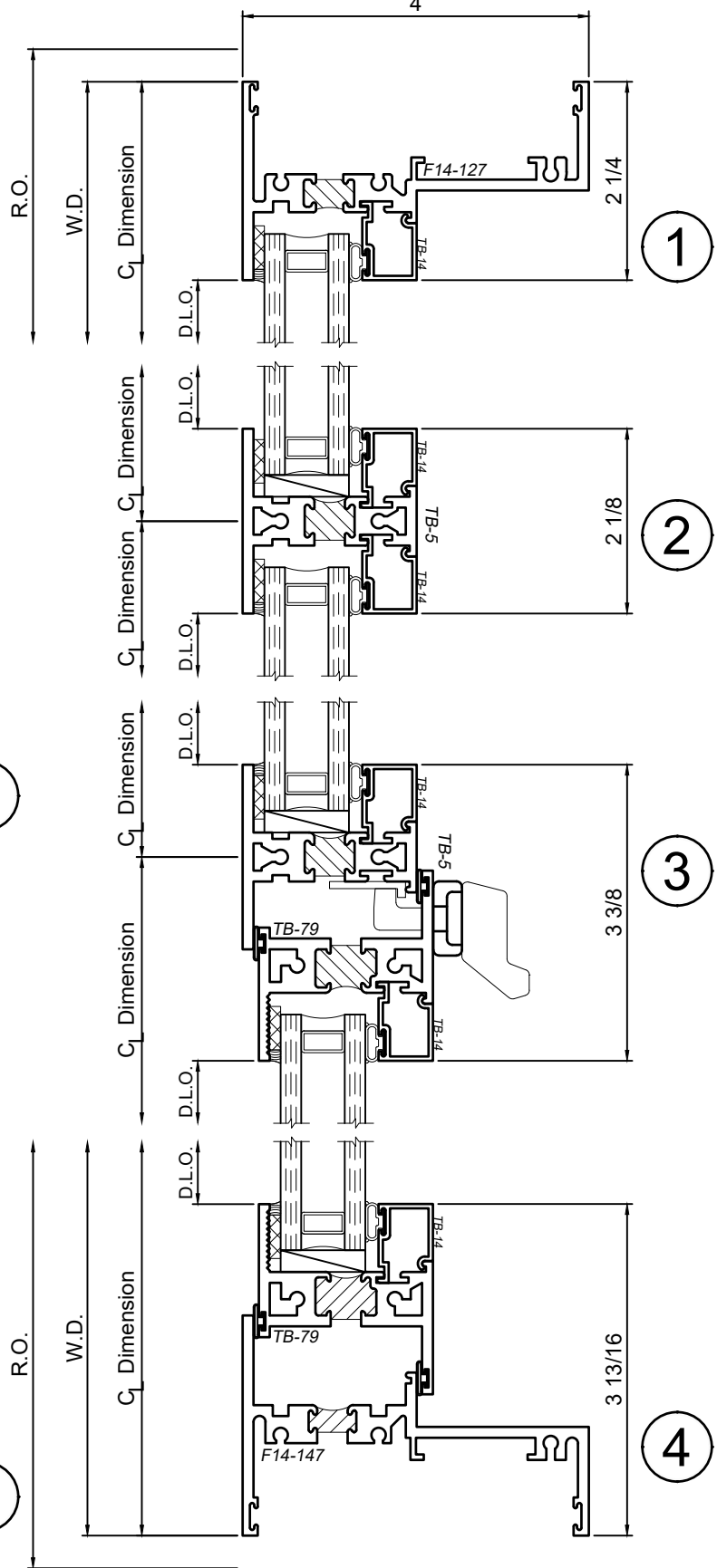
Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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SCALE 6"=1'-0"



1450 Series 4" Thermal Fixed, Casement & Projected Windows

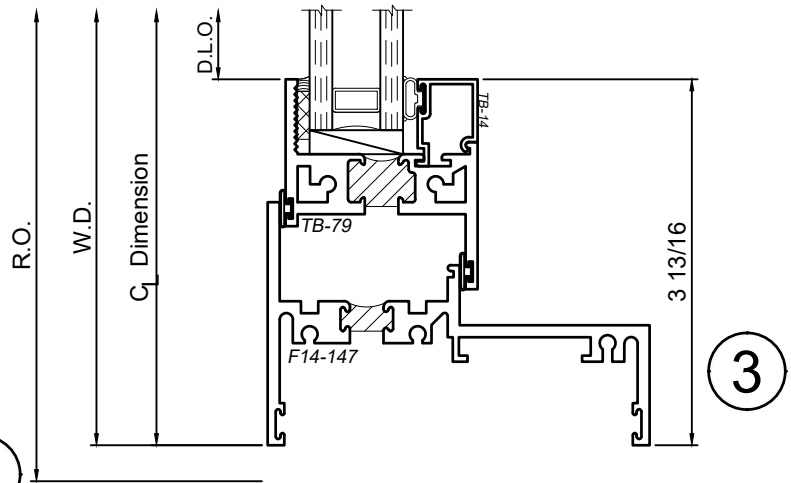
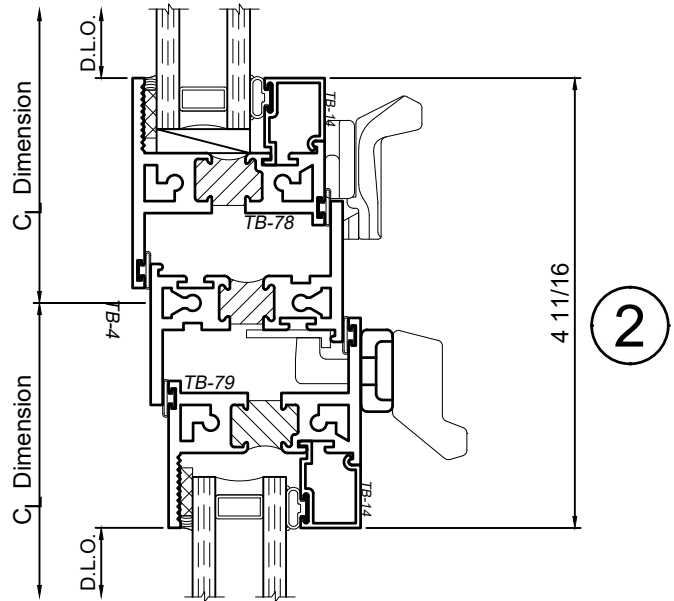
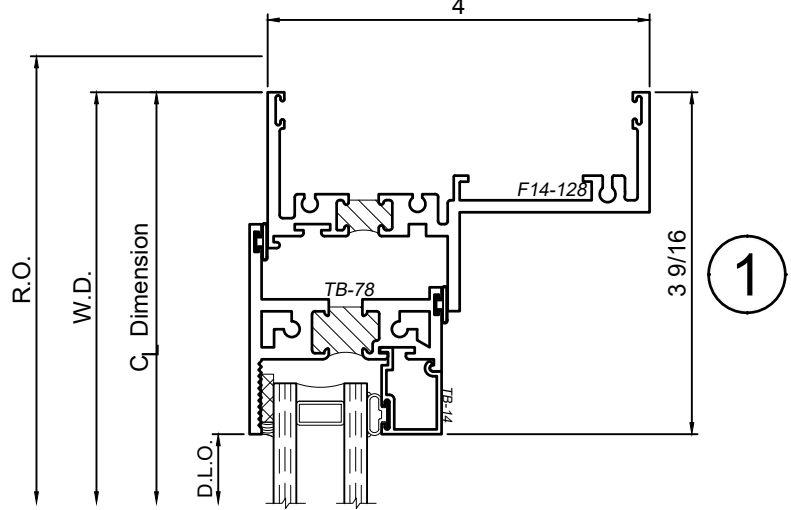
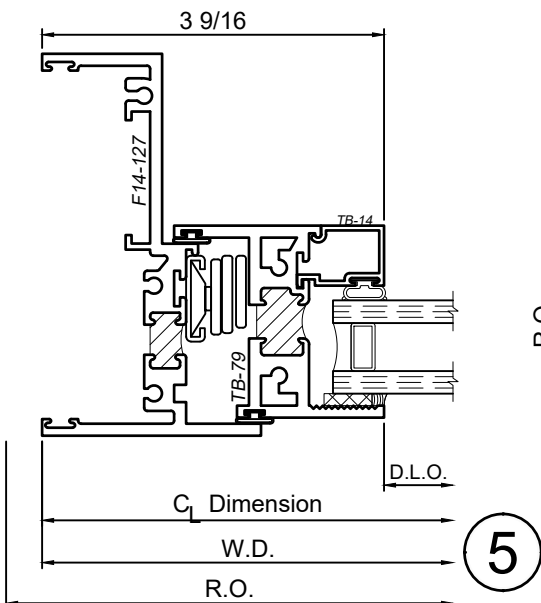
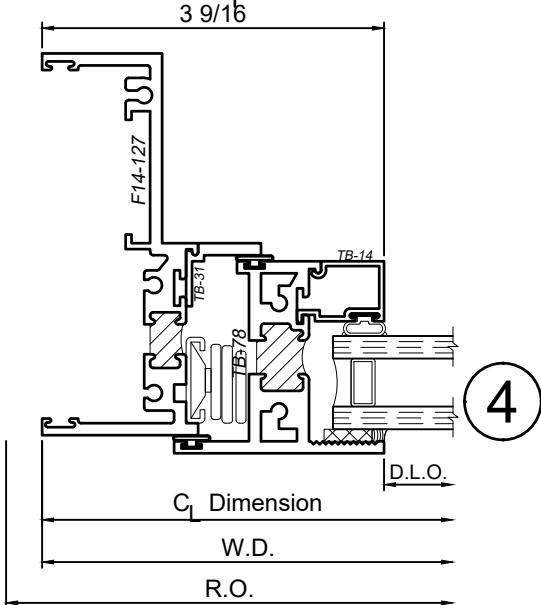
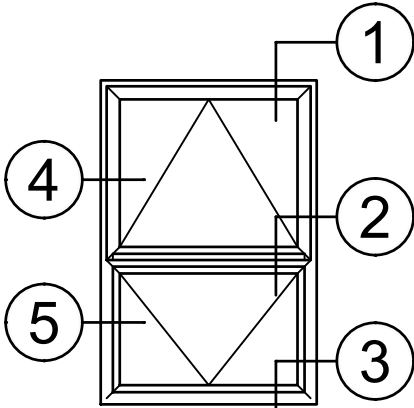
Product Details - PO|PI - Awning|Hopper



Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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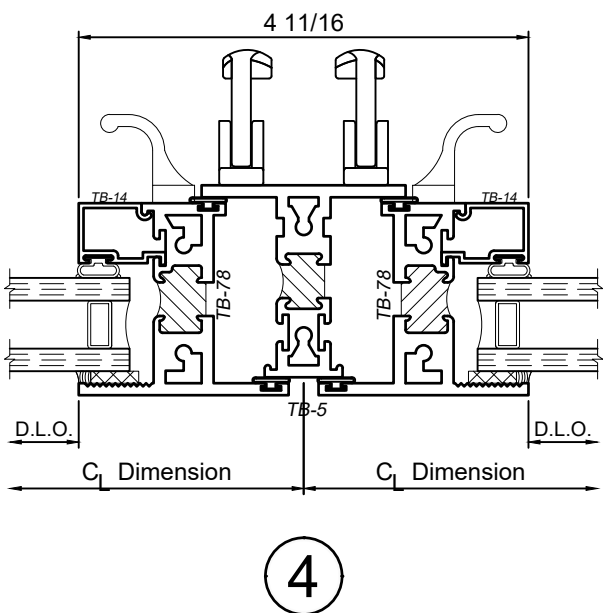
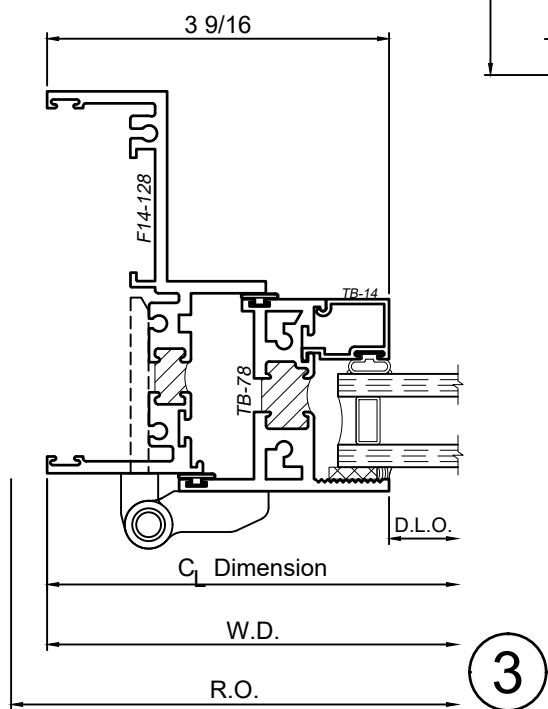
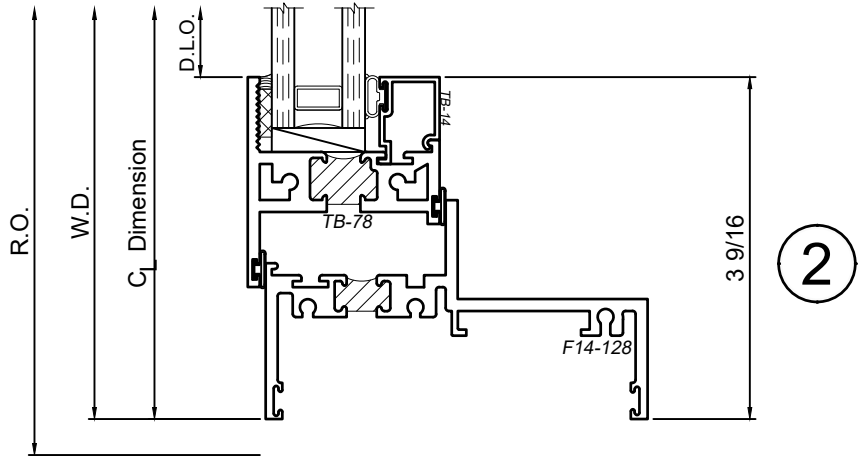
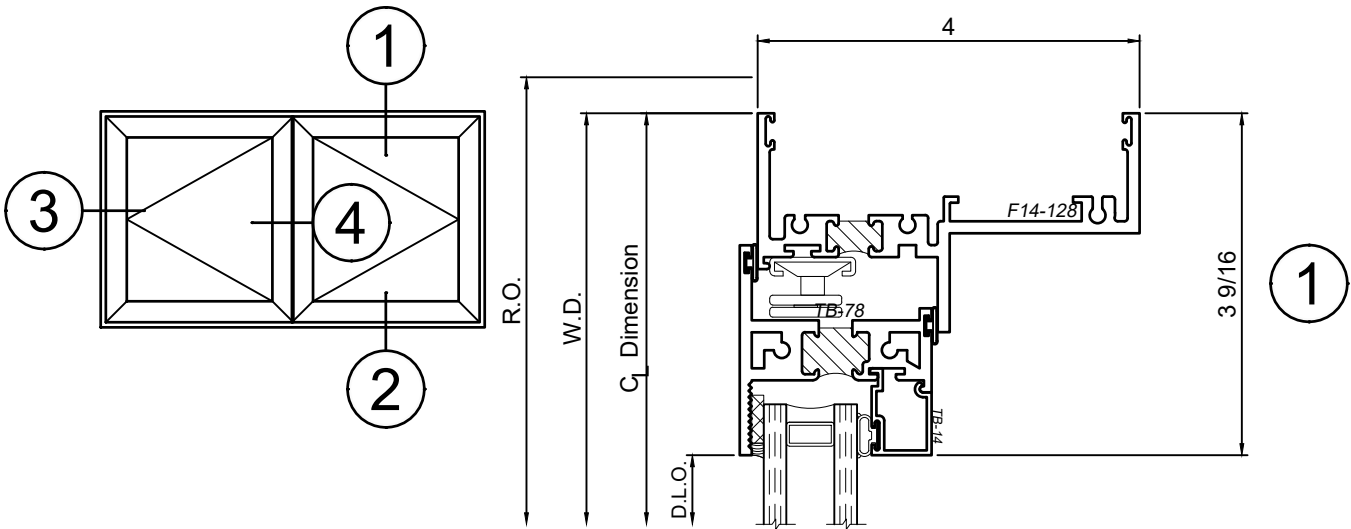
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Butterfly Casement - Outswing



Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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SCALE 6"=1'-0"

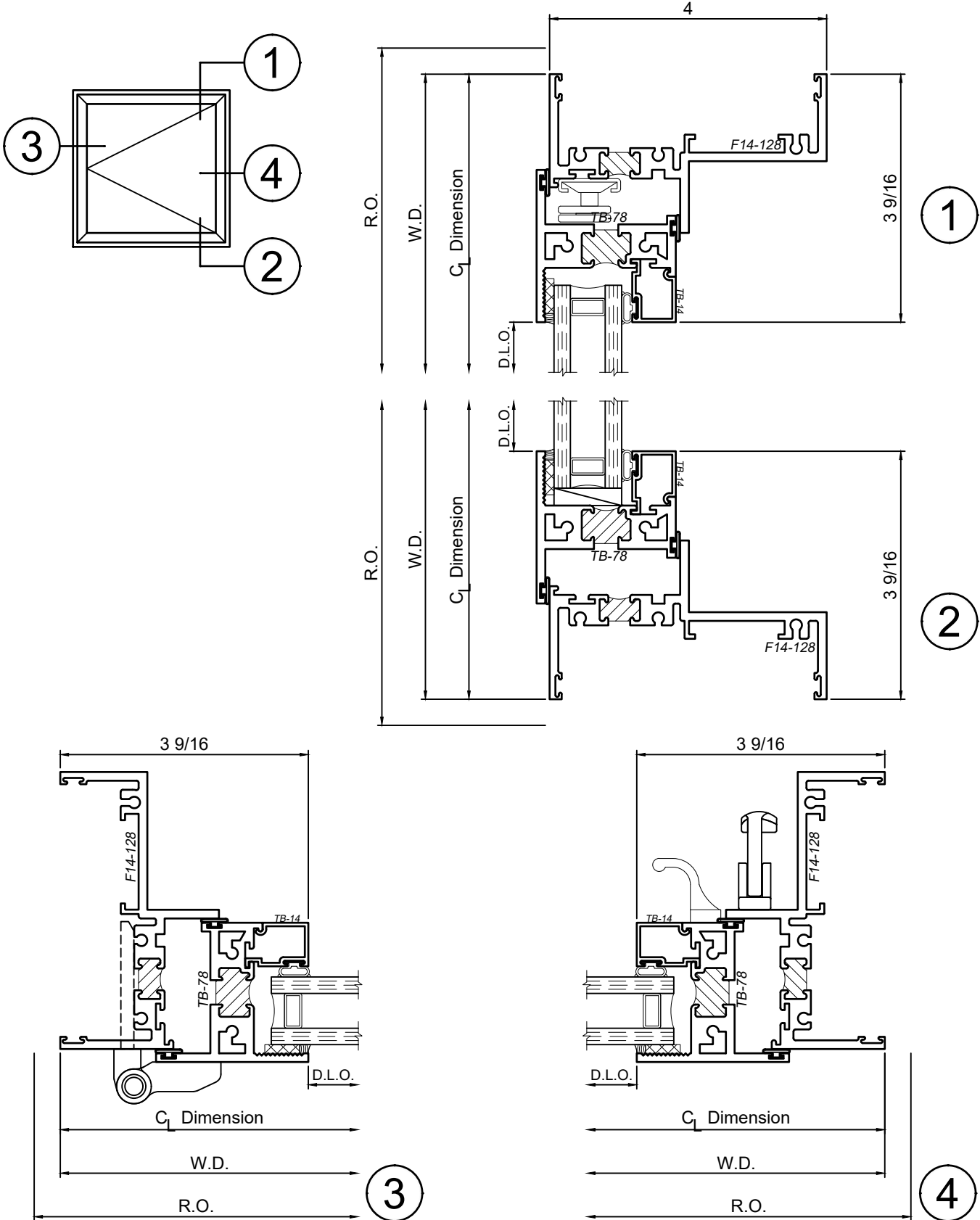
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Outswing Casement



Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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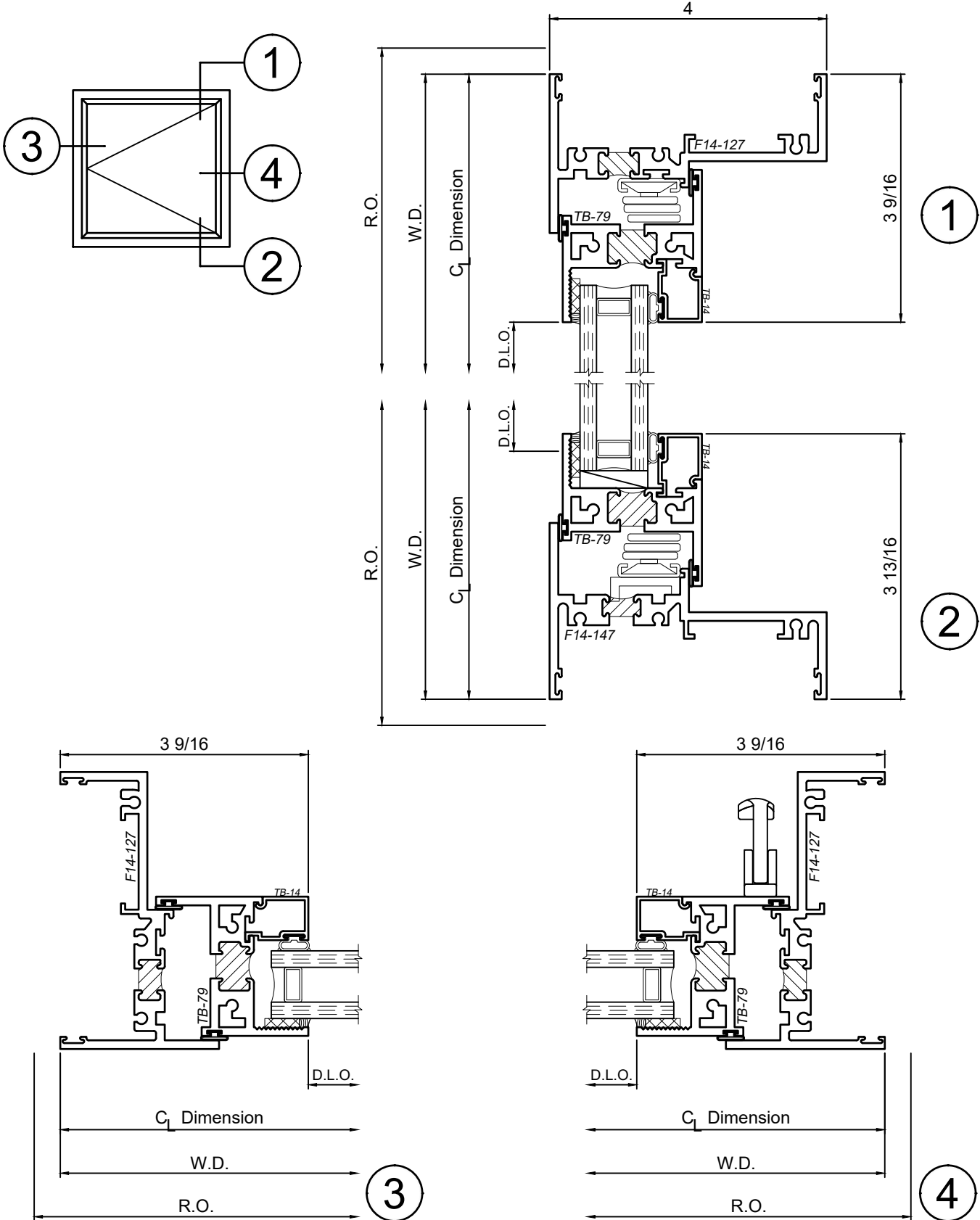
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Inswing Casement



Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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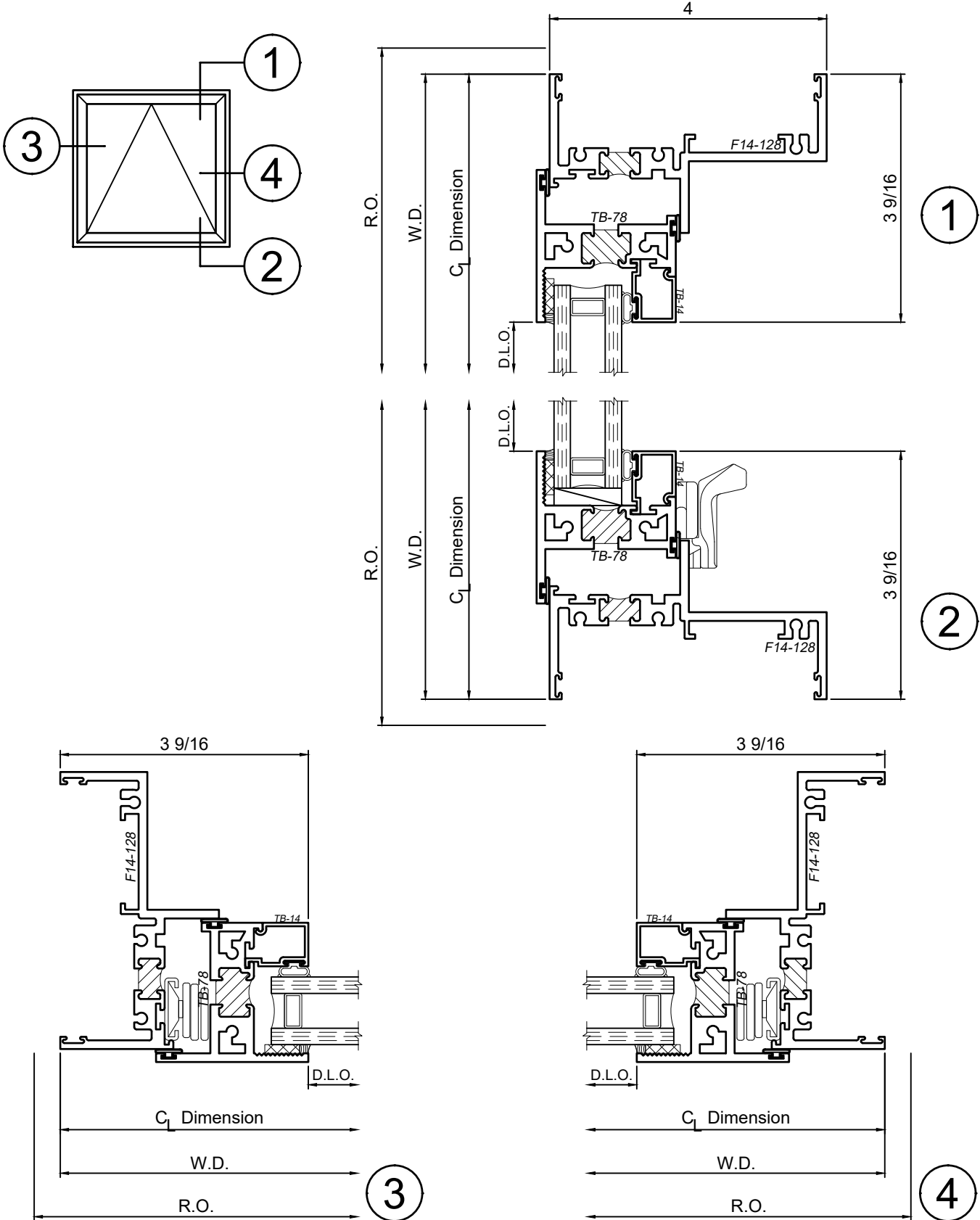
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Project Out - Awning



Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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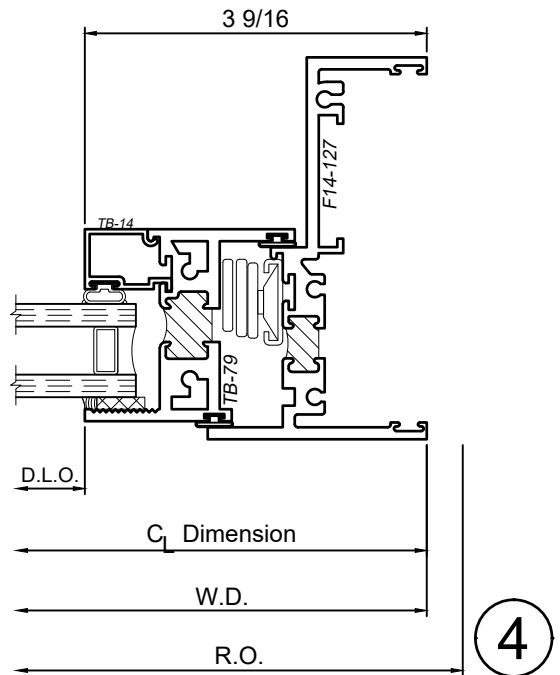
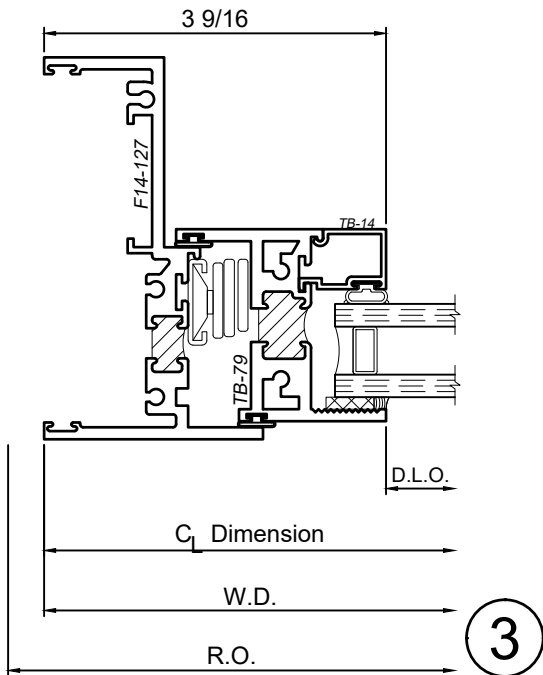
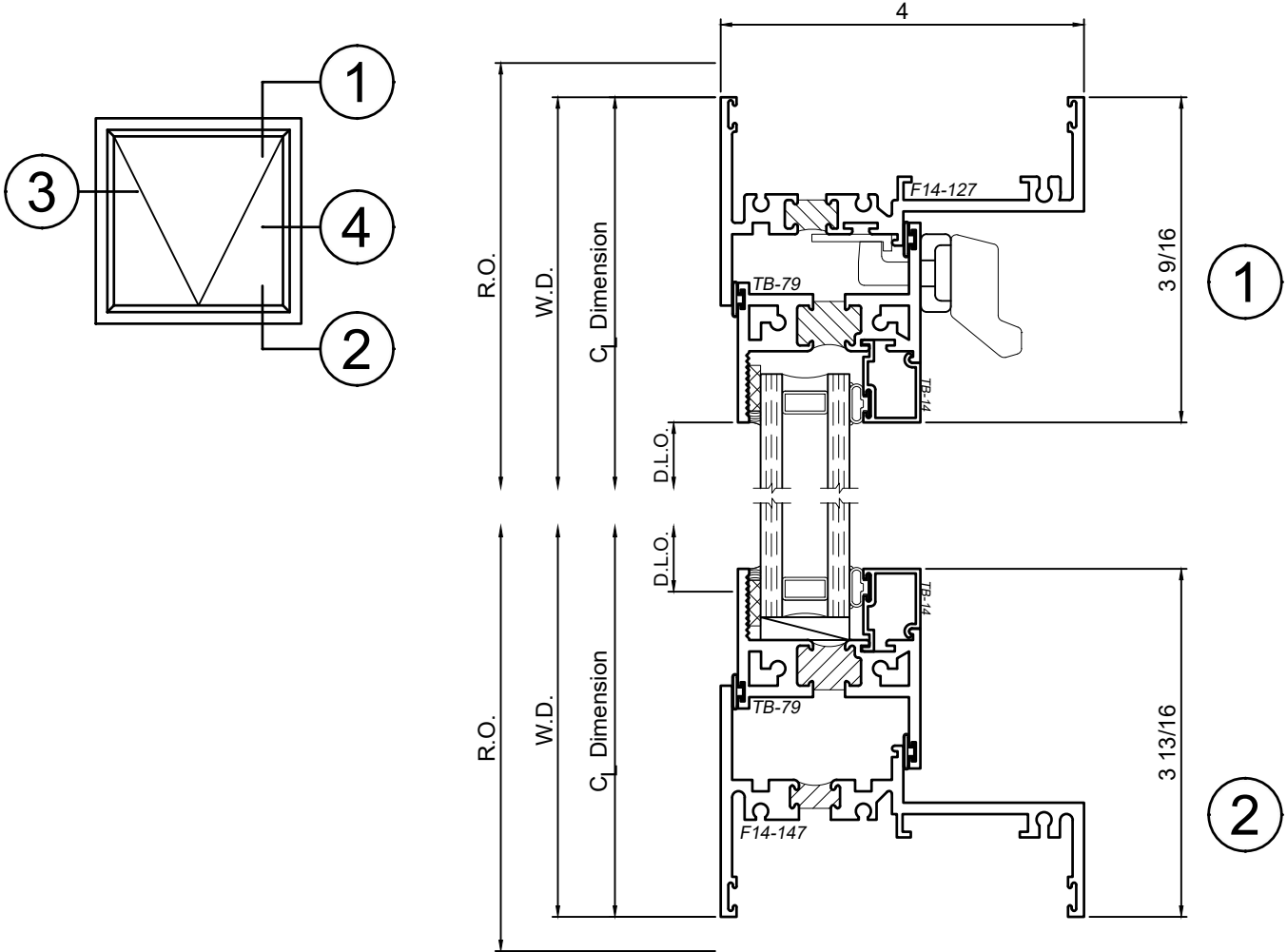
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Project In - Hopper



Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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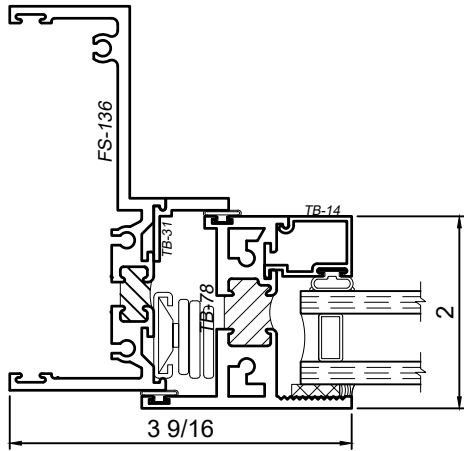
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Frame Options

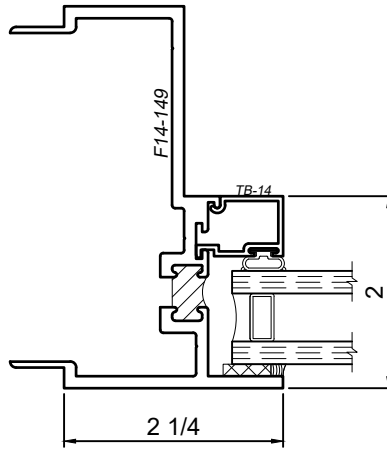


Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

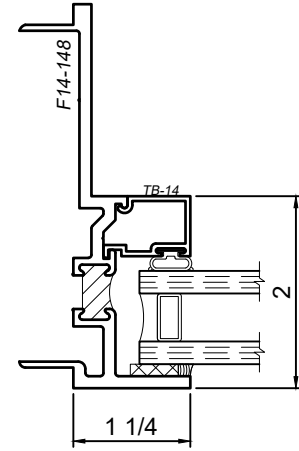
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Available at head and jamb



Available at head and jamb



Available at head and jamb

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SCALE 6"=1'-0"

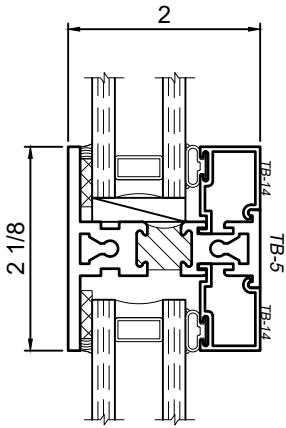
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - 2 Inch Rail Options

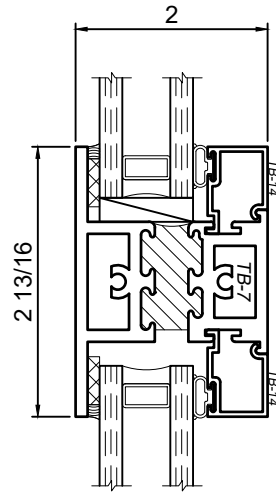


Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

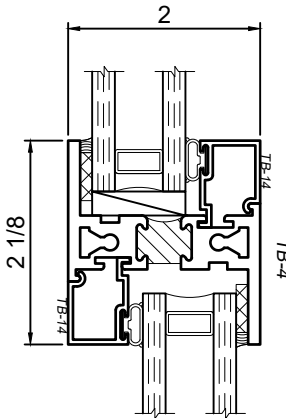
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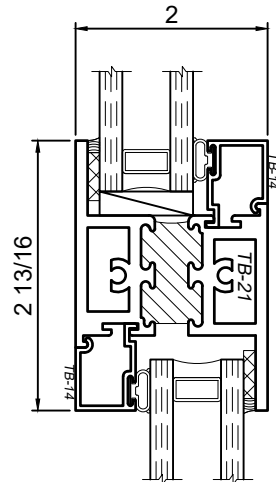
Standard 2 Inch T - Rail



Heavy Duty 2 Inch T - Rail



Standard 2 Inch Z - Rail



Heavy Duty 2 Inch Z - Rail

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SCALE 6"=1'-0"

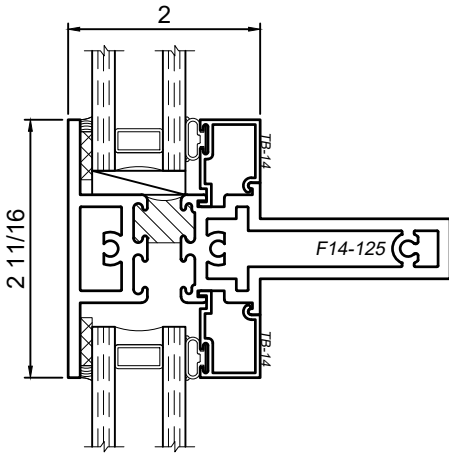
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - 4 Inch Rail Options

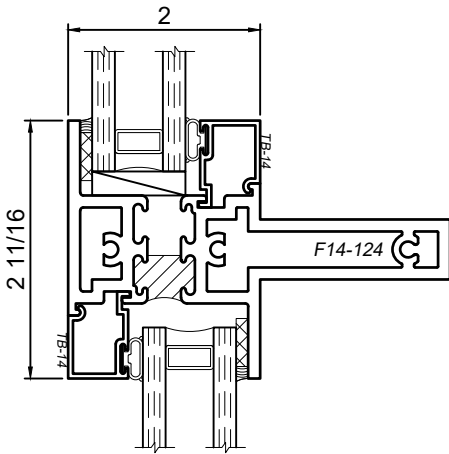


Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

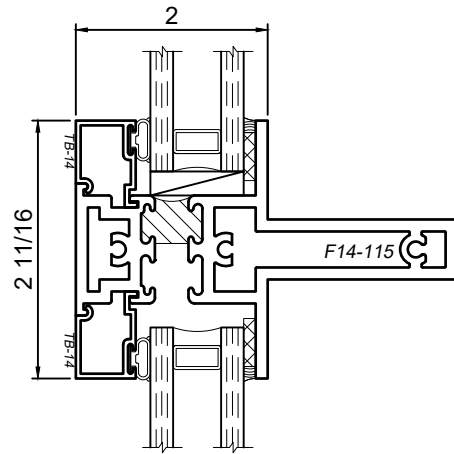
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Standard 4 Inch T - Rail



Standard 4 Inch Z - Rail



Exterior Glazed 4 Inch T - Rail

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SCALE 6"=1'-0"

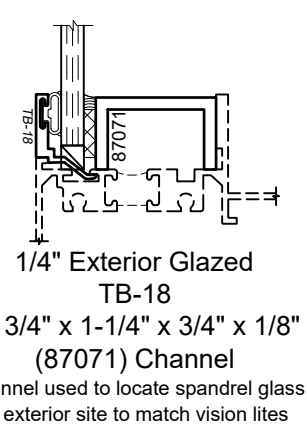
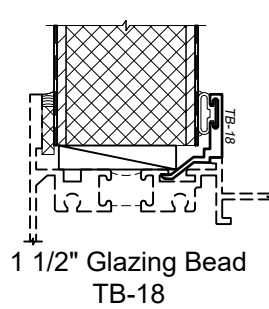
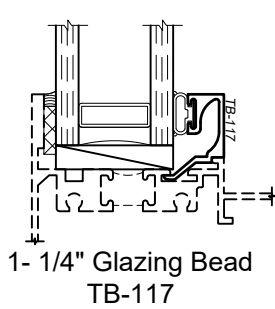
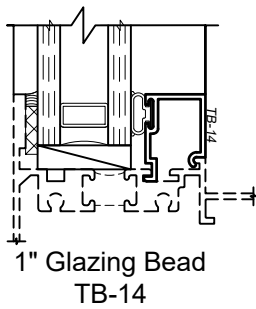
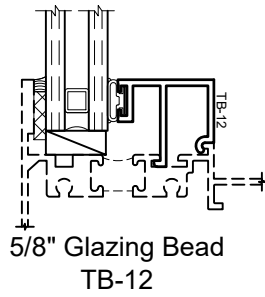
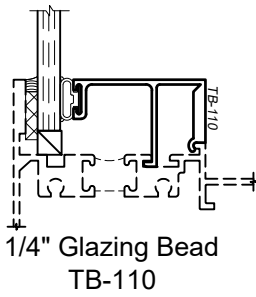
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Glazing Options

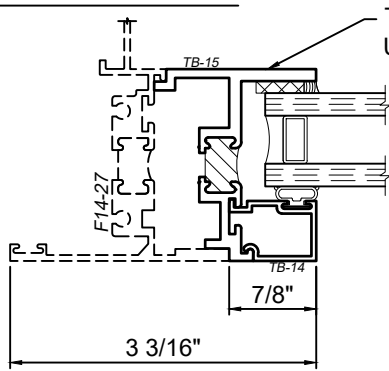


Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

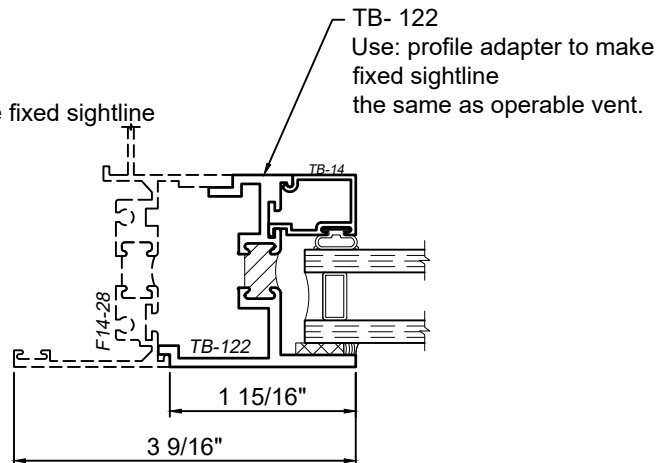
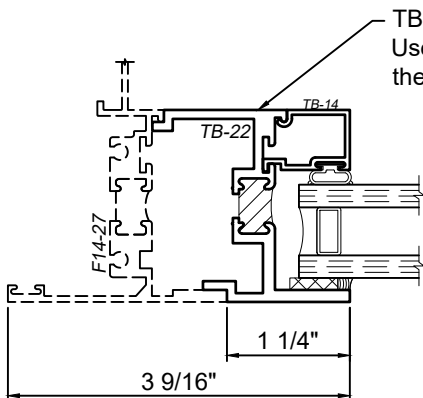
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FRAME INSERTS



Note: glazing options shown are a sample of what is available. If desired glazing is not shown please contact your local Winco Sales Representative for additional information.



SCALE 6"=1'-0"

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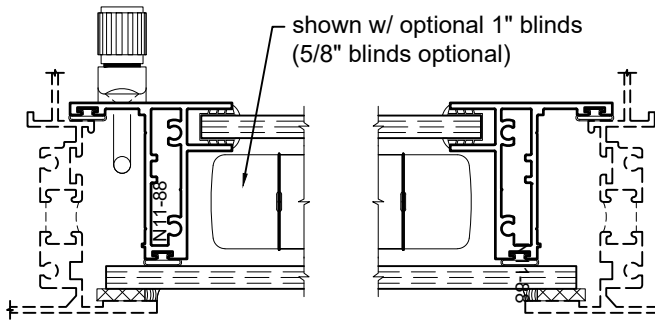
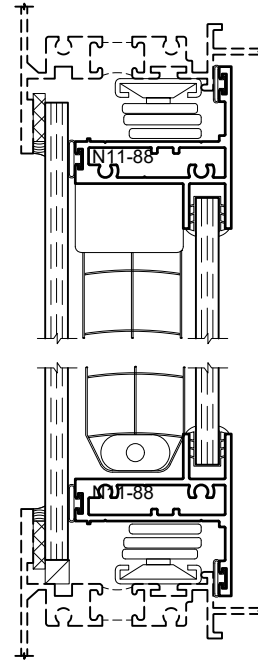
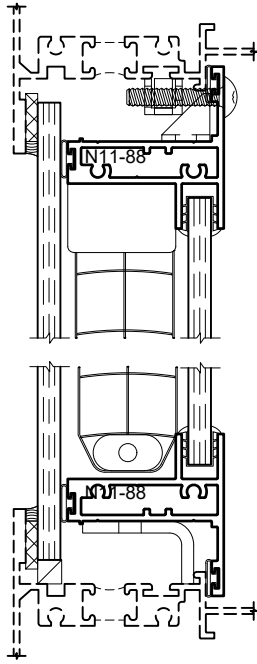
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Dual Glazed w/ Interior Sash

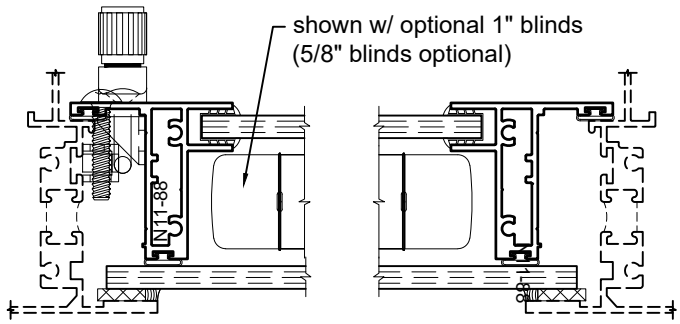


Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

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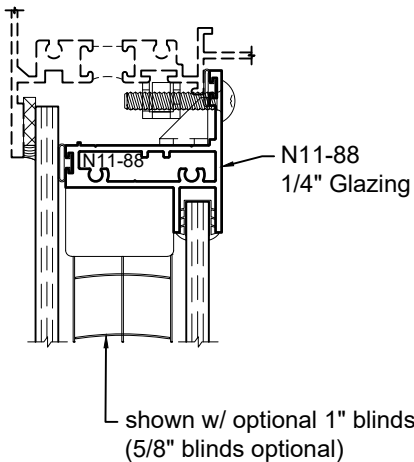


