

## NanaWall Matching Windows / Doors

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## NanaWall Swing Doors

NanaWall Swing doors are available as single doors or double French doors. Very narrow stiles and rails are possible.

NanaWall Swing doors use exactly the same profiles and hardware as the matching NanaWall folding system. Hence, the same size charts, glazing options, wood/finish options and finish hardware options as the matching NanaWall folding system are applicable.

The same testing performance results also apply (within a folding system, with an odd number of panels stacking to one side, the last panel is a swing door).

For aluminum-clad, wood framed French doors, see WA67.

For wood framed French doors, see WD66 and WD65.

For standard aluminum framed French doors, see SL45.

For thermally broken aluminum framed French doors, see SL60, SL70 and SL80/81.

For Miami Dade / AAMA hurricane thermally broken aluminum framed French doors, see SL73.

For structurally glazed aluminum framed French doors, see SL82.

### **Coordinated Walls**

Available are matching systems in aluminum-clad wood, wood, standard aluminum and thermally broken aluminum.

Depending on sizes and wind load requirements, matching systems can be mulled (with appropriate structural support) with folding and individual panel sliding system.

### **Fixed Windows and Storefront**

Fixed units are available for transoms above a folding or individual panel sliding unit. Center lines can be lined up.

Sidelites are available with frame extenders so that horizontal glass lines are approximately the same.

Complete storefronts are also available with a combination of mulled units.



## NanaWall Tilt Turn Windows / Doors

These systems are engineered to provide high weather resistance and structural performance, suitable for many high-rise structures and buildings in hurricane and other areas.

### Benefits of NanaWall Tilt Systems

With tilt-turn hardware, large size operable openings are possible.

Tilts Inward for Safe Ventilation. The tilt position opens up from the top, tilting in a few inches, for safe ventilation.

Turns Inward for Easy Cleaning. With the turn position, the window swings in on its hinges to make cleaning the outside surface easy.

For units used as transoms, tilt-only hopper windows can be supplied with operators so that high units can be easily opened and closed.

### Performance Testing

The tested sample unit of the SL68 thermally broken aluminum framed tilt turn window met the performance requirements of AAMA DAW-C90 1219 x 1829 (48 x 72)/DA-C100 48 x 72 rating.

The tested sample unit of the SL88/89 thermally broken aluminum framed tilt turn window met the performance requirements of AAMA DAW-C70 1219 x 1829 (48 x 72)/DA-C70 48 x 72 rating.

The tested sample unit of the WA68 aluminum-clad wood framed tilt turn window met the performance requirements of AAMA DAW-C50 1122 x 1822 (48 x 72).

The tested sample unit of the WD68 wood framed tilt turn window met the performance requirements of AAMA DAW-C70 1220 x 1828 (48 x 72).

See Performance pages for details.

### Florida Approval

SL88/89 thermally broken aluminum framed tilt turn window with frame size of 48" wide x 72" high is Florida state wide approved with Number FL17907 and also for use in the high velocity hurricane zone (HVHZ) with impact glass. Please check for updates at [www.floridabuilding.org](http://www.floridabuilding.org).

### Profile and Finish Options

For WD68 and WA68 systems, standard woods available are Douglas Fir, Pine, or Meranti. Other woods are also available. Frames and panels have a sanding sealer or a base coat applied or for WA68 system only, with one additional clear coat; see "Wood Finish Options" in the General Introduction.

Standard aluminum finishes for the WA68, SL48 and SL88/89 systems are clear anodized and the 50 finishes shown in the NanaWall Powder Coating Finish Chart in the front of this binder. Powder coated finishes can be chosen from a range of over two hundred RAL colors; see "Aluminum Finish Options" in the General Introduction.

### Glazing

Units are supplied glazed with double clear insulating safety, insulating Low-E safety glass, single (for SL48 and WD68 systems only), other high performing safety glass such as triple glazing, Heat Mirror, special tint, etc., or other glass on request.

### Hinge Cover Options

Covers for hinges can be white, brown or silver.

### Handle Options

Standard: Stainless steel in brushed satin or black titanium finishes.

Optional: Solid brass available in white, oil rubbed brass or satin nickel finishes.

See "Hardware" in the General Introduction for other options.

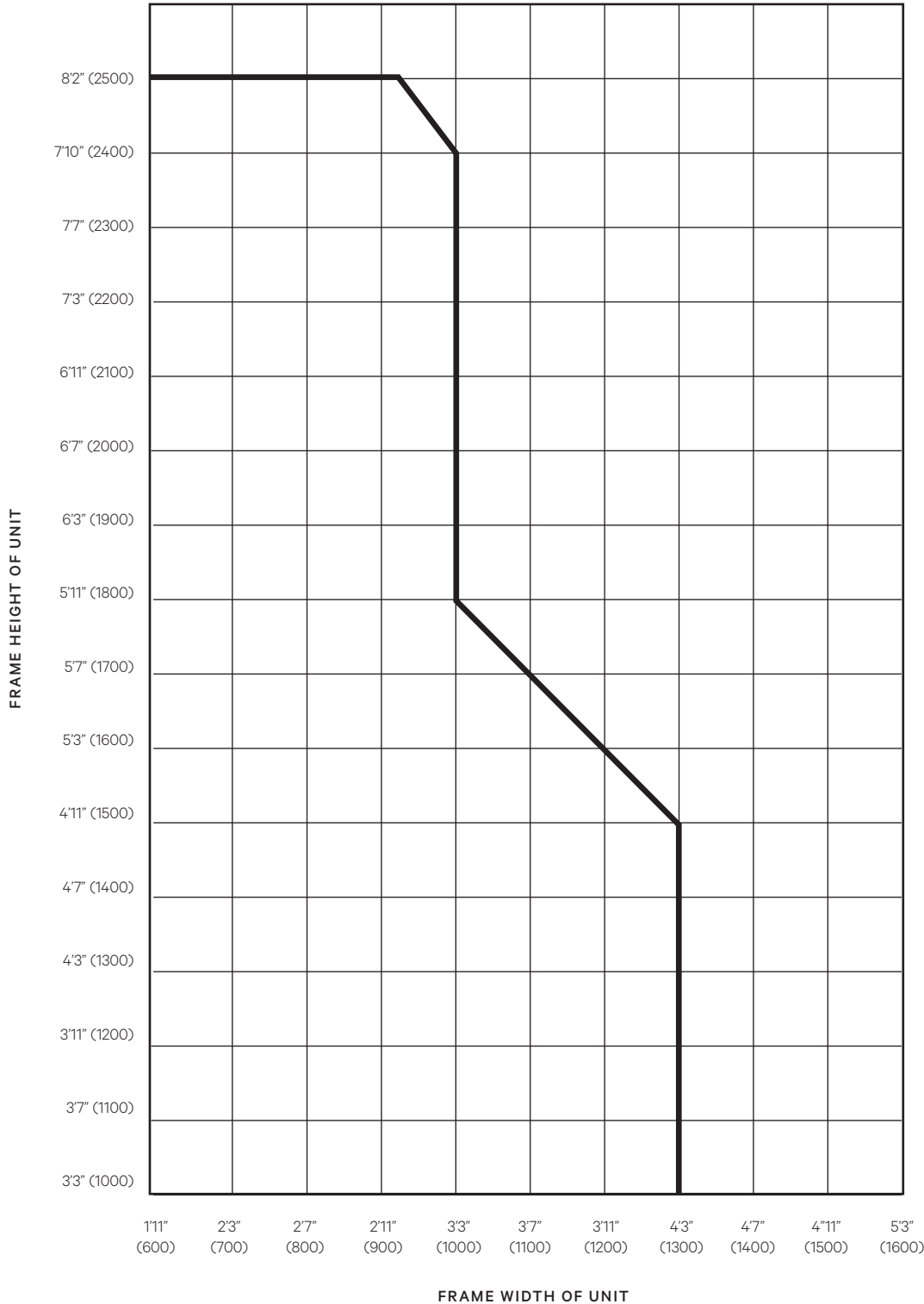
### NOTICE

For mulled fixed or tilt turn units or a combination of different units, please consult with a qualified structural engineer to determine, based on project design wind loads and other requirements, if any structural stiffeners are needed between units.

