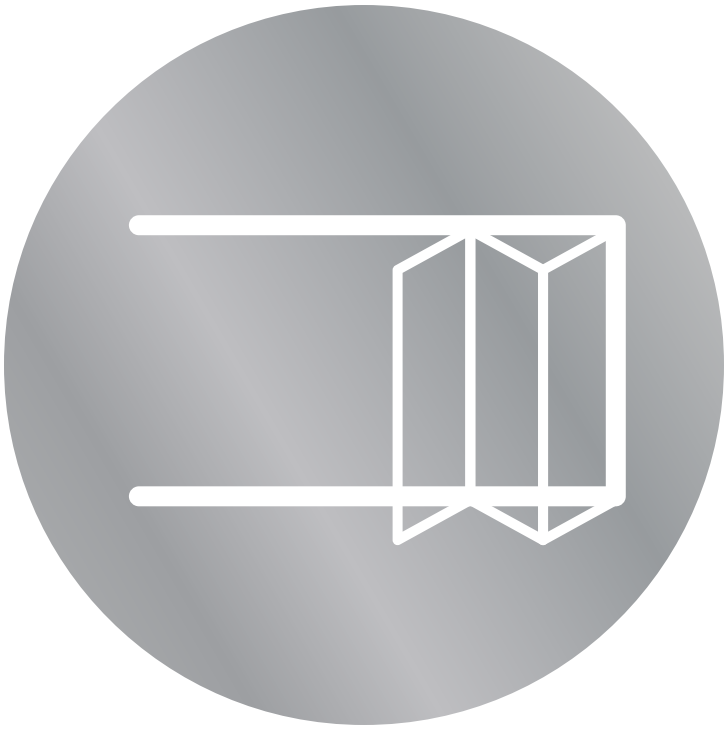

Architectural Binder Section
NW Aluminum 640

GENERATION 4™

Comprehensive Product Line by NanaWall

NanaWall®
Boundaries Unbound®

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NW Aluminum 640—Generation 4 Folding Glass Wall by NanaWall

NW Aluminum 640 and NW Aluminum 840 provide the slimmest aluminum frame of the NanaWall folding product line. With a frame profile styled in a crisp, angular design, the intersection of two folding panels is a mere 3 7/8" (99 mm). Comprised of a host of proprietary and patented features, this Generation 4 Folding Glass Wall by NanaWall offers an extremely streamlined appearance with minimal exposed hardware, creating a new level of aesthetics.

With floor supported panels capable of reaching system heights up to 10' 2" (3100 mm) and panel widths up to 3' 3" (1000 mm), this folding glass wall offers the possibility of wider opening sizes with the integration of FourFold and SixFold Panel Sets that move and stack to either side of the opening. NW Aluminum 640 provides the ultimate in layout flexibility. As a custom-built architectural solution, this system is available in inswing or outswing configurations and can accommodate open corner designs.

NW Aluminum 640 is designed for energy efficiency and strong weather performance. This system provides exceptional protection from outside elements and delivers comfort and security when closed. As a NanaWall product, the NW Aluminum 640 has been put through rigorous independent performance testing for air, water, structural, operation, and forced entry.

Minimal Sightline for a Modern Aesthetic

Panel frames are slim and contemporary with a total 3 7/8" (99 mm) junction where the two adjacent folding vertical stiles meet. The panel profiles offer a crisp, angular design. Top and bottom rails are a minimal 2 5/8" (67 mm), providing slim-line aesthetics. Panel depth is 2 5/8" (67 mm). To coordinate with design programs, simulated divided lites, horizontal and vertical mullions are possible.

Patented Multifunctional Thermal Break Affords Slim Sightline

The Bionic Turtle® is a patented (Patent No. US10550625B2) polyamide single piece insulbar design that serves many functions. Not only does it provide an outstanding insulating thermal break within the frame profiles for energy efficiency, but it also serves as a concealed channel to house the system's locking rods. By being able to combine functions within one element, the Bionic Turtle design allows the slim profile appearance of NW Aluminum 640.

Unique Gothic Arch Roller Design Provides Frictionless Smooth Operation

NW Aluminum 640 is engineered for ease of use. Hinged panels are intuitive and convenient to operate allowing for the effortless opening and closing of the system on demand. The bottom rollers run on two stainless steel wheels with a unique Gothic arch design supported by a double row of encapsulated and self-lubricating ball bearings. With a 2-point contact of each wheel to the floor track, the system glides quietly and smoothly with less friction by providing an equal distribution of weight on the stainless steel track.