Dual Glazed w/ Take Out Sash - 65 Option



Dual Glazed w/ Hinged Sash - 75 Option

Dual Glazed Sash Options



SCALE 6"=1'-0"

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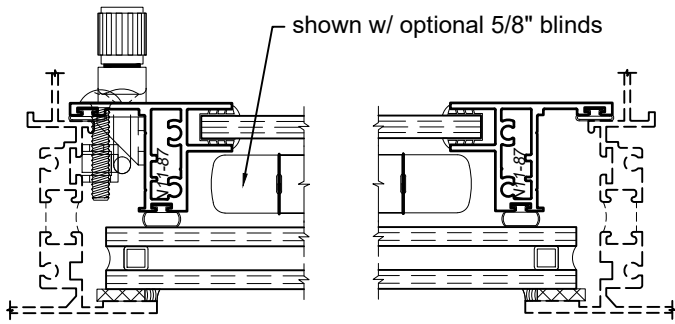
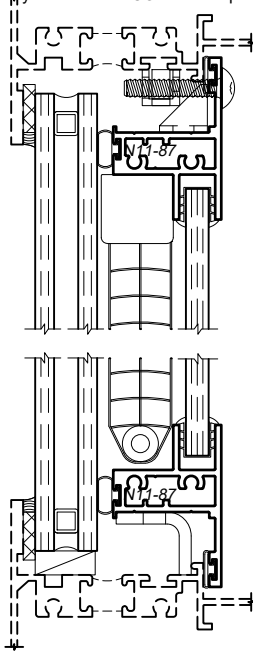
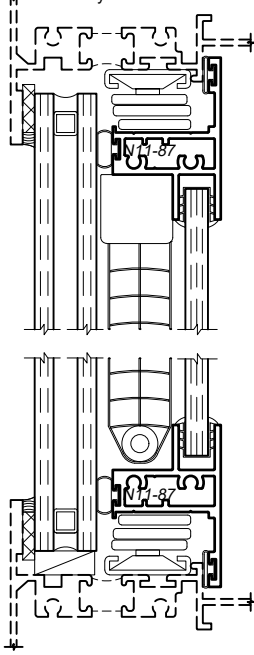
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Tripple Glazed w/ Interior Sash

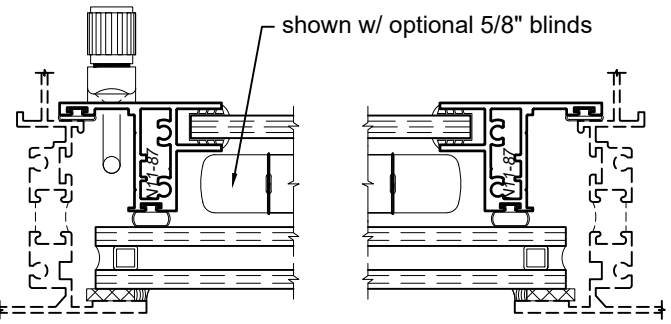


Note: Multiple configurations of this window system are available. Refer to the WINCO website for additional options or contact your local WINCO Sales Representative for information.

WINCO RESERVES THE RIGHT TO MODIFY OR CHANGE INFORMATION WITHIN THIS BOOK WHEN DEEMED NECESSARY FOR PRODUCT IMPROVEMENT

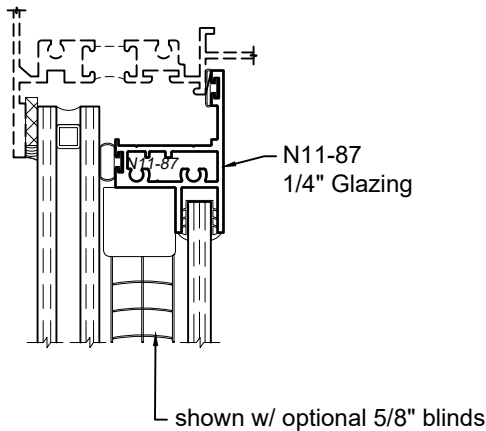


Triple Glazed w/ Hinged Sash - 85 Option



Triple Glazed w/ Take Out Sash - 95 Option

Triple Glazed Sash Options



SCALE 6"=1'-0"

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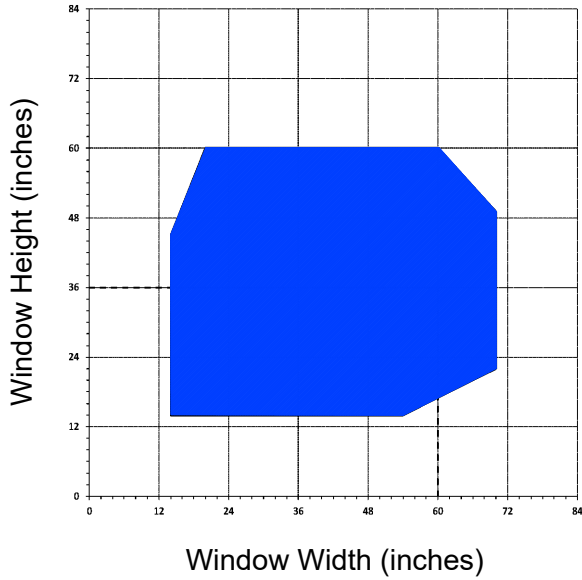
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Projected Vent Size Capabilities Charts

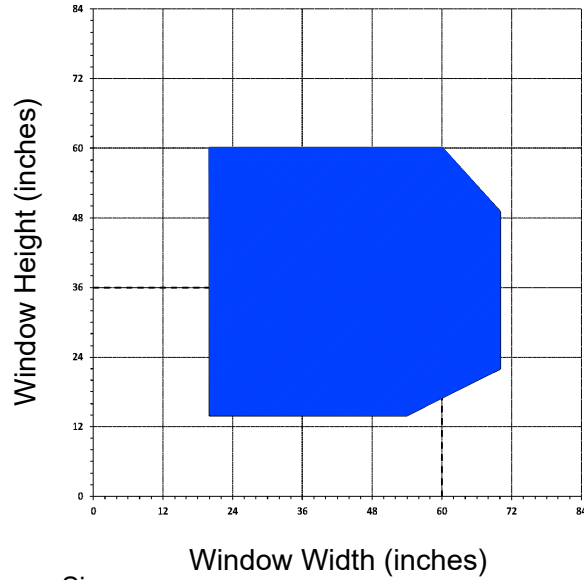


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Projected In / Out with Four Bar Arms



Projected In / Out with Pivot Shoe Roto-Operator



----- AAMA Gateway Size

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- Dashed line represents the gateway size window as tested by AAMA.
- All vent sizes are based upon 1" Insulated glass consisting of 1/4" glass - 1/2" air - 1/4" glass.
- Any vent size outside of the AAMA Gateway tested size may have reduced performance.
- Chart assumes the window has been installed in a properly prepared opening by a qualified installer.
- Individual job criteria such as: other glazing materials, specified wind load, and specific operating hardware; may enhance or restrict the chart.
- Minimum vent size is 10" x 14-3/4" with standard cam locks and 4-bar hinges.
- The chart is a general guideline for projected vent sizing, anything on the edge or outside of the range will need to be reviewed by Winco Engineering.

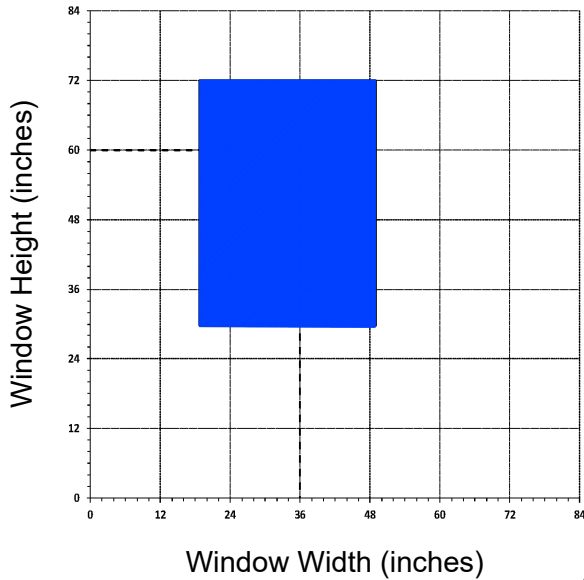
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Casement Vent Size Capabilities Charts

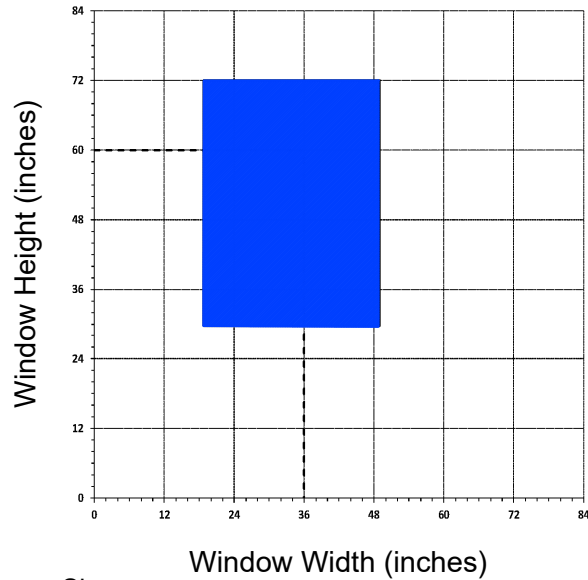


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Casement with Roto-Operator
w/ 5 Knuckle Butt Hinge &
Multi Point Locks

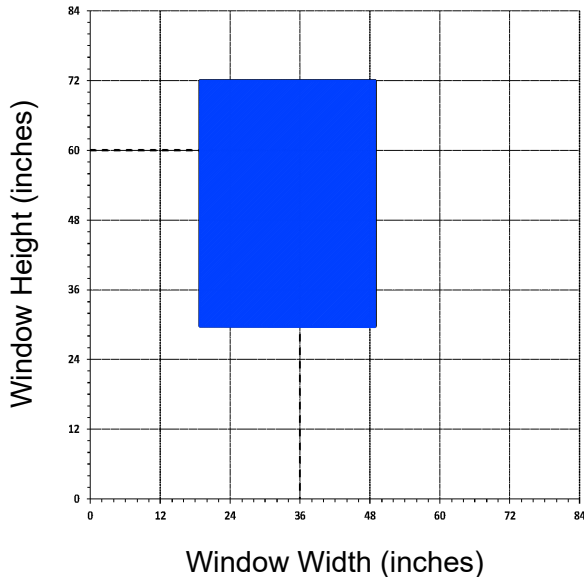


Casement with 5 Knuckle Butt
Hinge & Cam Locks

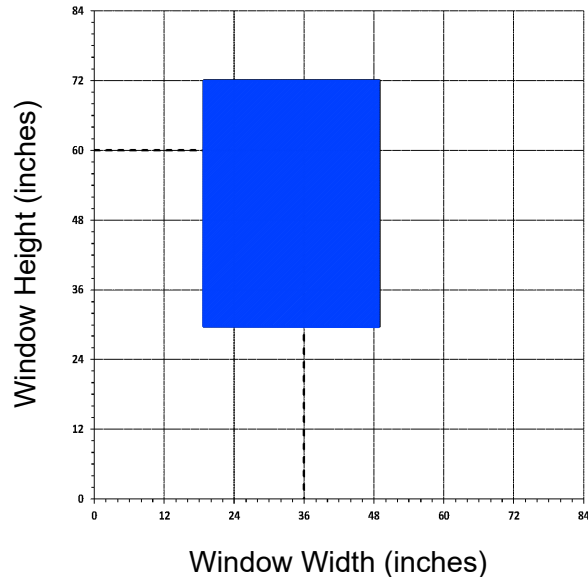


----- AAMA Gateway Size

Casement with Concealed
Four Bar Casement Arm &
Multi Point Locks



Casement with Concealed
Four Bar Casement Arm &
Cam Locks



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- Dashed line represents the gateway size window as tested by AAMA.
- All vent sizes are based upon 1" Insulated glass consisting of 1/4" glass - 1/2" air - 1/4" glass.
- Any vent size outside of the AAMA Gateway tested size may have reduced performance.
- Chart assumes the window has been installed in a properly prepared opening by a qualified installer.
- Individual job criteria such as: other glazing materials, specified wind load, and specific operating hardware; may enhance or restrict the chart.
- Minimum vent size is 18-3/4" x 29-3/8" with standard cam locks and 4-bar hinges.
- The chart is a general guideline for projected vent sizing, anything on the edge or outside of the range will need to be reviewed by Winco Engineering.

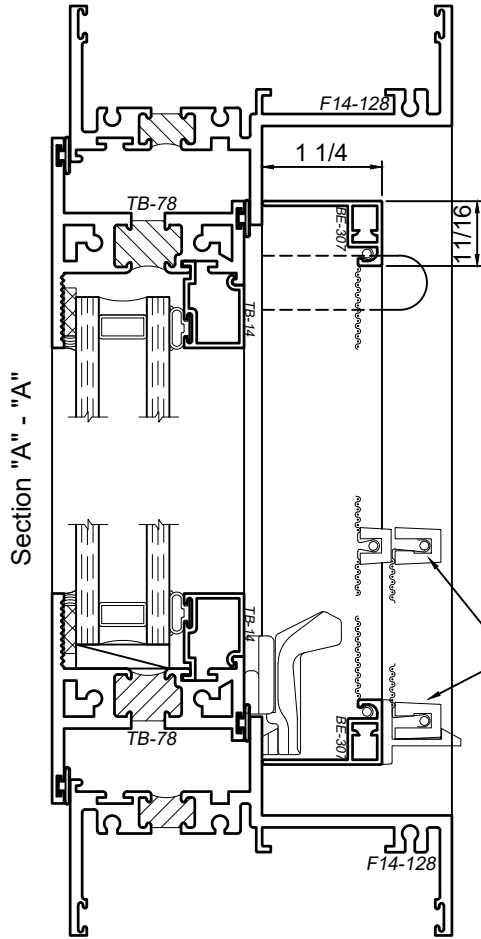
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Screen Options - PO - Awning

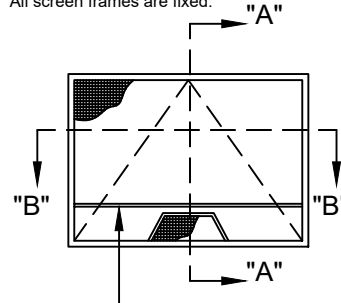


Note: Typical vent screen details shown. Winco reserves the right to alter the screen attachment detail due to job specific sizing and hardware. If you have specific screen applications you would like to see please contact your local Winco Sales Representative for more information.

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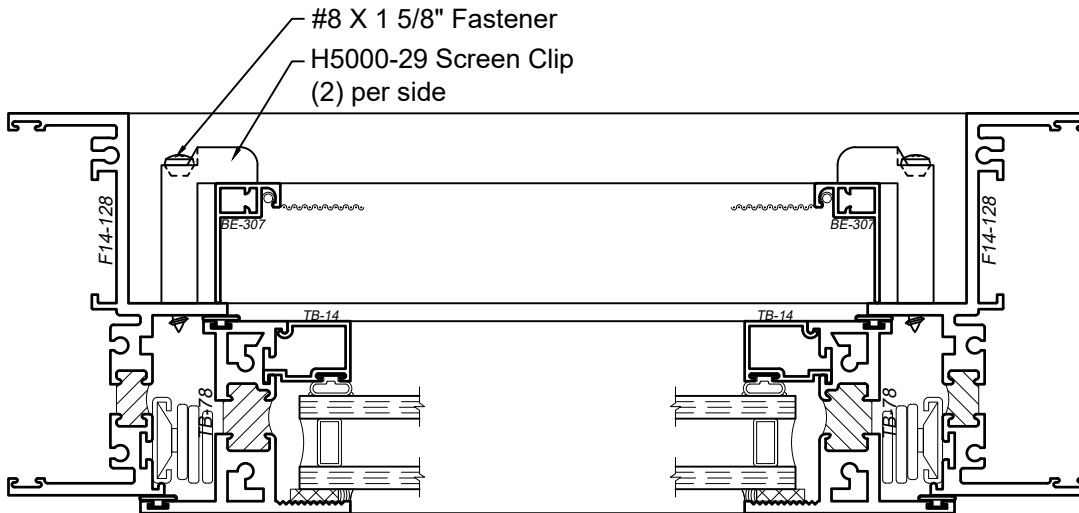
Note: Dashed lines on screen elevations depict operable sash type.
All screen frames are fixed.