Folding/sliding system	Corresponding matching fixed/tilt turn system
WA67	WA68
WD65, WD66, HSW66	WD68
SL45, HSW45	SL48
SL60, HSW60	SL68
SL70, SL73, SL80	SL88/89
SL81	SL89

**NanaWall Maximum Frame Size Chart – Tilt Turn Window/Door  
WA68, WD68, SL48, SL68, SL88/89**

**NOTE:** English dimensions are approximate.  
Dimensions in parenthesis are in millimeters.



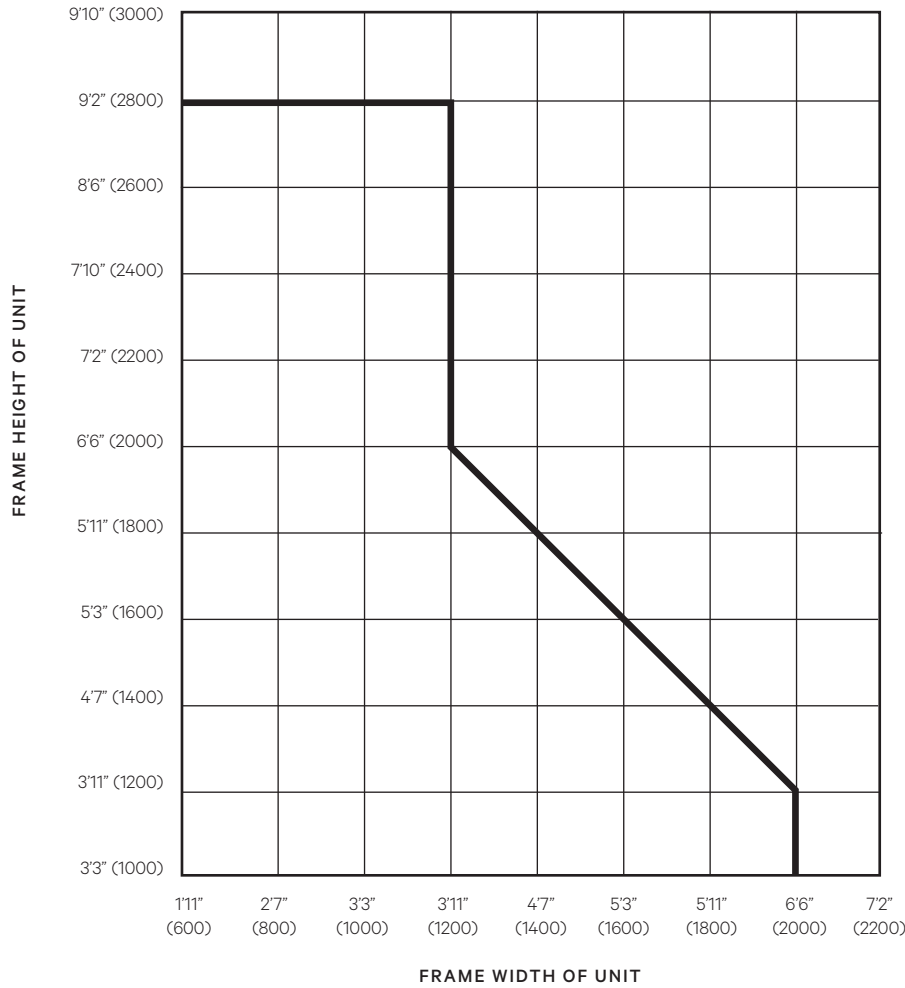
**Any custom size is possible up to the maximum size shown.**

— Solid dark line on chart indicates maximum frame height possible for a given maximum frame width.

The maximum size limits shown are based on the weight of a unit that has a net glass thickness of 5/16" (8 mm). The composition of standard insulated glass is 5/32" glass/air space/ 5/32" glass. For other net glass thicknesses, this maximum size chart may not apply.

**NanaWall Maximum Frame Size Chart – Fixed Panel**  
**WA68, WD68, SL48, SL68, SL88/89**

**NOTE:** English dimensions are approximate.  
 Dimensions in parenthesis are in millimeters.



**Any custom size is possible up to the maximum size shown.**





— Solid dark line on chart indicates maximum frame height possible for a given maximum frame width.

The maximum size limits shown are based on the weight of a unit that has a net glass thickness of 5/16" (8 mm). The composition of standard insulated glass is 5/32" glass/air space/ 5/32" glass. For other net glass thicknesses, this maximum size chart may not apply.

WA68 Aluminum Clad Wood Framed Tilt Turn Window/Door to Match WA67

## Performance Testing Results

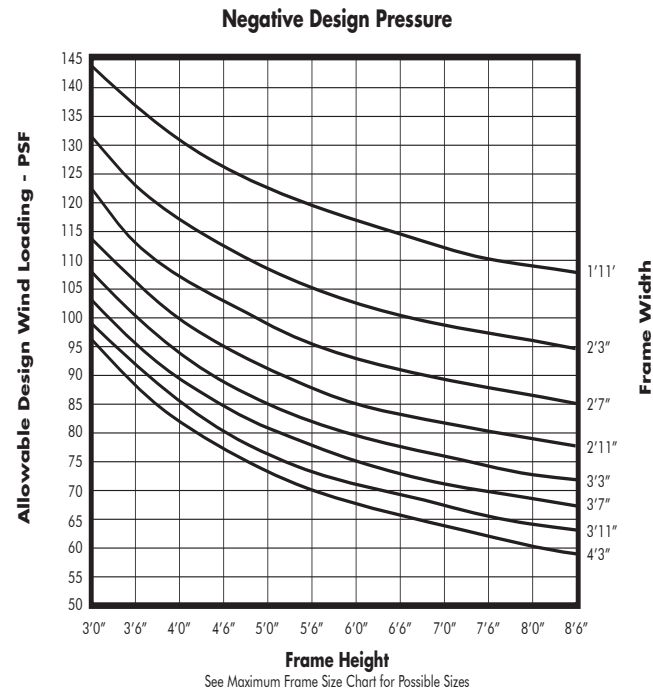
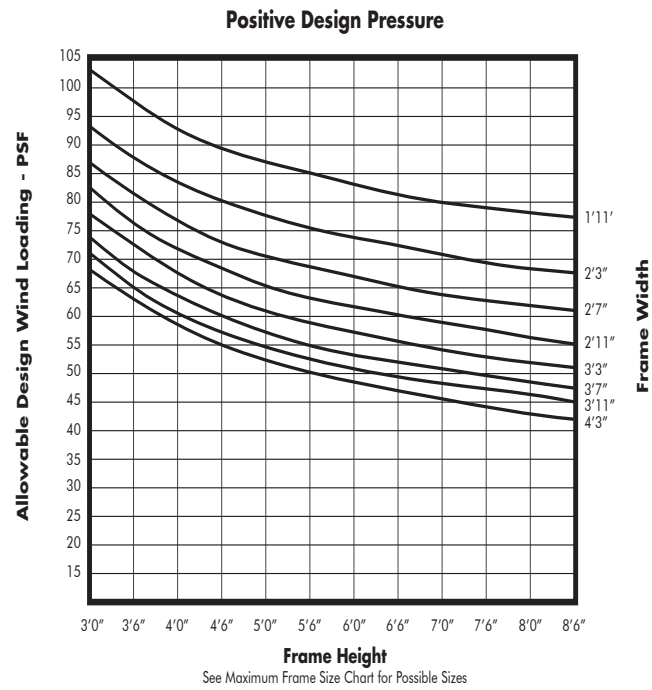
### WA68

TYPE OF TEST	RESULTS	
 <p><b>Air Infiltration</b> ① ASTM E-283, cfm/ft<sup>2</sup></p>	<p>@ <b>1.60</b> psf (75 Pa): <b>0.01</b> (1 L/s/m<sup>2</sup>)</p>	
 <p><b>Water Penetration</b> ① ASTM E-547 and E331</p>	<p>No uncontrolled water entry @ <b>12</b> psf (580 Pa)</p>	
 <p><b>Structural Load Deflection</b> ① ASTM E-330: Pass <i>Note that the structural test pressures were 50% higher than the design pressures.</i></p>	<p><b>DESIGN PRESSURE</b></p> <p>Positive @ <b>50</b> psf (2400 Pa)</p>	<p><b>DESIGN PRESSURE</b></p> <p>Negative @ <b>70</b> psf (3360 Pa)</p>
 <p><b>Forced Entry Resistance</b> ①</p>	<p>In accordance with ASTM F 588 - Grade 20 &amp; CAWM 301</p>	

① Excerpts of results of a 4'0" W x 6'0" H standard unit tested by Architectural Testing, Inc., Fresno, CA, an independent testing laboratory in January 2008, in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 standard. The sample tested met the performance requirements for a DAW-C50 1220 x 1822 (48 x 72) rating.

**Design Windload Charts** (Derived from Comparative Analysis) Test unit size: 4'0" W x 6'0" H

Please note that some jurisdictions may limit the use of these charts or may not accept them at all. Design pressures and/or sizes may be restricted to what was tested. For Florida approved products, please see detailed FL Evaluation Report for restrictions.

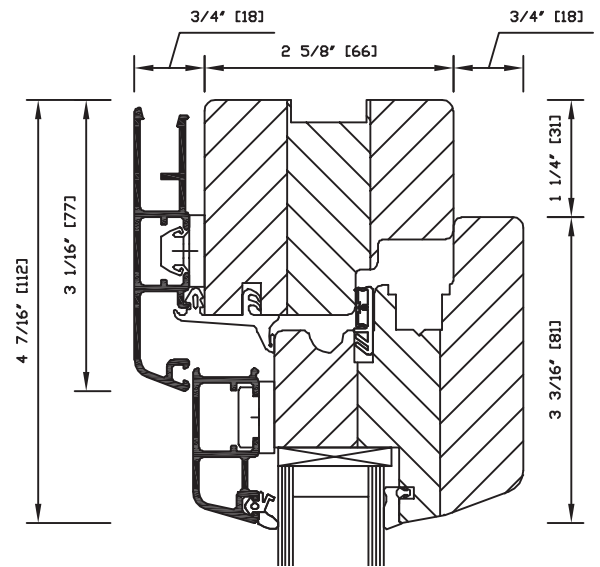
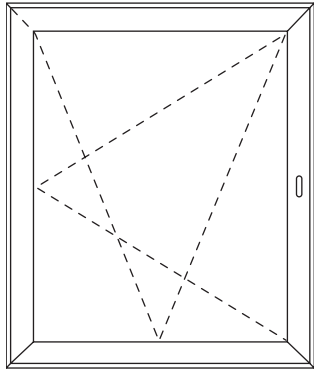


Please also note that chart is only applicable for units with referenced NanaWall supplied locking.

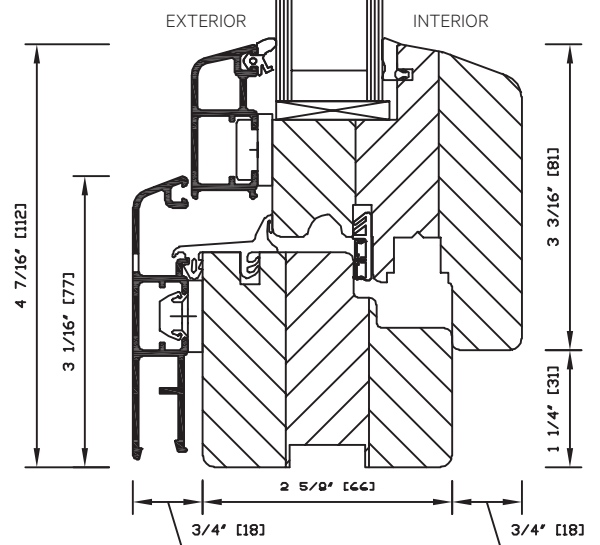


**NanaWall WA68 Tilt Turn Window to Match WA67**

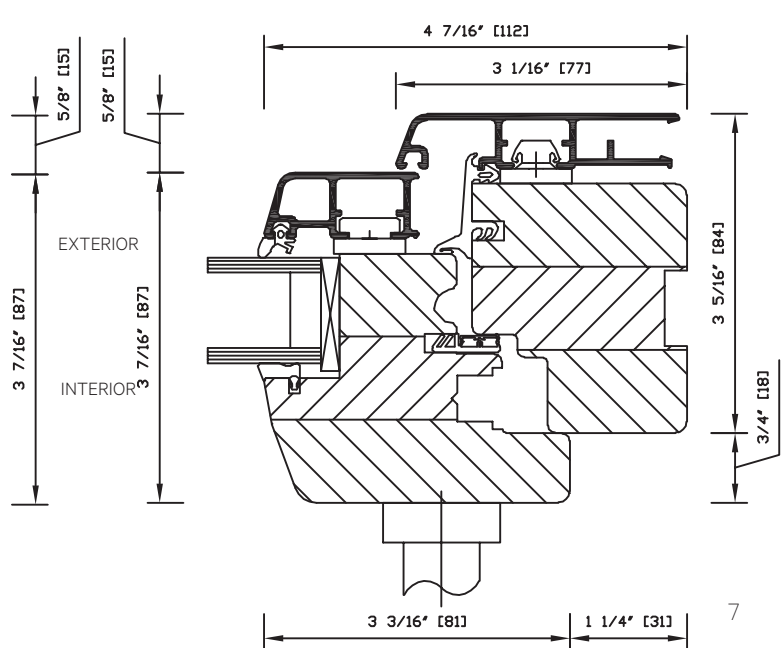
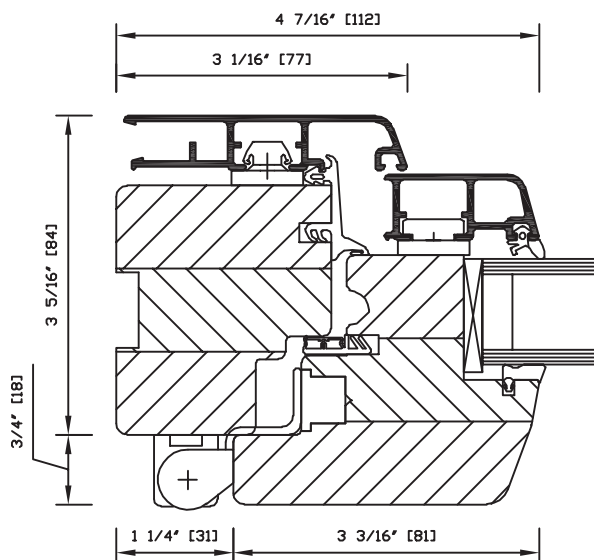
(Available as a single window or as a pair. In a pair, only one panel can tilt).



Vertical Cross-Section

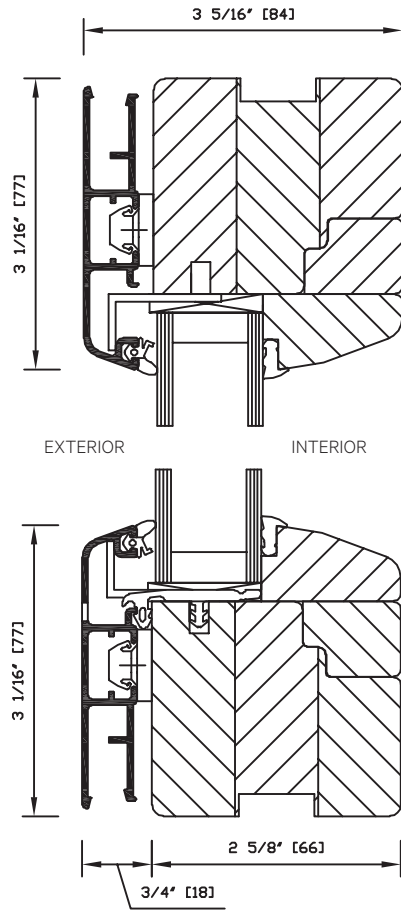


Horizontal Cross-Section

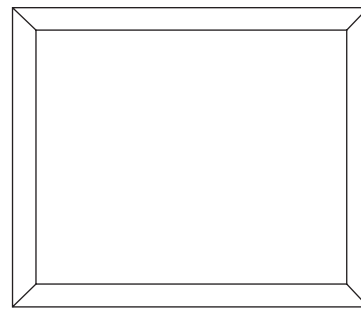


NanaWall WA68 Fixed Panel to Match WA67

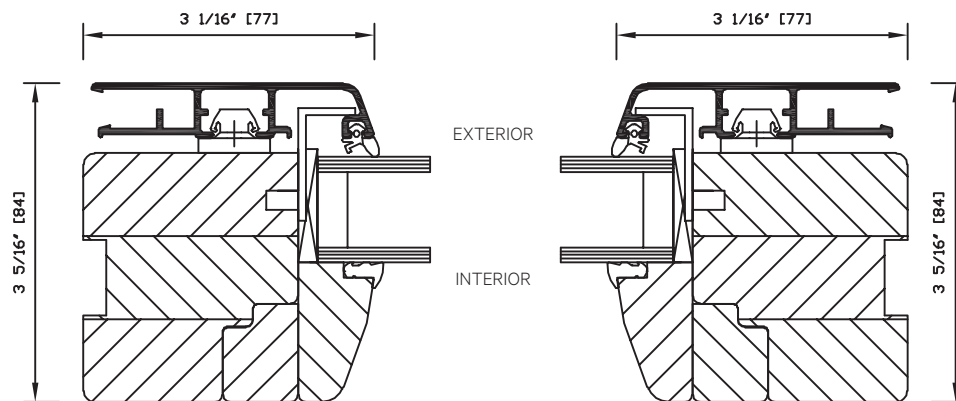
Vertical Cross-Section



Wood frame extenders are available to approximately align glass sight lines to adjacent folding or sliding systems.