Optional D8-90 Muntin Bar

Winco reserves the right to add the D8-90 muntin bar to any aluminum mesh screen for wicket support if the vent becomes too wide. All Fiberglass screen mesh will receive the support rail regardless of width.

Top hinged Wicket
(1) per cam lock



Section "B" - "B"

SCALE 6"=1'-0"

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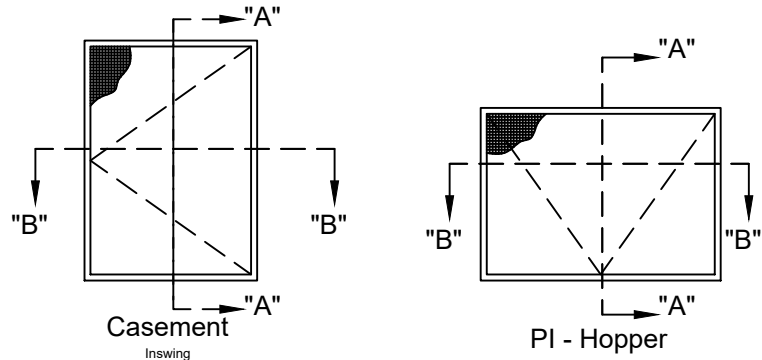
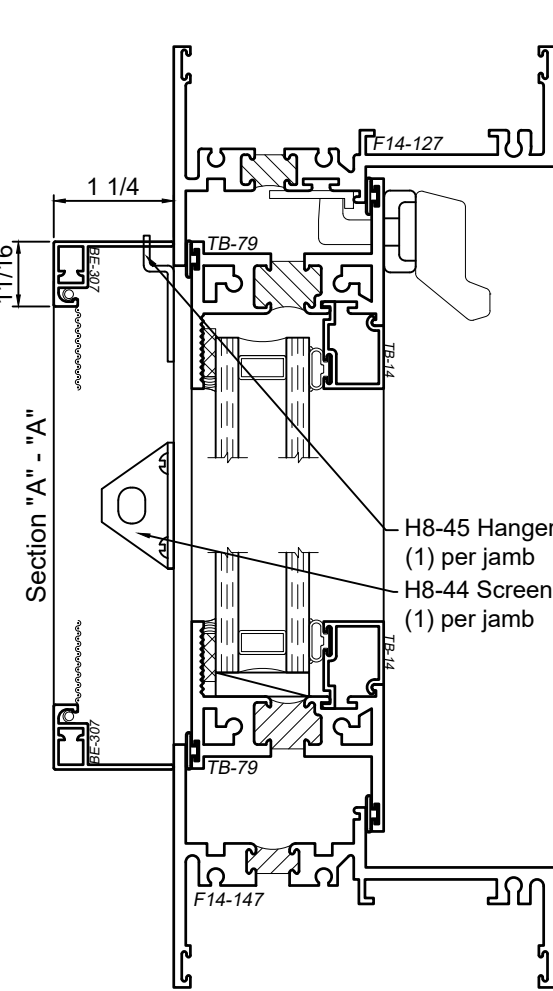
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Screen Options - PI Hopper

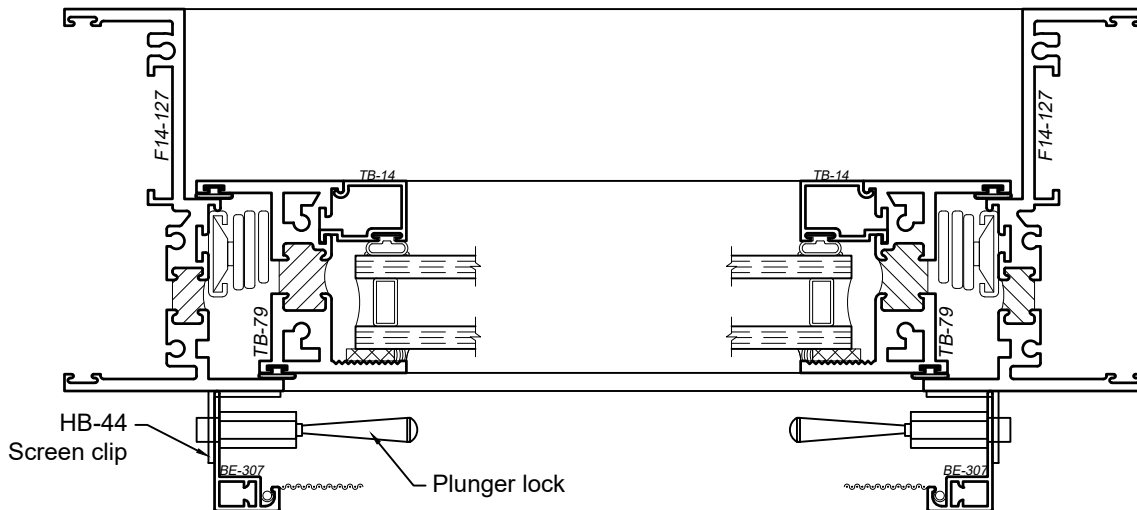
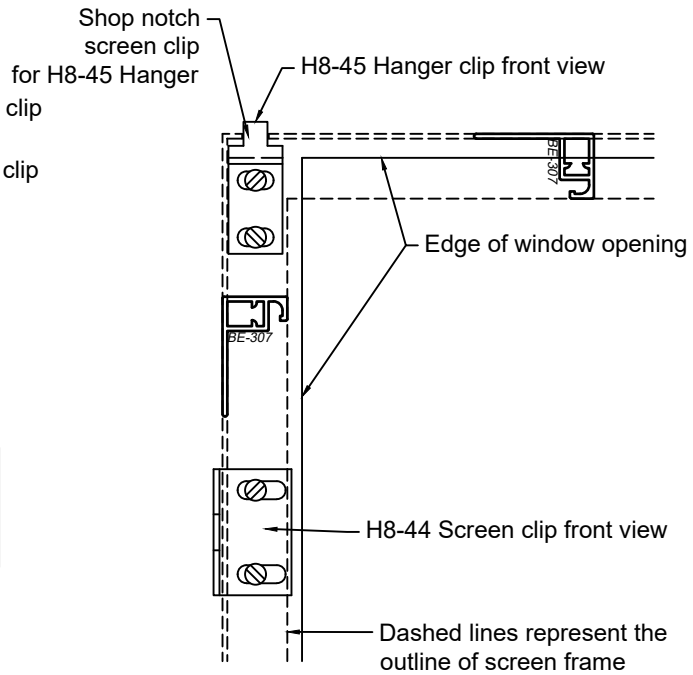


Note: Typical vent screen details shown. Winco reserves the right to alter the screen attachment detail due to job specific sizing and hardware. If you have specific screen applications you would like to see please contact your local Winco Sales Representative for more information.

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Note: Dashed lines on screen elevations depict operable sash type. All screen frames are fixed.



SCALE 6"=1'-0"

Section "B" - "B"

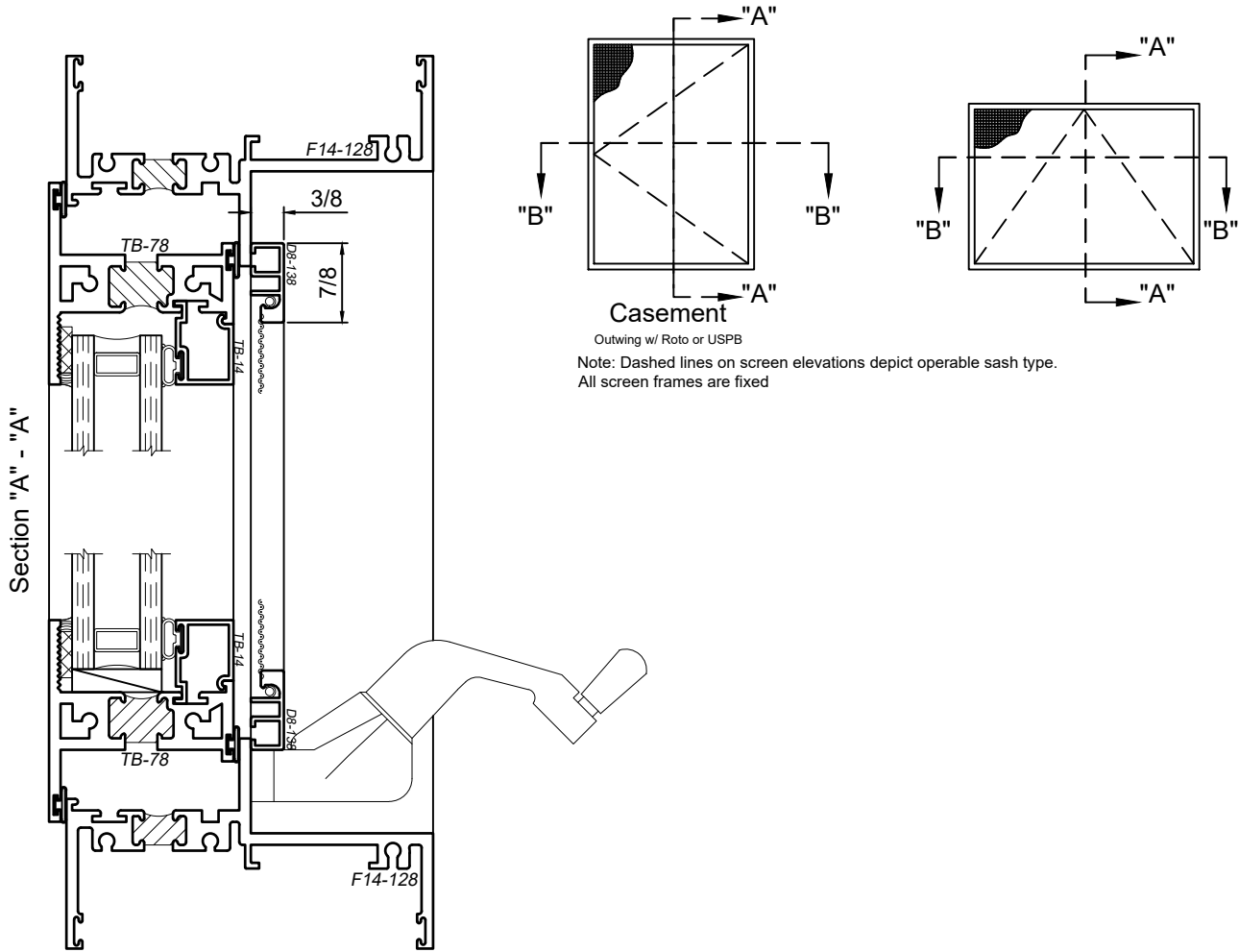
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Screen Options - PO - Awning w/ Roto Operator

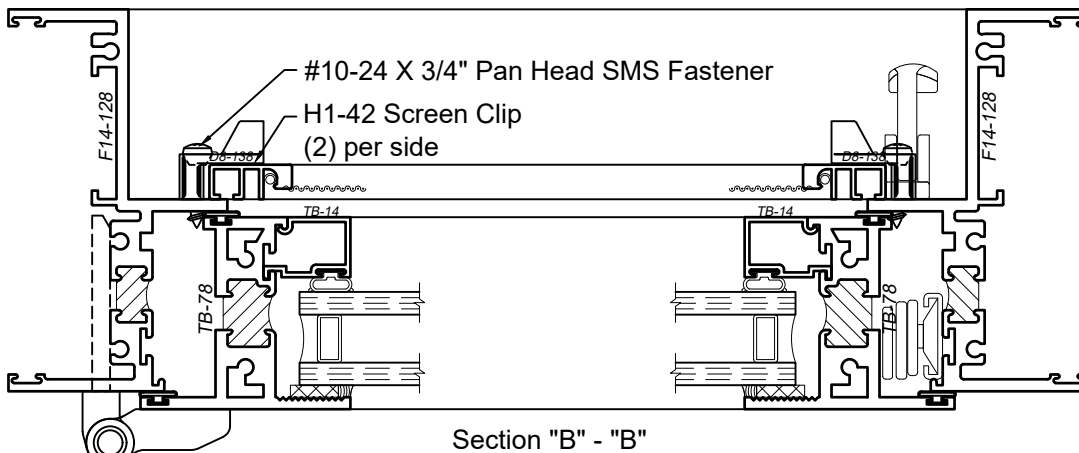


Note: Typical vent screen details shown. Winco reserves the right to alter the screen attachment detail due to job specific sizing and hardware. If you have specific screen applications you would like to see please contact your local Winco Sales Representative for more information.

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SCALE 6"=1'-0"

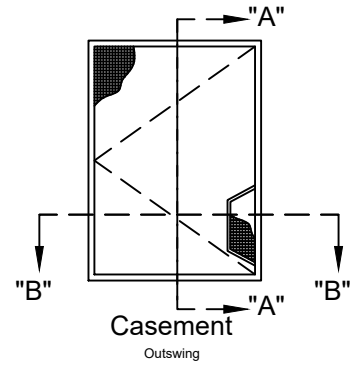
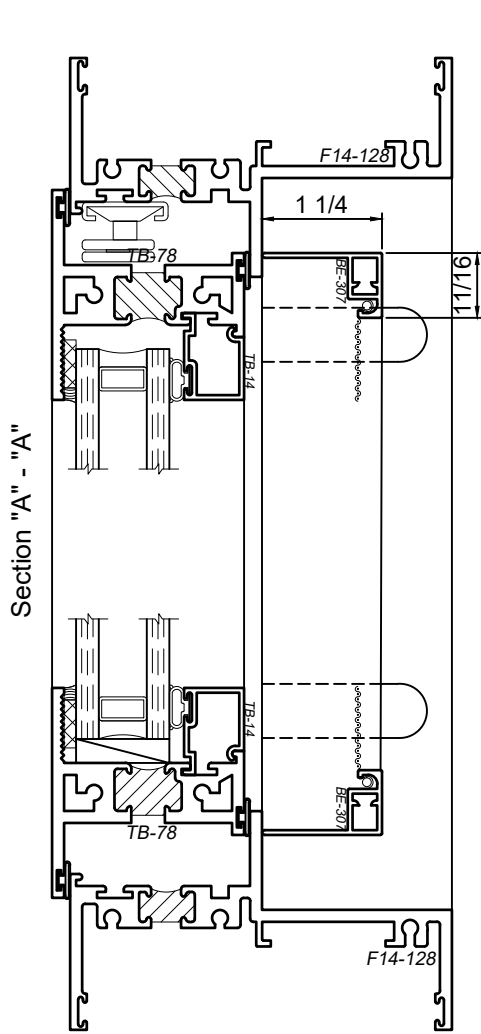
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Screen Options - Outswing Casement



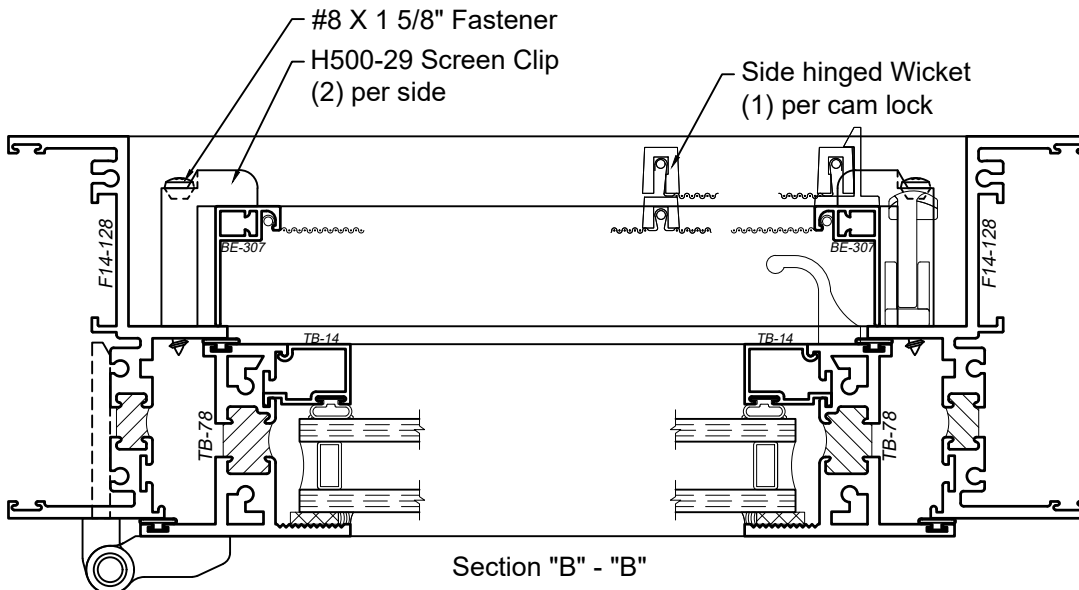
Note: Typical vent screen details shown. Winco reserves the right to alter the screen attachment detail due to job specific sizing and hardware. If you have specific screen applications you would like to see please contact your local Winco Sales Representative for more information.