Horizontal Cross-Section



WD68 Wood Framed Tilt Turn Window/Door to Match WD65, WD66 and HSW66

## Performance Testing Results

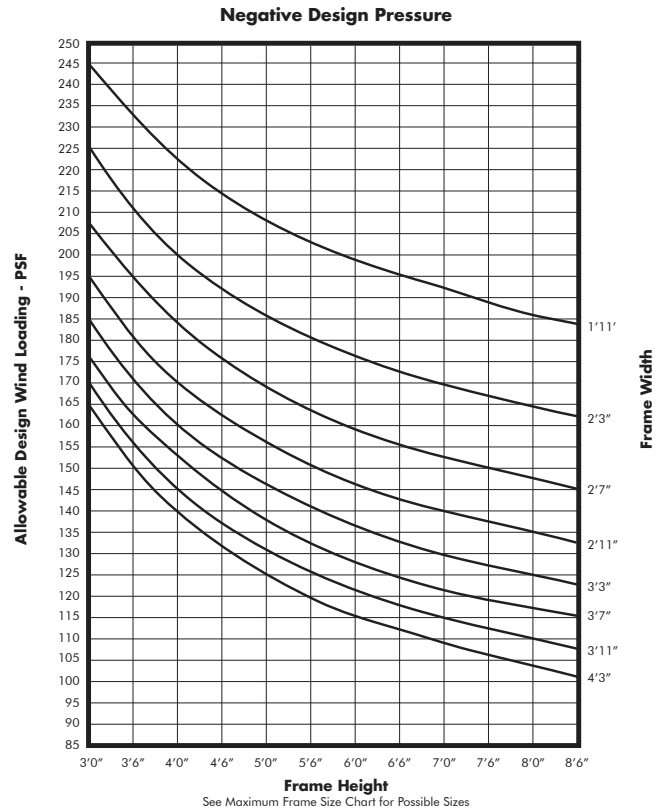
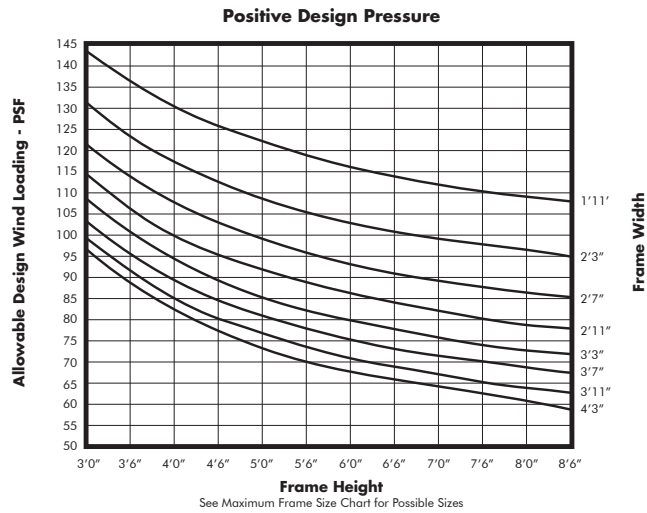
### WD68

TYPE OF TEST	RESULTS	
 <p><b>Air Infiltration</b> <sup>①</sup> ASTM E-283, cfm/ft<sup>2</sup></p>	<p>@ <b>1.60</b> psf (75 Pa): <b>0.01</b> (1 L/s/m<sup>2</sup>)</p>	
 <p><b>Water Penetration</b> <sup>①</sup> ASTM E-547 and E331</p>	<p>No uncontrolled water entry @ <b>13.5</b> psf (645 Pa)</p>	
 <p><b>Structural Load Deflection</b> <sup>①</sup> ASTM E-330: Pass <i>Note that the structural test pressures were 50% higher than the design pressures.</i></p>	<p><b>DESIGN PRESSURE</b></p> <p>Positive @ <b>70</b> psf (3360 Pa)</p>	<p><b>DESIGN PRESSURE</b></p> <p>Negative @ <b>120</b> psf (5745 Pa)</p>
 <p><b>Forced Entry Resistance</b> <sup>①</sup></p>	<p>In accordance with ASTM F 588 - Grade 20 &amp; CAWM 301</p>	

① Excerpts of results of a 4'0" W x 6'0" H standard unit tested by Architectural Testing, Inc., Fresno, CA, an independent testing laboratory in January 2008, in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 standard. The sample tested met the performance requirements for a DAW-C70 1220 x 1828 (48 x 72) rating.

**Design Windload Charts** (Derived from Comparative Analysis) Test unit size: 4'0" W x 6'0" H

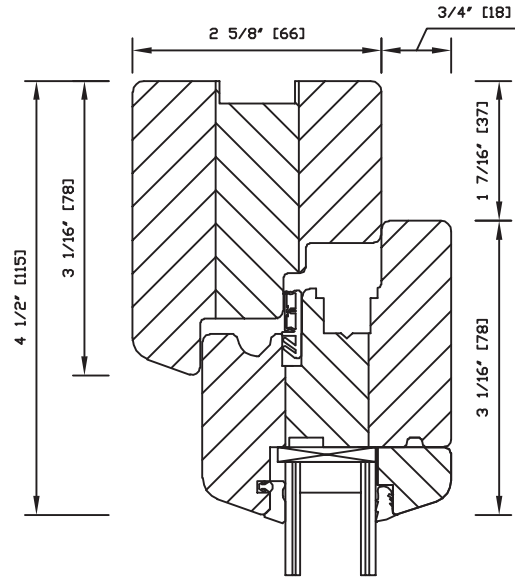
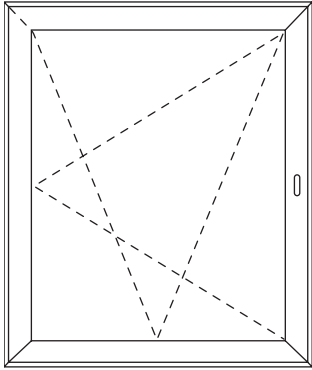
Please note that some jurisdictions may limit the use of these charts or may not accept them at all. Design pressures and/or sizes may be restricted to what was tested. For Florida approved products, please see detailed FL Evaluation Report for restrictions.



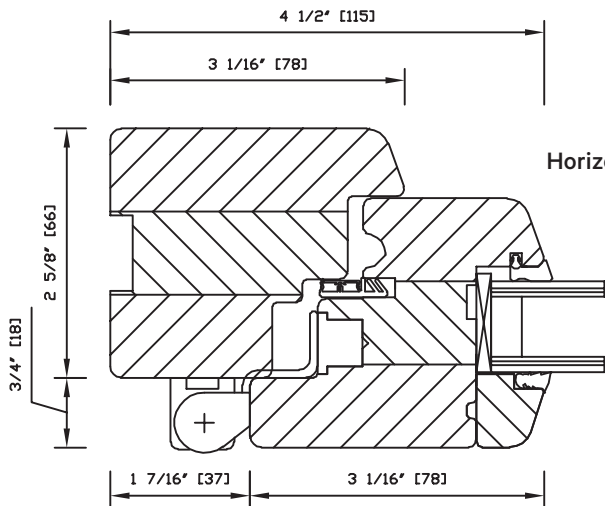
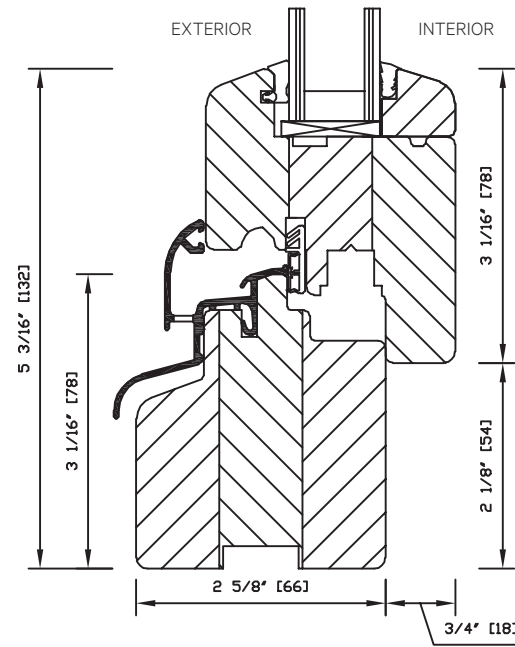
Please also note that chart is only applicable for units with referenced NanaWall supplied locking.

**NanaWall WD68 Tilt Turn Window to Match WD65, WD66 and HSW66**

(Available as a single window or multiple unit).



**Vertical Cross-Section**



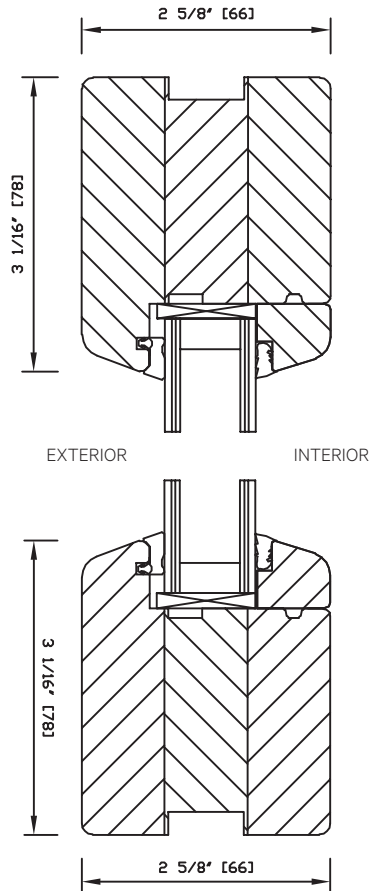
**Horizontal Cross-Section**

EXTERIOR

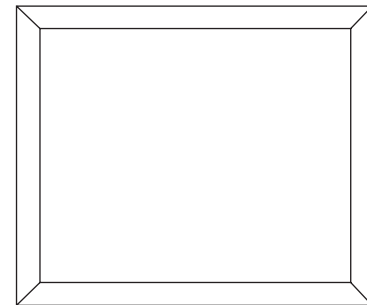
INTERIOR

NanaWall WD68 Fixed Panel to Match WD65, WD66 and HSW66

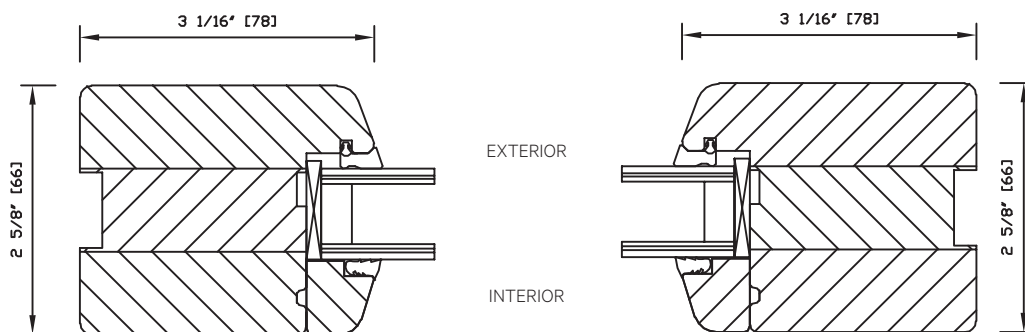
Vertical Cross-Section



Wood frame extenders are available to approximately align glass sight lines to adjacent folding or sliding systems.

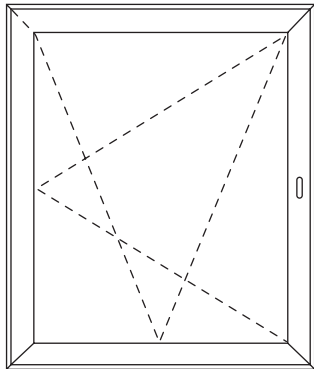


Horizontal Cross-Section

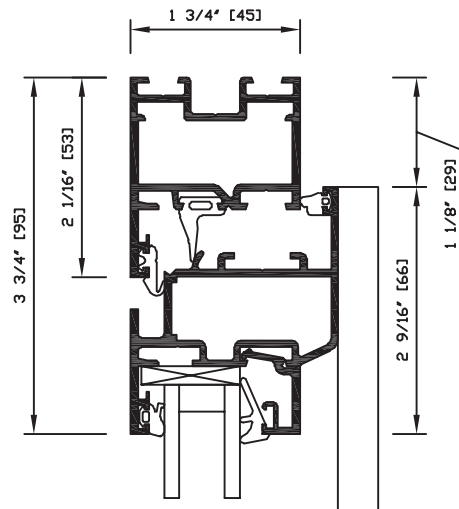


**NanaWall SL48 Tilt Turn Window to Match SL45 and HSW45**

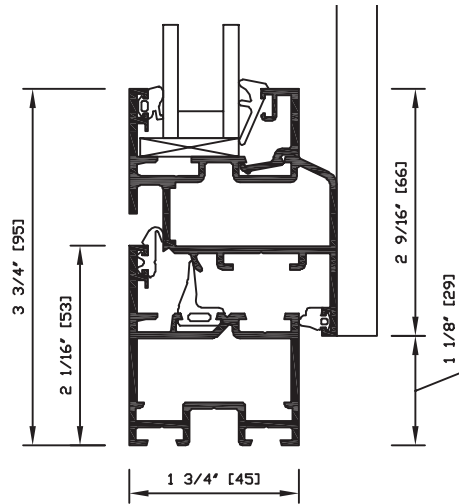
(Available as a single window or as a pair. In a pair, only one panel can tilt.)



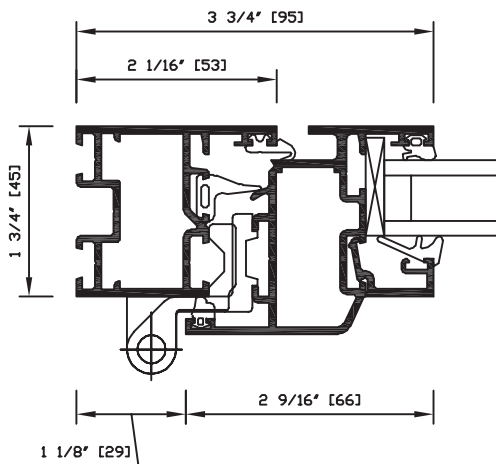
**Vertical Cross-Section**



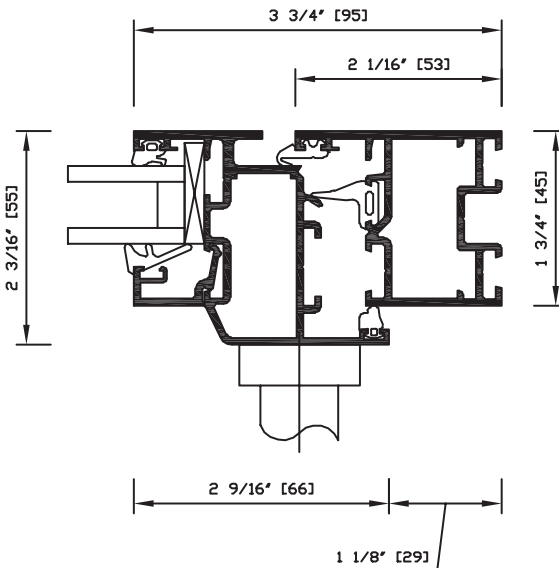
EXTERIOR INTERIOR



**Horizontal Cross-Section**

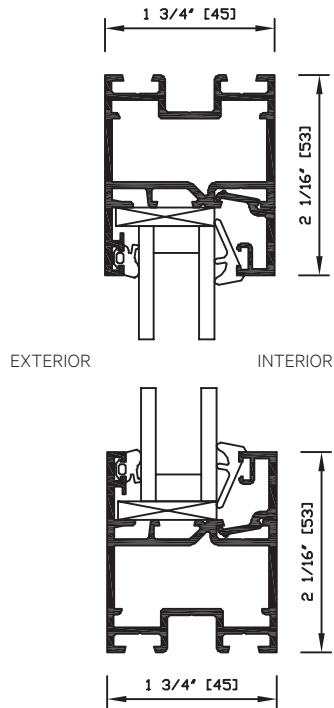


EXTERIOR  
INTERIOR

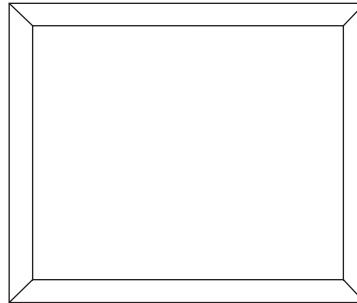


NanaWall SL48 Fixed Panel To Match SL45 and HSW45

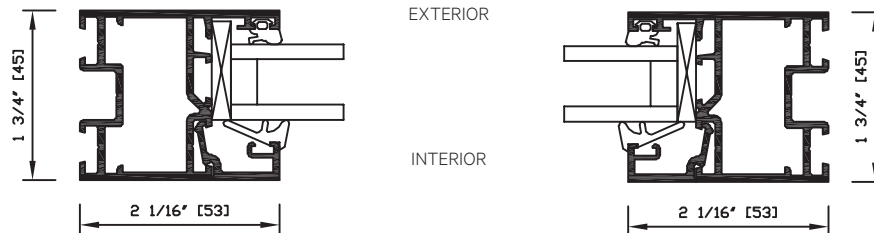
Vertical Cross-Section



Aluminum frame extenders are available to approximately align glass sight lines to adjacent folding or sliding systems.