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Note: Dashed lines on screen elevations depict operable sash type. All screen frames are fixed

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SCALE 6"=1'-0"

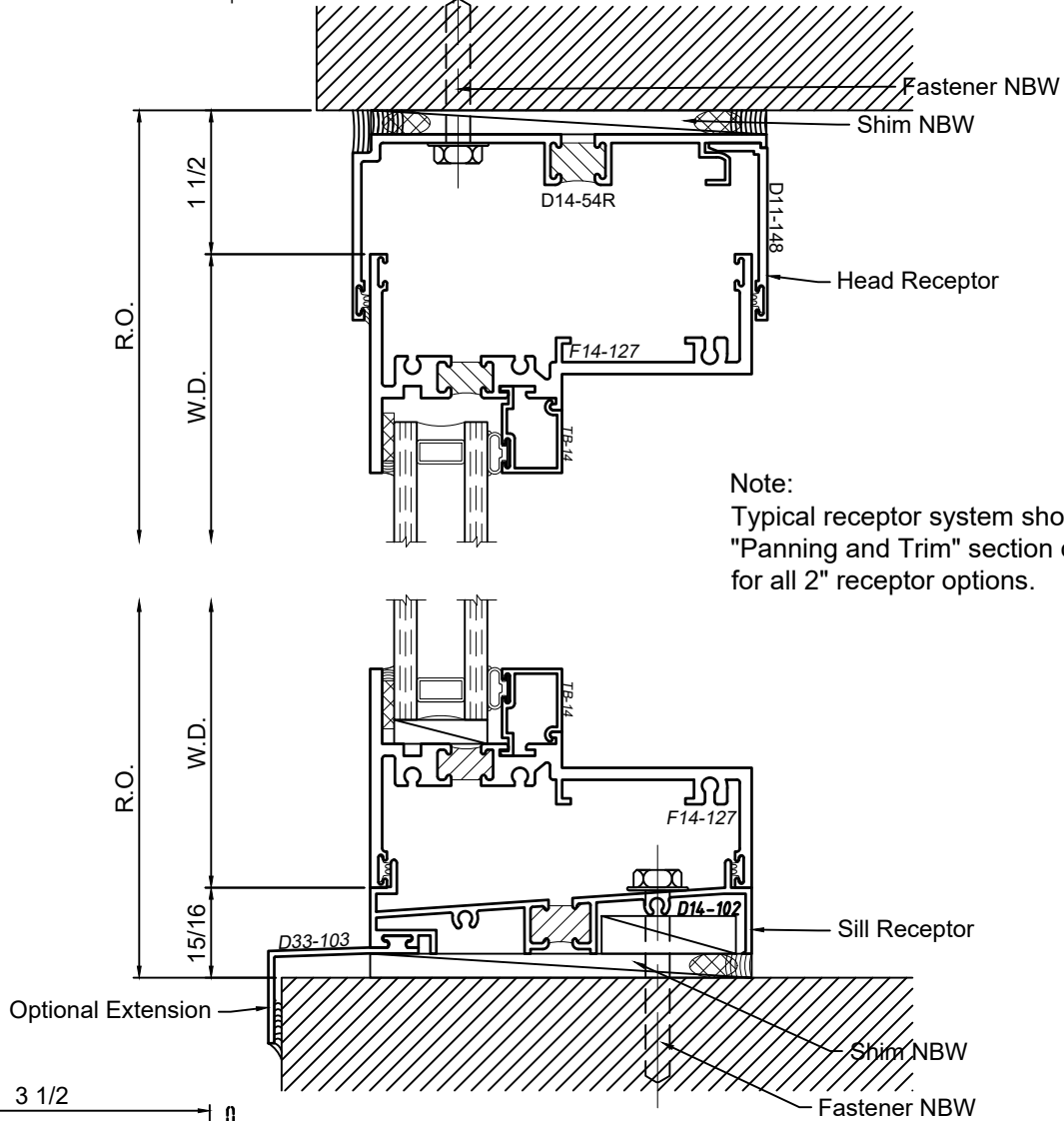
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Trim - Receptor Installation

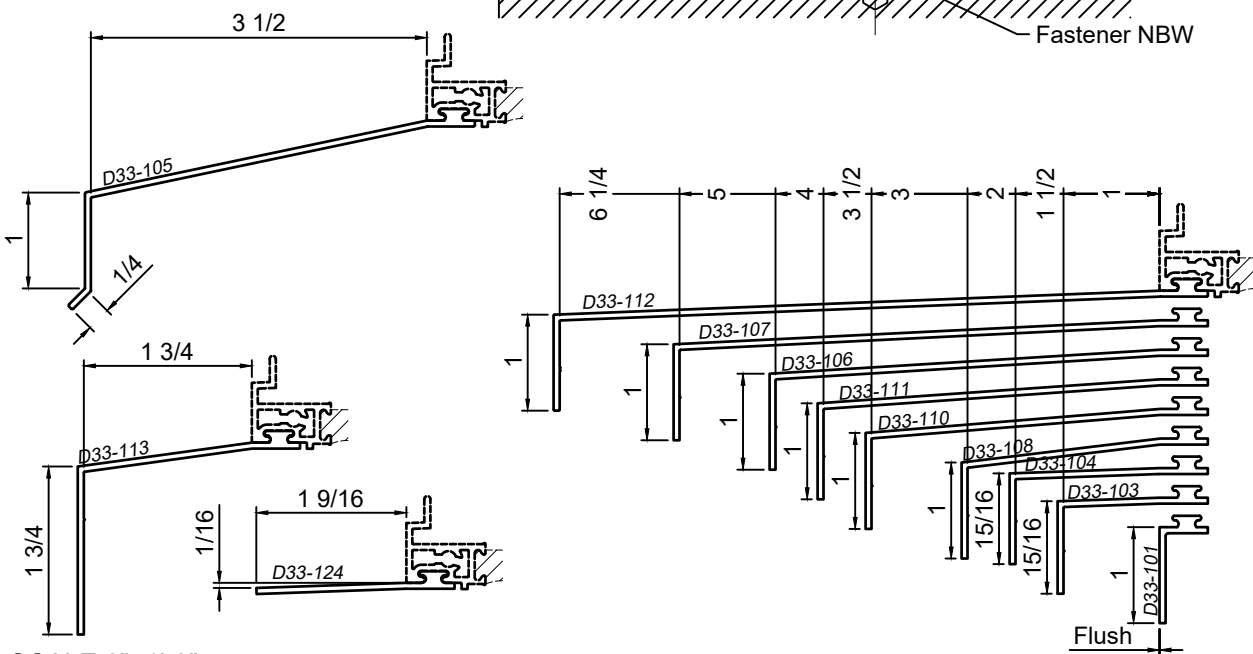


Note: See Winco Installation Instructions for a detailed description of installation notes and procedures.

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SCALE 6"=1'-0"

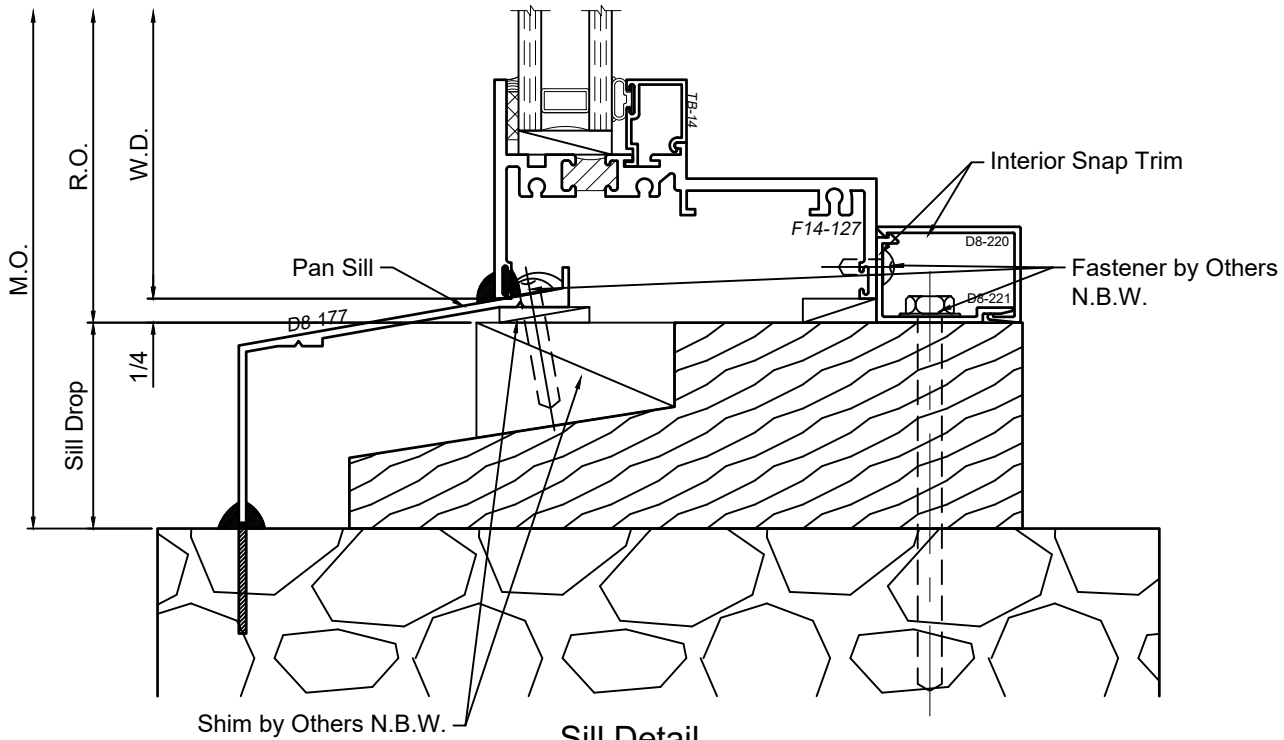
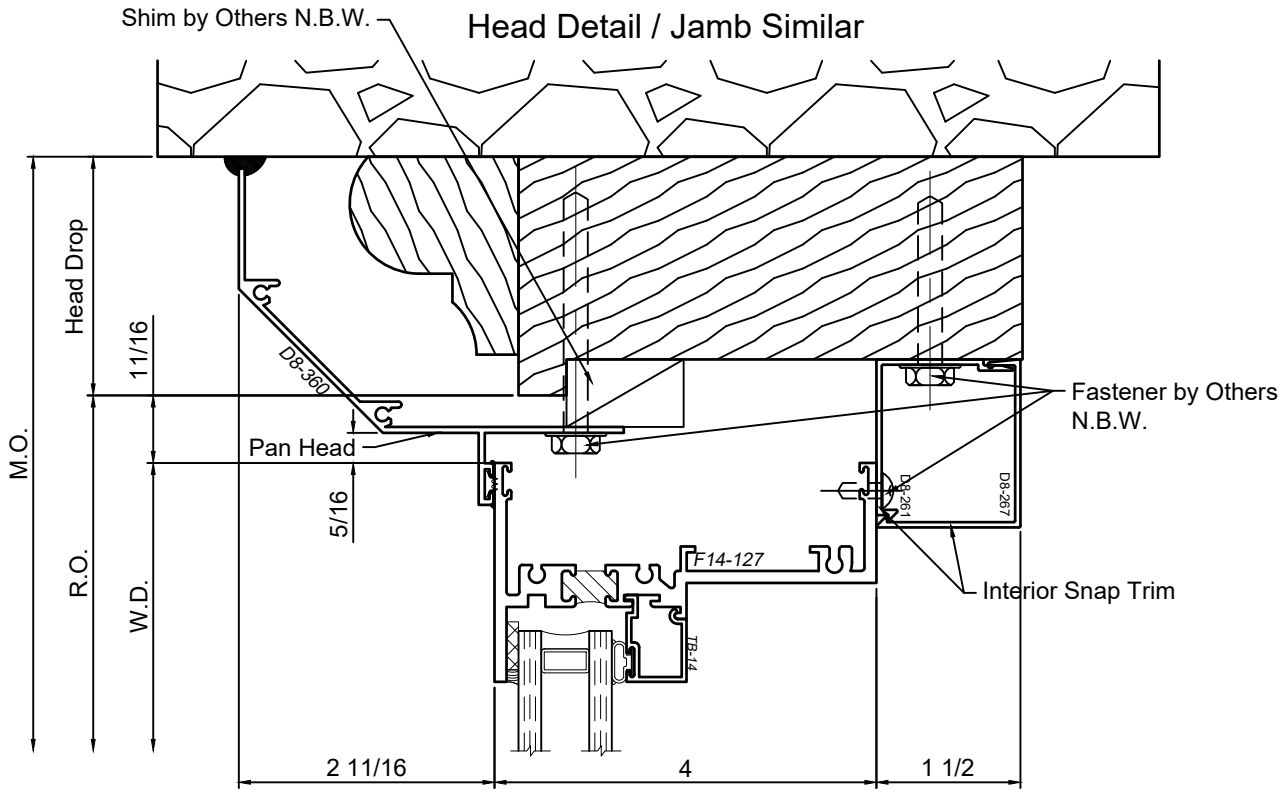
1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Trim - Panning Installation



Note: See Winco Installation Instructions for a detailed description of installation notes and procedures.