Horizontal Cross-Section









SL68 Thermally Broken Aluminum Framed Tilt Turn Window/Door to Match SL60 and HSW60.

## Performance Testing Results

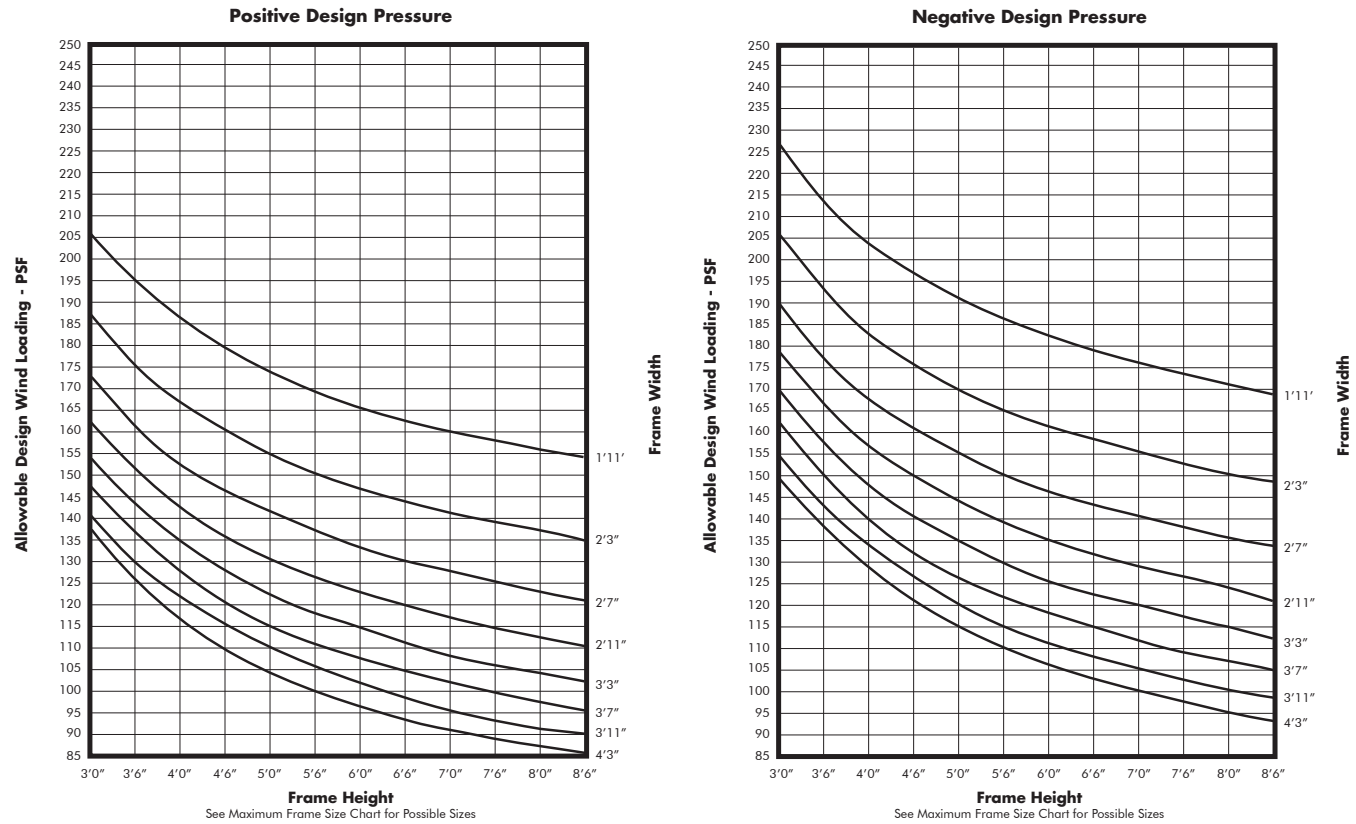
### SL68

TYPE OF TEST	RESULTS	
 <p><b>Air Infiltration</b> <sup>①</sup> ASTM E-283, cfm/ft<sup>2</sup></p>	<p>@ <b>1.60</b> psf (75 Pa): <b>0.04</b> (20 L/s/m<sup>2</sup>)</p>	
 <p><b>Water Penetration</b> <sup>①</sup> ASTM E-547 and E331</p>	<p>No uncontrolled water entry @ <b>13.5</b> psf (645 Pa)</p>	
 <p><b>Structural Load Deflection</b> <sup>①</sup> ASTM E-330: Pass <i>Note that the structural test pressures were 50% higher than the design pressures.</i></p>	<p><b>DESIGN PRESSURE</b></p> <p>Positive @ <b>100</b> psf (4800 Pa)</p>	<p><b>DESIGN PRESSURE</b></p> <p>Negative @ <b>110</b> psf (5270 Pa)</p>
 <p><b>Forced Entry Resistance</b> <sup>①</sup></p>	<p>In accordance with ASTM F 588</p>	

① Excerpts of results of a 4'0" W x 6'0" H standard unit tested by Architectural Testing, Inc., Fresno, CA, an independent testing laboratory in August 2006, in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 and AAMA/NWDA 101/I.S.2 standards. The sample tested met the performance requirements for a DAW-C90 1219 x 1829 (48 x 72)/DA-C100 48 x 72 rating.

**Design Windload Charts** (Derived from Comparative Analysis) Test unit size: 4'0" W x 6'0" H

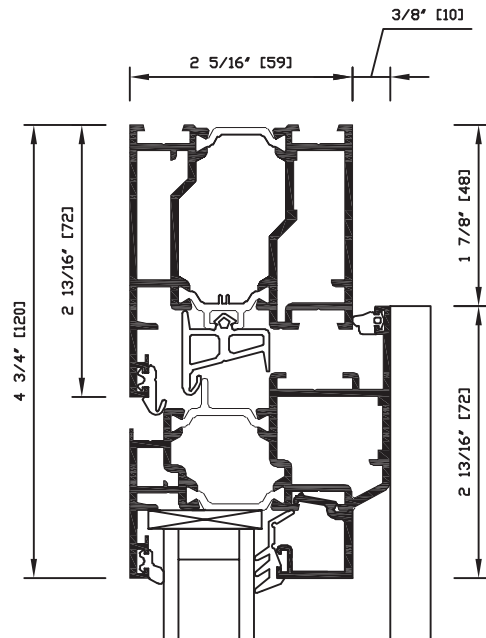
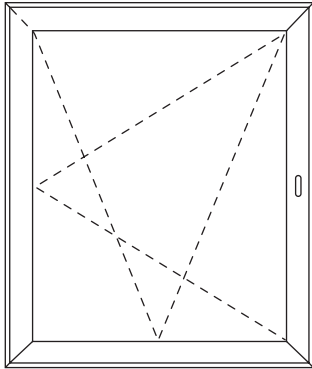
Please note that some jurisdictions may limit the use of these charts or may not accept them at all. Design pressures and/or sizes may be restricted to what was tested. For Florida approved products, please see detailed FL Evaluation Report for restrictions.



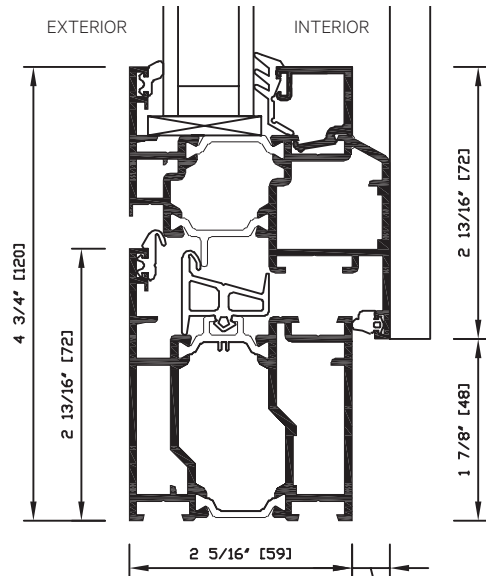
Please also note that chart is only applicable for units with referenced NanaWall supplied locking.

**NanaWall SL68 Thermally Broken Tilt Turn Window to Match SL60 and HSW60**

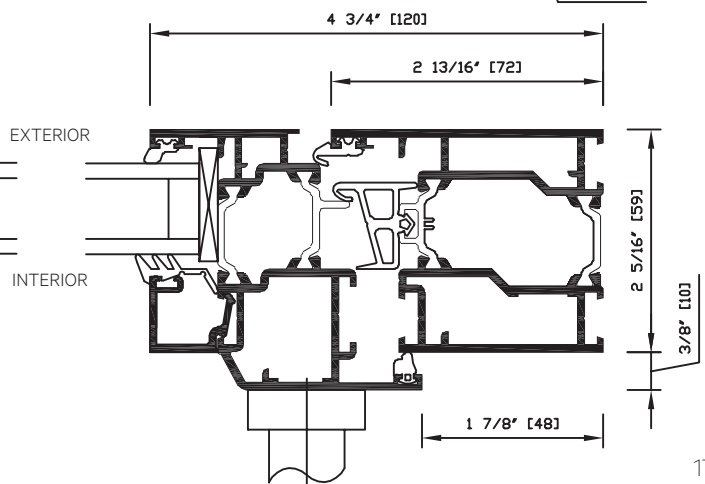
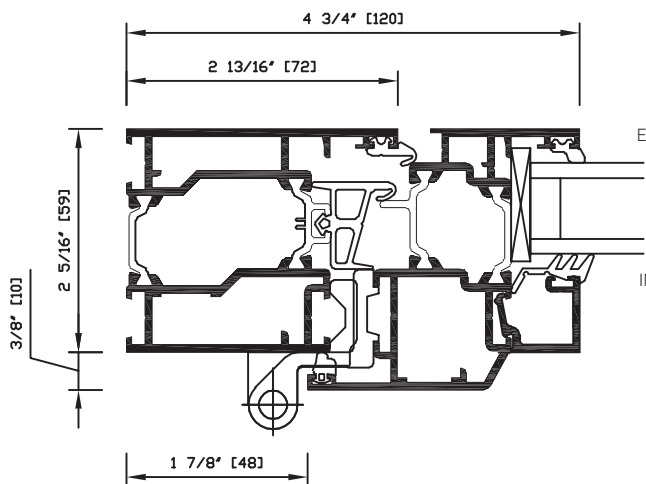
(Available as a single window or as a pair. In a pair, only one panel can tilt.)



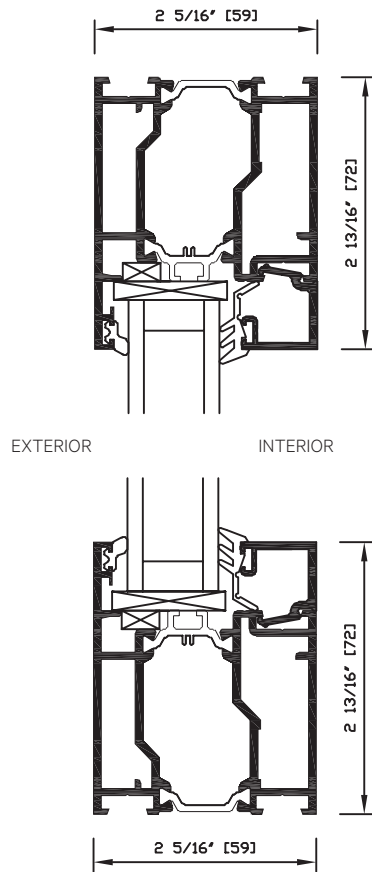
Vertical Cross-Section



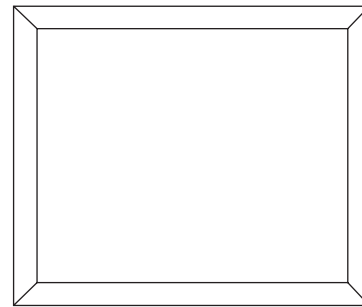
Horizontal Cross-Section



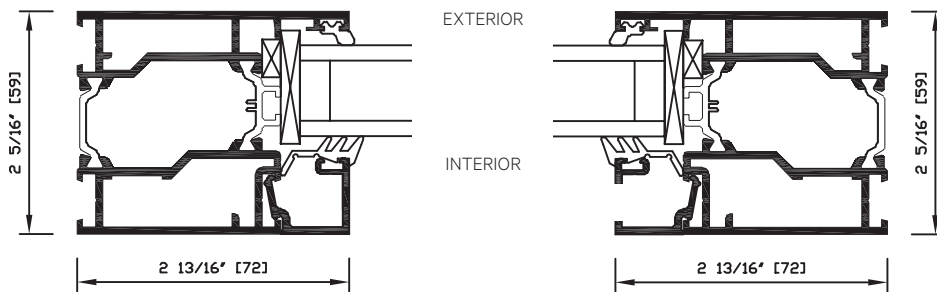
Vertical Cross-Section



Aluminum frame extenders are available to approximately align glass sight lines to adjacent folding or sliding systems.







Horizontal Cross-Section



SL88/89 Thermally Broken Aluminum Framed Tilt Turn Window/Door High Velocity Hurricane Zone (HVHZ) rated with Impact Glass with FL # 17907 to Match SL70, SL73 and SL80/81

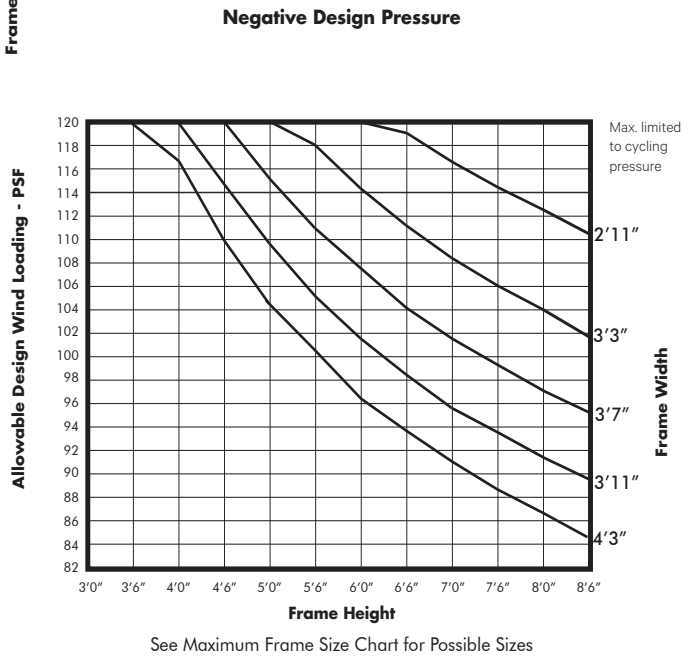
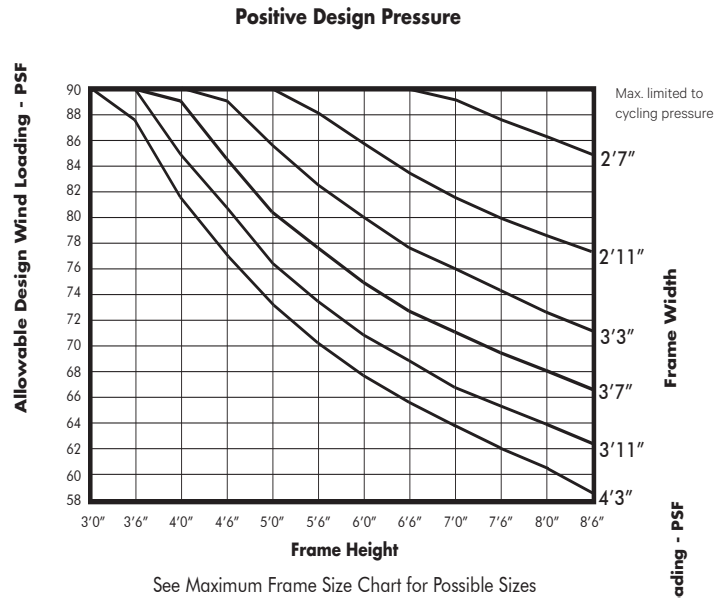
## Performance Testing Results

SL88/89

TYPE OF TEST	RESULTS	
 <p><b>Air Infiltration</b> <sup>①</sup> ASTM E-283, cfm/ft<sup>2</sup></p>	<p>@ <b>1.60</b> psf (75 Pa): <b>0.09</b></p> <hr/> <p>@ <b>6.20</b> psf (300 Pa): <b>0.25</b></p>	
 <p><b>Water Penetration</b> <sup>①</sup> ASTM E-547 and E331</p>	<p>No uncontrolled water entry @ <b>13.5</b> psf (645 Pa)</p>	
 <p><b>Structural Load Deflection</b> <sup>①</sup> Protocol TAS 202 and ASTM E-330: Pass <i>Note that the structural test pressures were 50% higher than the design pressures.</i></p>	<p><b>DESIGN PRESSURE</b></p> <p>Positive @ <b>70</b> psf (3350 Pa)</p>	<p><b>DESIGN PRESSURE</b></p> <p>Negative @ <b>100</b> psf (4785 Pa)</p>
<b>WITH 1 1/8" INSULATED IMPACT GLASS</b>		
 <p><b>Missile Impact &amp; Cycling</b> <sup>①</sup> Protocols TAS 201 &amp; 203, ASTM E 1886 and E 1996</p>	<p><b>DESIGN PRESSURE</b></p> <p>Positive @ <b>90</b> psf (4300 Pa)</p>	<p><b>DESIGN PRESSURE</b></p> <p>Negative @ <b>120</b> psf (5260 Pa)</p>
 <p><b>Forced Entry Resistance</b> <sup>①</sup></p>	<p>In accordance with ASTM F 588</p>	
<p>① Excerpts of results of three separate units with sizes of 4'0" W x 6'0" H tested by Architectural Testing, Inc., Fresno, CA, an independent testing laboratory, in October 2010.</p>		

**Design Windload Charts** (Derived from Comparative Analysis) Test unit size: 4'0" W x 6'0" H

Please note that some jurisdictions may limit the use of these charts or may not accept them at all. Design pressures and/or sizes may be restricted to what was tested. For Florida approved products, please see detailed FL Evaluation Report for restrictions.