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Note:
Typical panning system shown. Refer to "Panning and Trim" section of detail binder for all panning and interior snap trim options

SCALE 6"=1'-0"

1450 Series 4" Thermal Fixed, Casement & Projected Windows

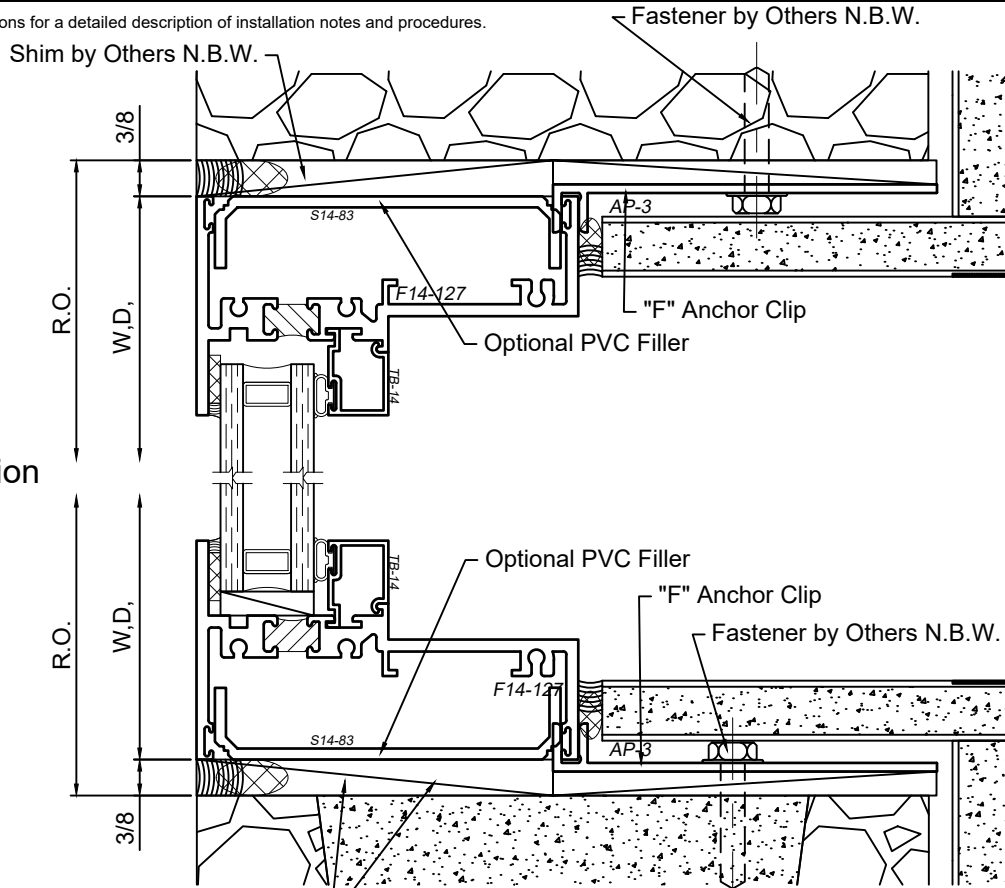
Product Details - Trim - F-Anchor and Snap Trim Installation



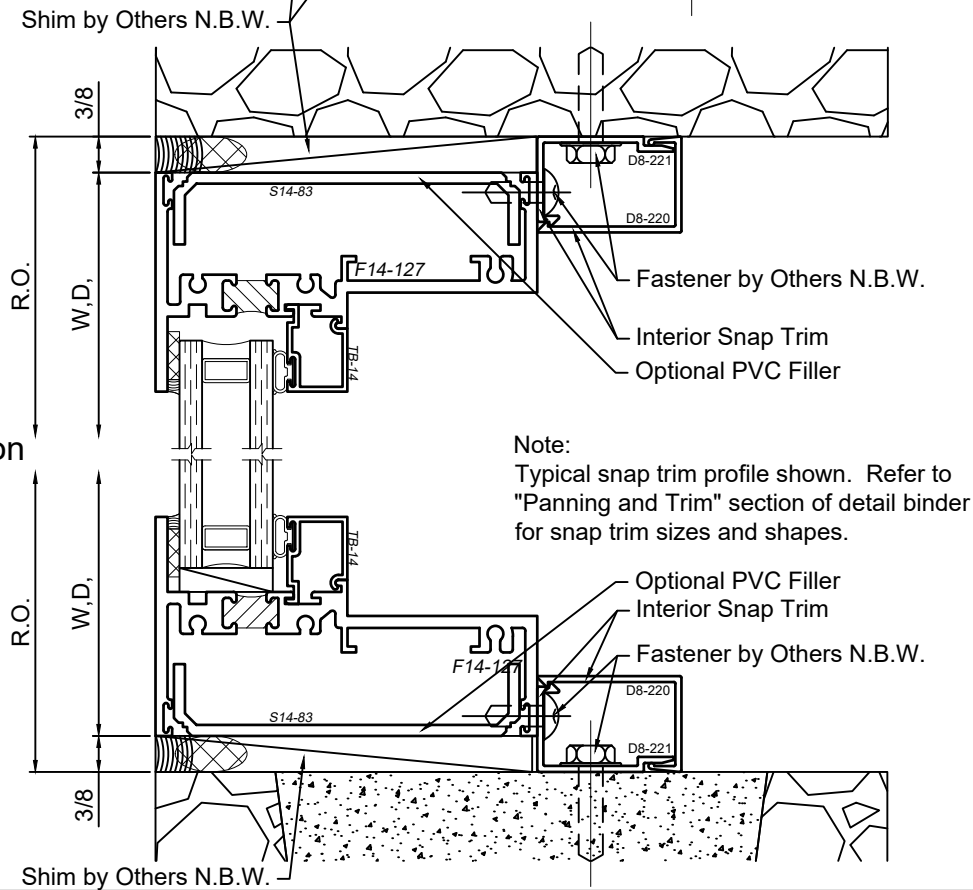
Note: See Winco Installation Instructions for a detailed description of installation notes and procedures.

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"F" Clip Installation



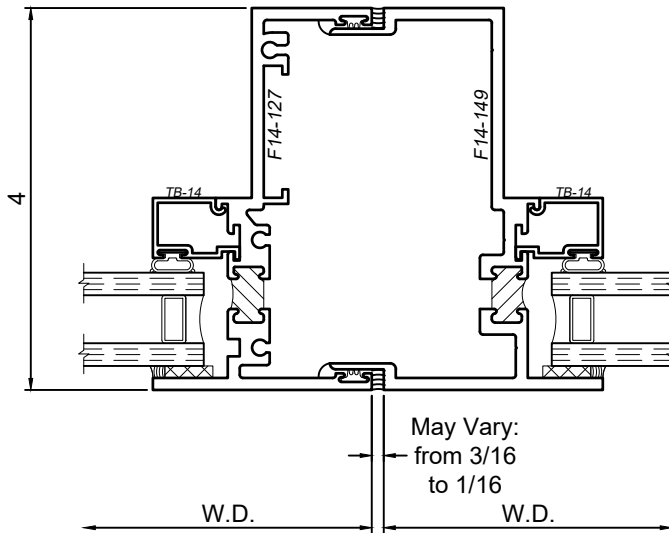
Snap Trim Installation



SCALE 6"=1'-0"

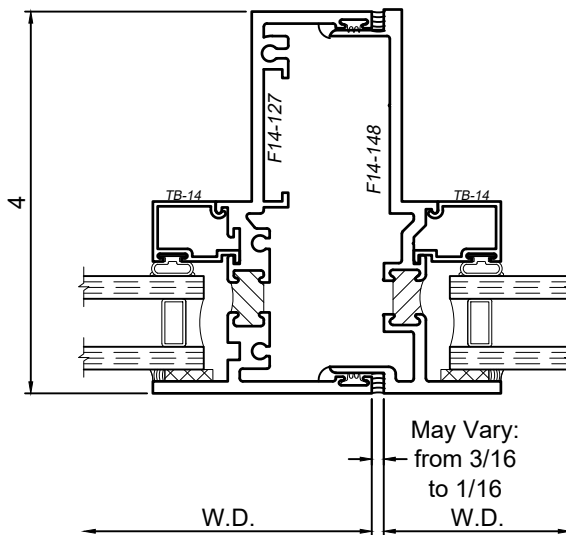
Shim by Others N.B.W.

Typical Side Stack Framing



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Narrow Sightline Side Stack Framing



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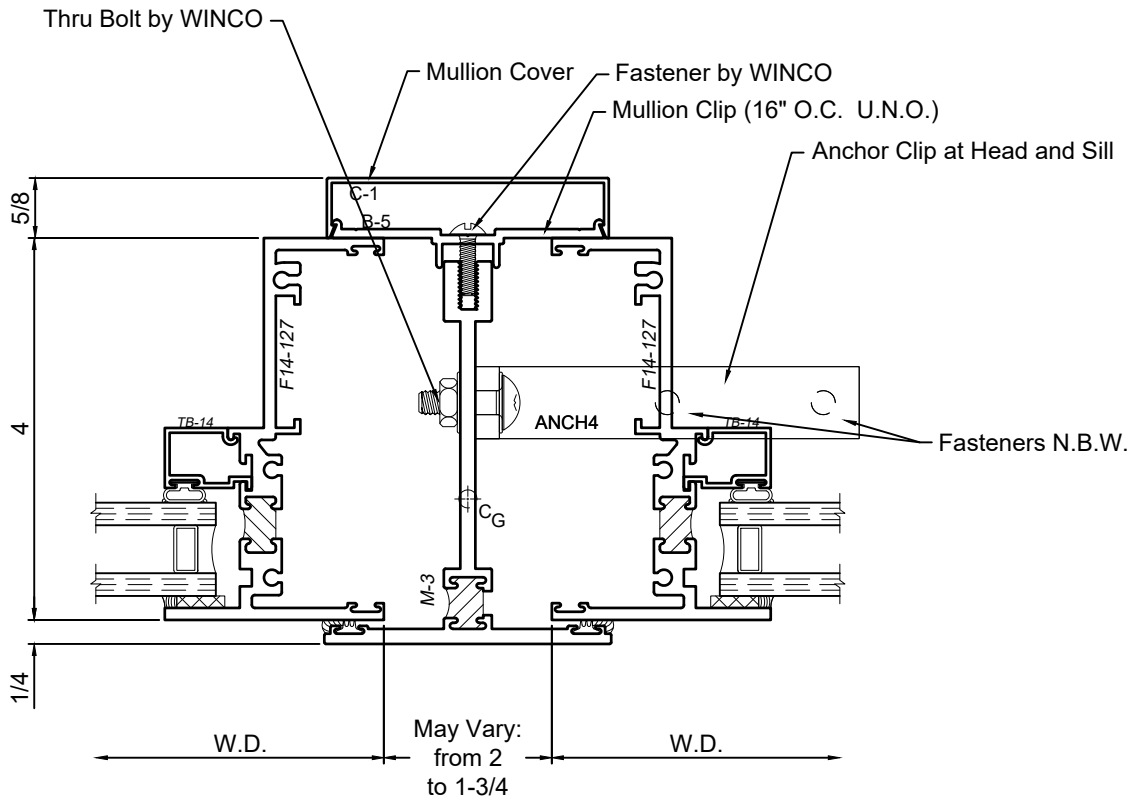
SCALE 6"=1'-0"

1450 Series 4" Thermal Fixed, Casement & Projected Windows

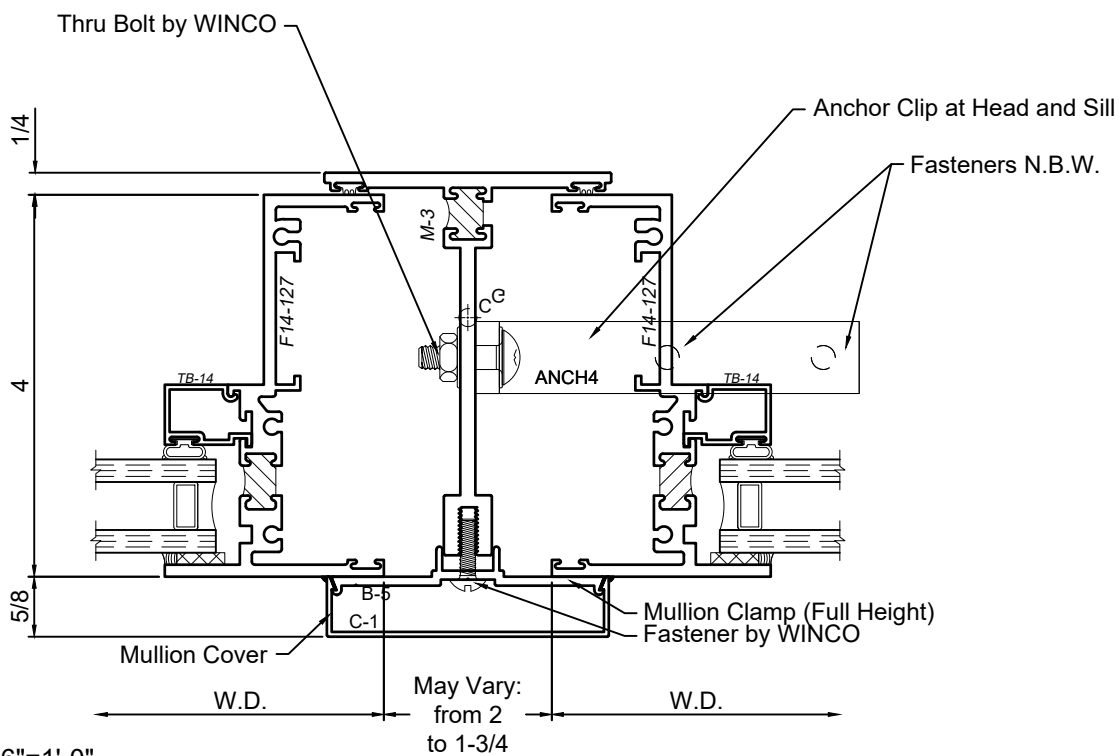
Product Details - Trim - Mullion



M-3 Mullion set from Building Interior



M-3 Mullion set from Building Exterior



SCALE 6"=1'-0"

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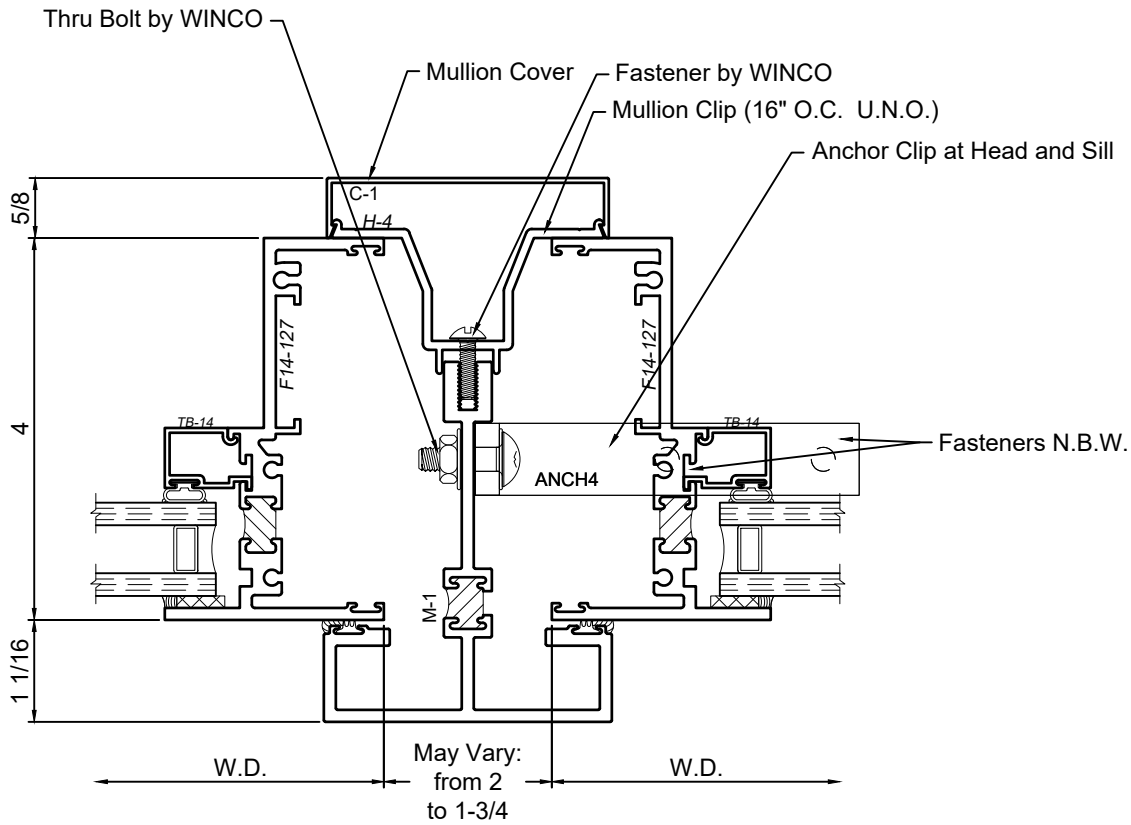
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1450 Series 4" Thermal Fixed, Casement & Projected Windows

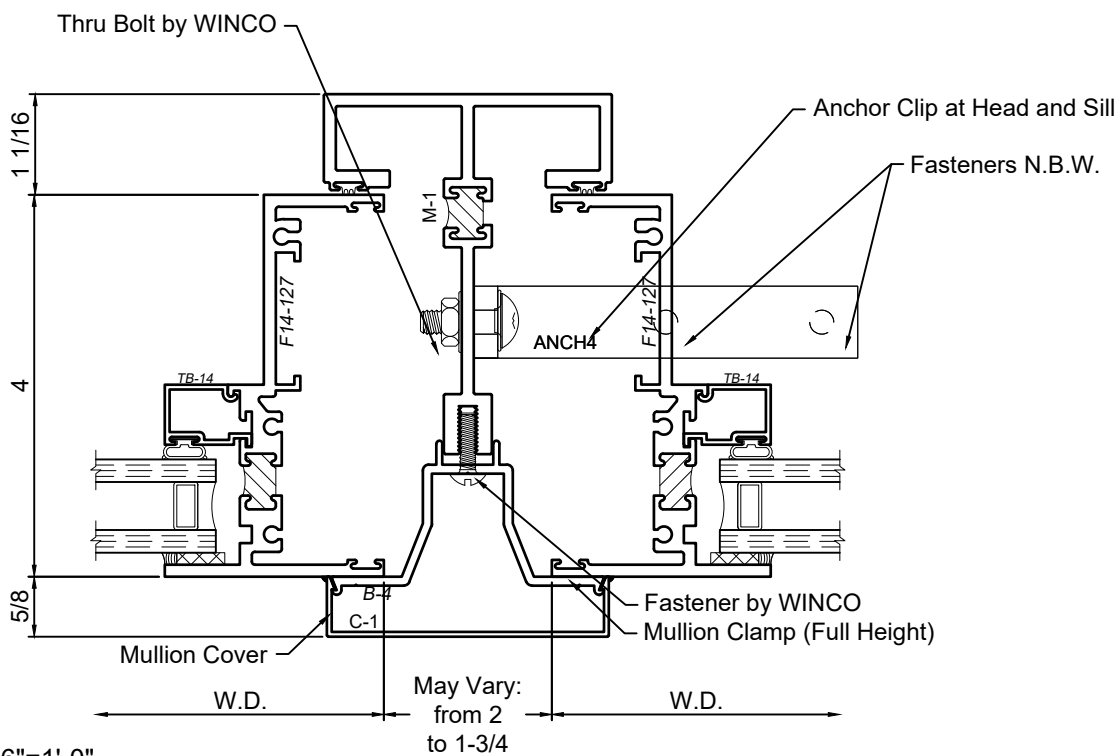
Product Details - Trim - Mullion



M-1 Mullion set from Building Interior



M-1 Mullion set from Building Exterior



SCALE 6"=1'-0"

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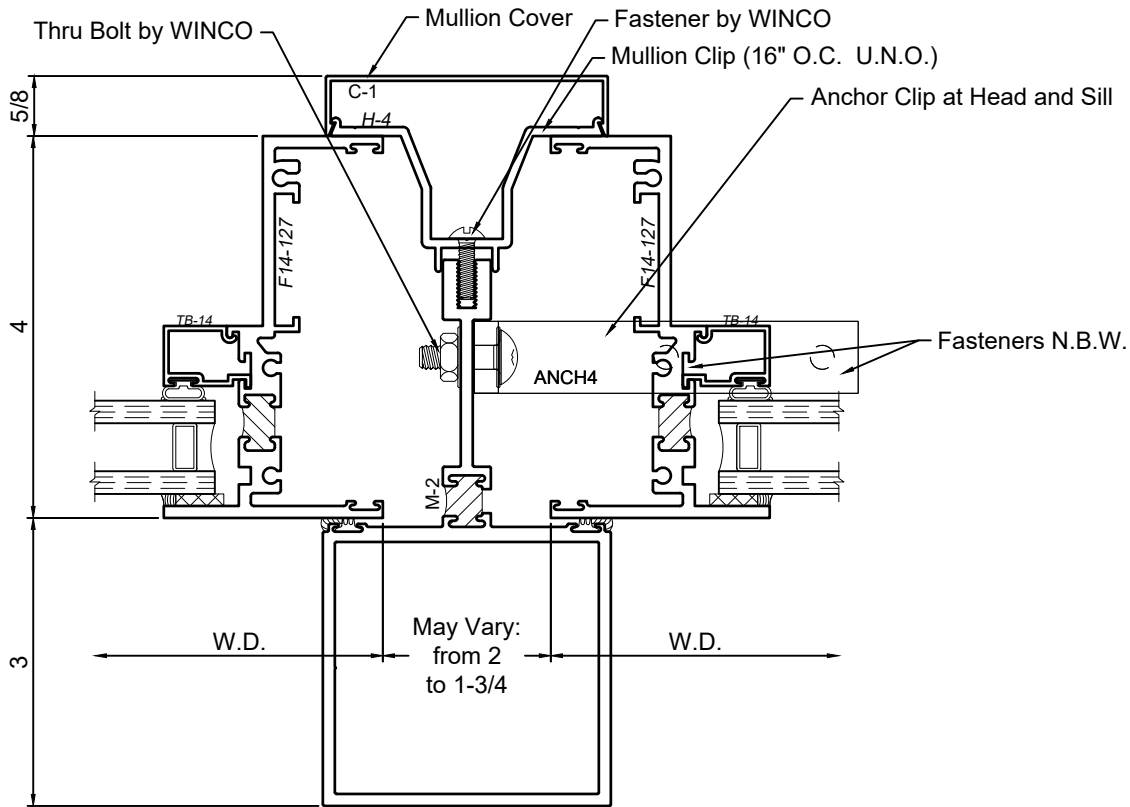
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1450 Series 4" Thermal Fixed, Casement & Projected Windows

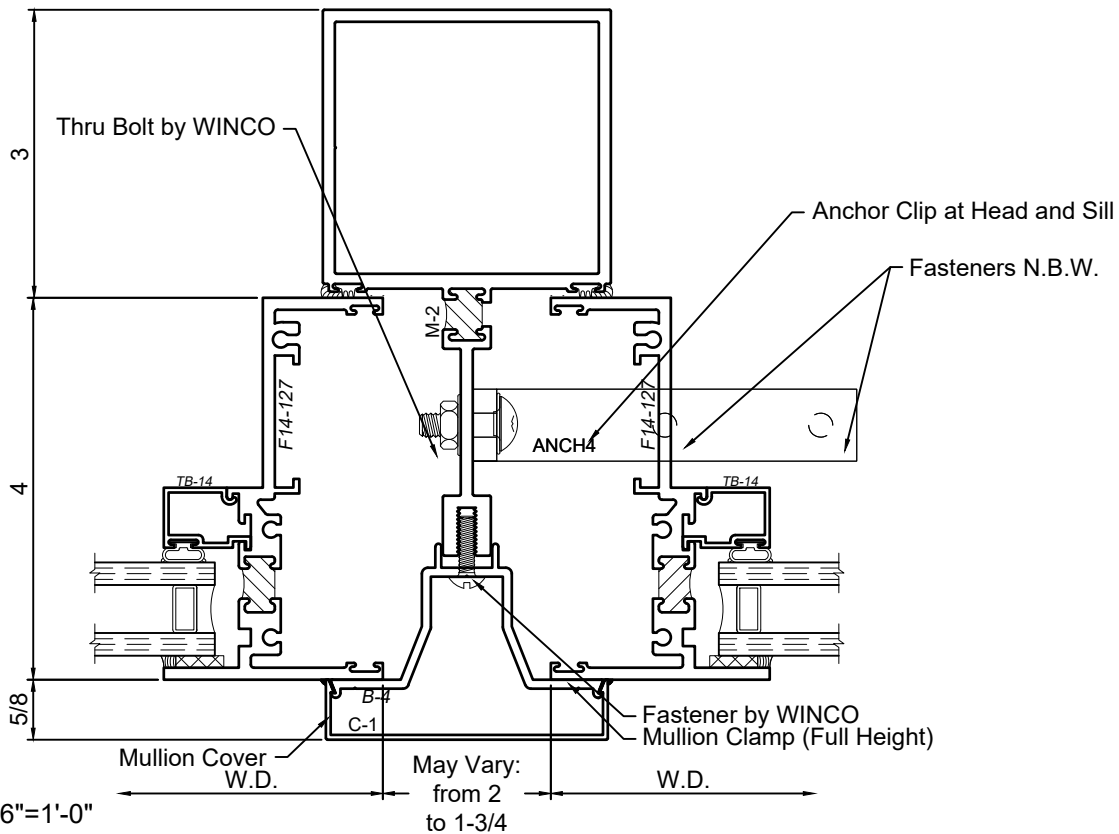
Product Details - Trim - Mullion



M-2 Mullion set from Building Interior



M-2 Mullion set from Building Exterior



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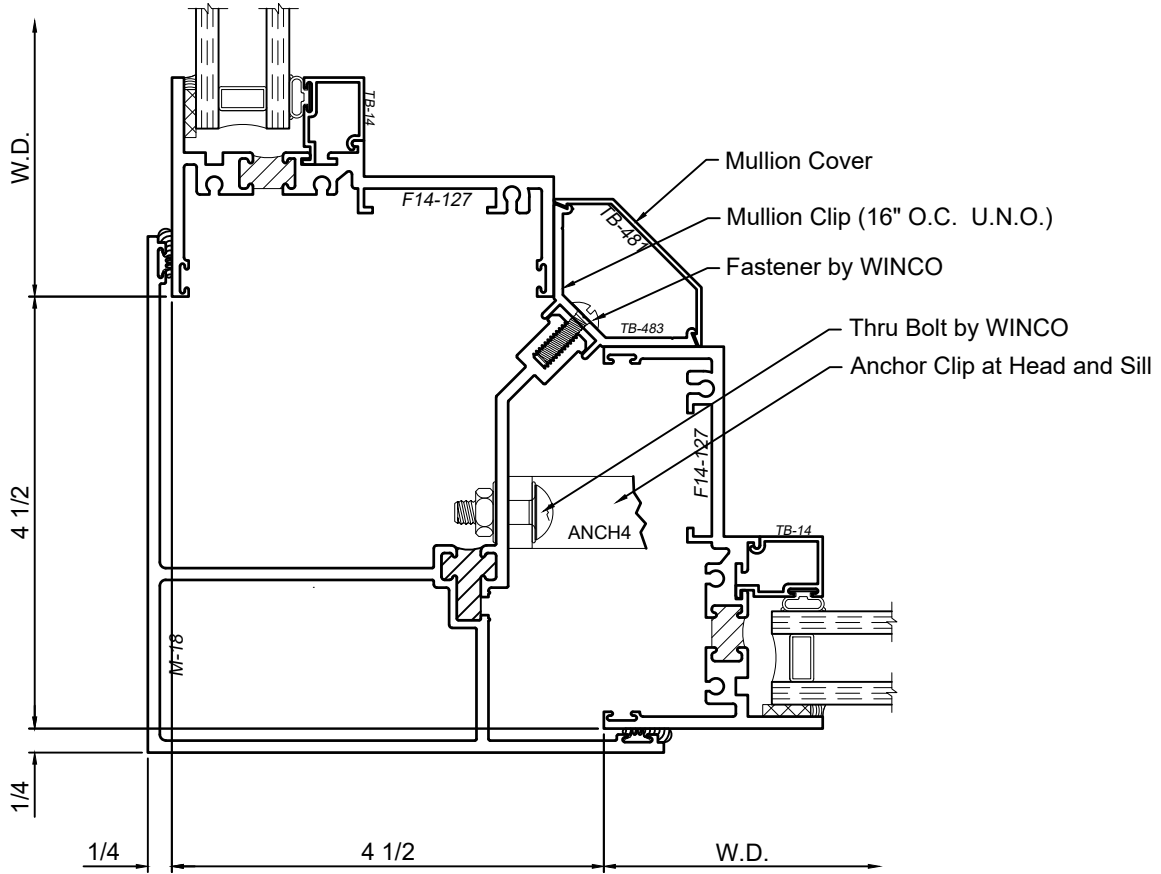
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1450 Series 4" Thermal Fixed, Casement & Projected Windows

Product Details - Trim - 90° Corner Mullion



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SCALE 6"=1'-0"

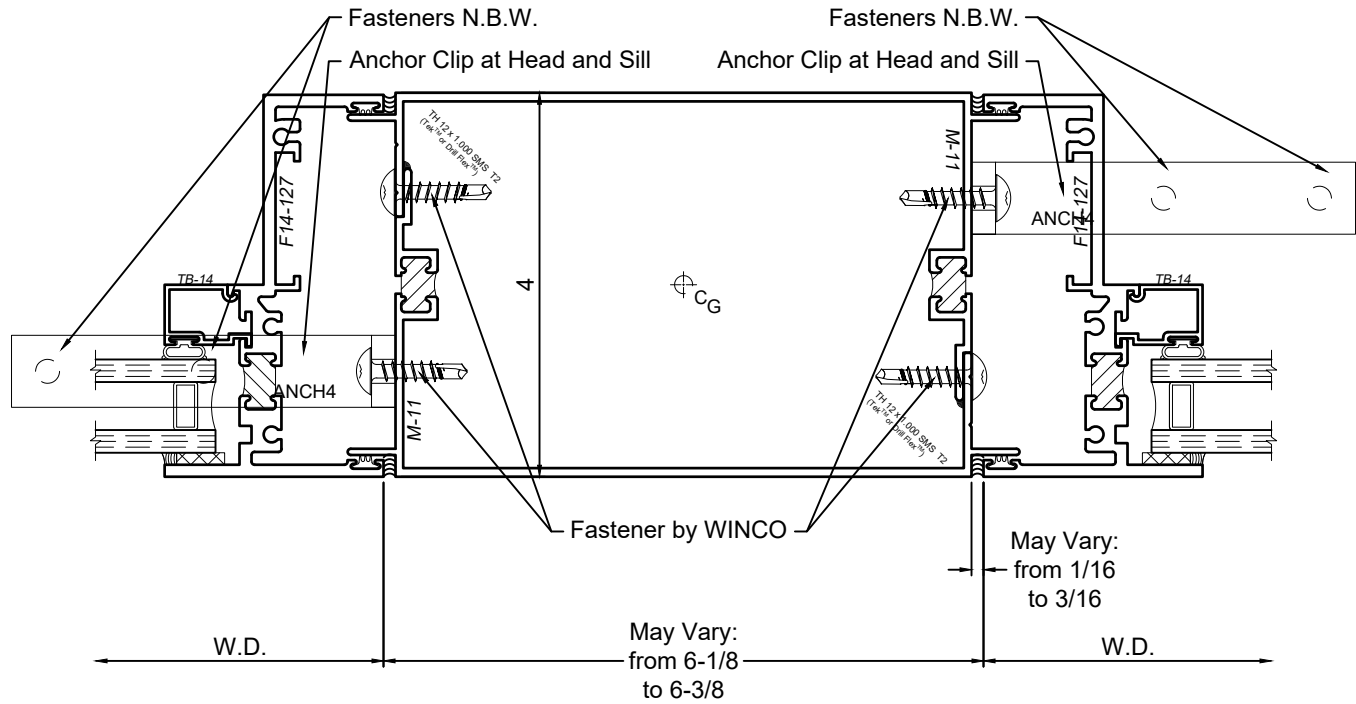
1450 Series 4" Thermal Fixed, Casement & Projected Windows Product Details - Trim -Mullion (Special Application)



M-11 Mullion

Recommended usage only with Jamb Receptor for installation clearances

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SCALE 6"=1'-0"