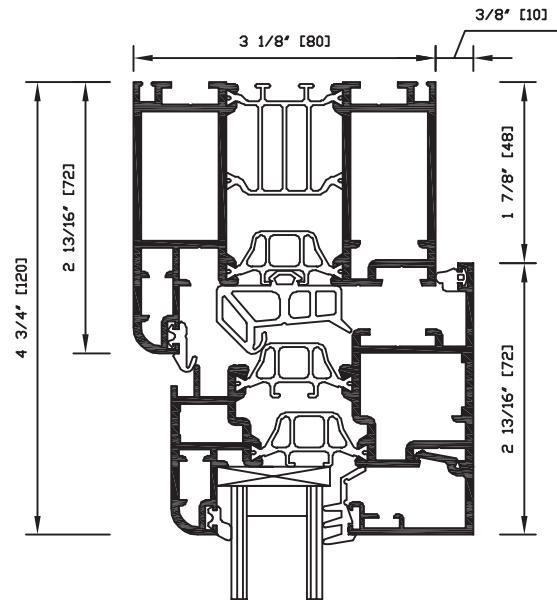
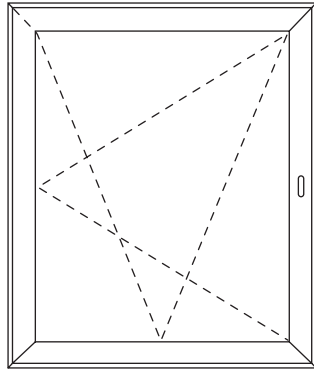


Please also note that chart is only applicable for units with referenced NanaWall supplied locking.

**NanaWall SL88/89 Thermally Broken Tilt Turn Window to Match SL70, SL73 and SL80/81**

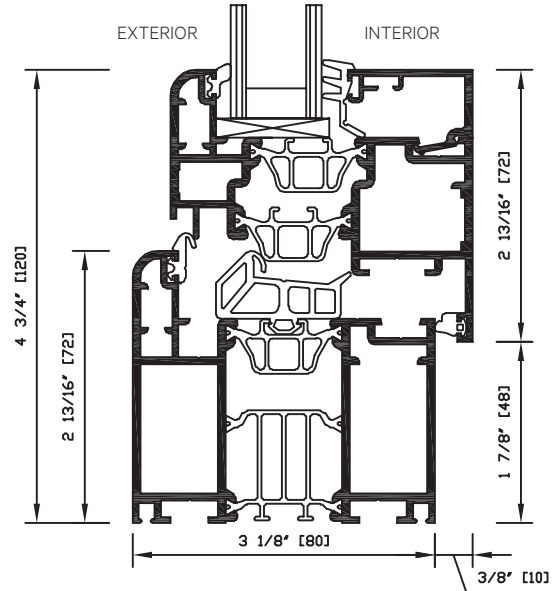
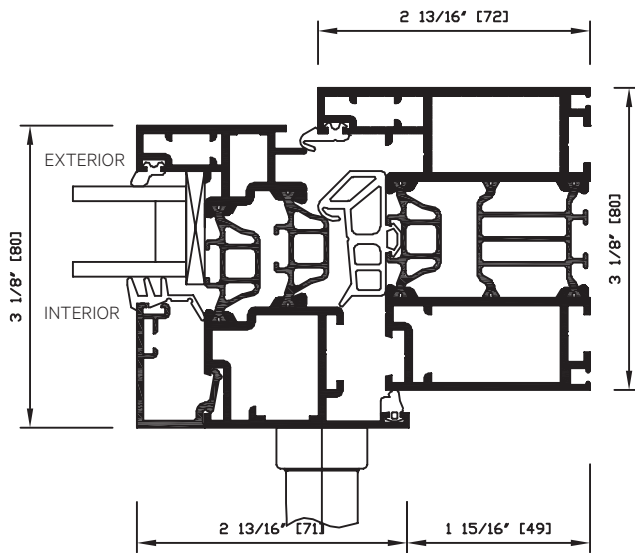
(Available as a single window or as a pair. In a pair, only one panel can tilt.)

**High Velocity Hurricane Zone (HVHZ) rated with Impact Glass with FL # 17907**

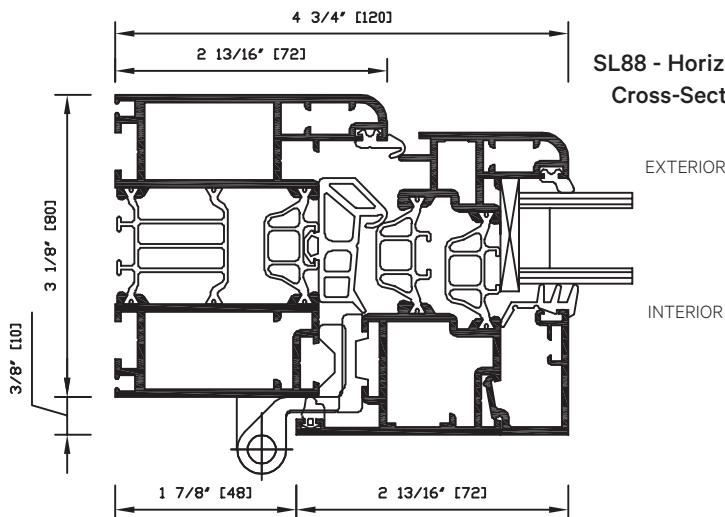


SL88 - Vertical Cross-Section

**SL89 - Typical Cross Section with square panel corner**

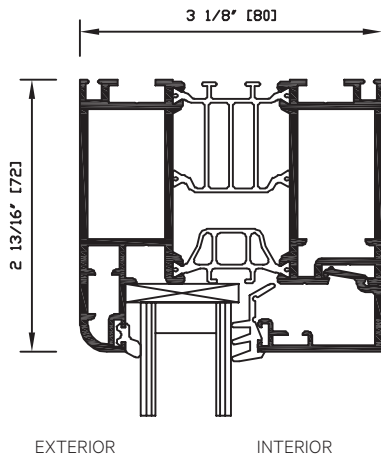


SL88 - Horizontal Cross-Section

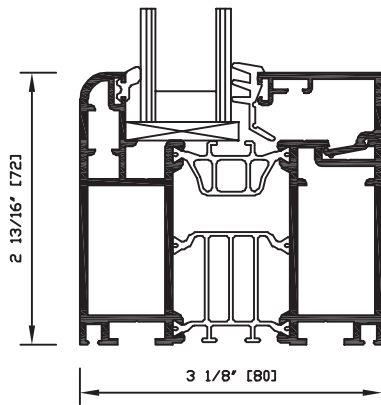
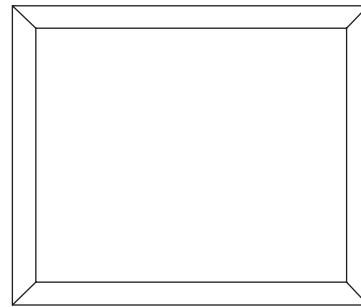


NanaWall SL88/89 Thermally Broken Fixed Panel to Match SL70, SL73 and SL80

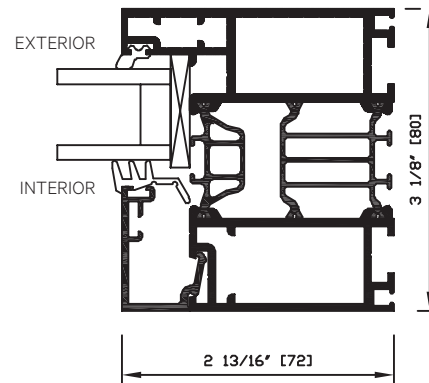
**SL88 - Vertical Cross-Section**



Aluminum frame extenders are available to approximately align glass sight lines to adjacent folding or sliding systems.



**SL89 - Typical Cross Section with square panel corner**



**SL88 - Horizontal Cross-Section**