The rollers run above the water table, visible during operation and concealed between the panel profiles when the system is closed. This proprietary design allows for continued long-term smooth operation and has been (internally) tested to 20,000 opening and closing cycles in accordance with DIN/EN 1191.

Floating Left/Right FourFold or SixFold Panel Sets for Wider Openings and Flexible Stacking Placement

NW Aluminum 640, along with Generation 4 Comprehensive Product Line by NanaWall family, is the only floor supported, thermally broken folding systems available that allows for larger opening sizes and flexible space management with the integration of FourFold or SixFold Panel Sets. These panel sets are able to move and stack either to the right, left, or center within the same track allowing the panels to be stacked in the most convenient location as needed. Additionally, the panels may be partially opened and located to control traffic flow or utilized to protect areas that are exposed to excessive wind.

NW Aluminum 640 Floor Supported Technology Reduces Structural Requirements

Floor supported systems are ideal for applications where the load-bearing capability of the header is a concern.

The benefits of floor supported are:

Reduced Structural Requirements

- Control construction costs. NanaWall Floor Supported Technology requires less header load and limits the need for extensive pre-cambering.
- Improves the likelihood of keeping existing header when retrofitting/remodeling thus reduced construction costs—as long as the maximum deflection is 1/4".

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Long-term Durability and Smooth Operation

- Floor supported systems are durable and offer smooth operation with stainless steel wheels on a stainless steel track.

Three Sill Options with High Heel Resistant Feature

NW Aluminum 640 has three sill options: Performance, Low Profile Saddle, and Low Profile Saddle with UniverSILL® (Patent No. US011174673B2). Standard to all sills is removable aluminum high heel resistant sill inserts. These inserts provide ADA compliance for the Low Profile Saddle sill and create a very barefoot-friendly transition. Furthermore, the inserts offer protection from dirt and debris collecting in the bottom track. A lighted option is possible; LED rope lights by others may be run under the sill insert to illuminate the way.

Swing Doors for Traffic Management

To accommodate traffic flow, swing panels can be added either to the end of a chain of panels for systems with an odd number of panels folding in one direction or hinged to the side jamb (up to 3' 3" (1000 mm)), depending on unit height and configuration.

Swing panels have been tested and passed over 500,000 cycles and can be optionally outfitted with higher kickplates for ADA compliance. Panic hardware and top door closers by others are possible.

A single stand alone swing door hinged to the jamb is offered up to 3' 7" (1100 mm).

Please reference the NW Aluminum 640 size charts.

Concealed Panel Alignment Means Less Exposed Panel Hinges

The patented (Patent No. US10711510B2) TwinX mechanism aligns panels of over 7' (2150 mm) in height by adding a hidden spring-loaded structural reinforcement feature without the need for an additional exposed hinge in the middle of the system. TwinX interlocks the panels together when the system is closed providing a consistent seal between the panels, specifically engineered to meet higher wind loads. This unique feature provides a clean-lined, sleek, and uniform appearance to the system.

Multipurpose Frame Insert Provides Continuous Surface at Side Jamb and Head Track

Standard to the system is a black polyamide clip-on multipurpose frame insert that conceals all visible frame-to-structure attachment points and screw heads to create a clean, even appearance. Additionally, this frame cover piece creates a hollow space to run and guide concealed cabling for the NW Aluminum 640 to connect to a home security system by others.

System Width Adjustment Feature for Long-term Tight, Consistent Sealing

System width adjusts with ease. To allow for construction tolerance, a patented (Patent No. US10683688B2) lateral adjustment feature of +/- 3/16" (5 mm) is available at the side jamb. This allows for consistent seal compression within the system and can be adjusted should the need arise. This adjustment feature is located so that it doesn't interfere with the continuous perimeter seal of the frame.

Anti-tilt Feature For Dynamic Stacking of Panel Sets

Each floor supported FourFold or SixFold Panel Set is outfitted with a proprietary engineered anti-tilt feature in the head track. This feature assures that the floating panels stack neatly and securely when in open formation. Panels may stack either to the right side, left side, or anywhere within the opening.

Installation Mounting Plate for Optimal Load Transfer

Stainless steel installation plates provide optimal load transfer reducing the number of screws required for mounting the system's frame. Each installation plate is backed with a sealing cushion to avoid bridging the thermal break and spreads the load of the screw head over a larger surface area resulting in fewer fixing points needed. These plates create a clean, finished look. Multipurpose inserts installed on the side jamb and head track cover these installation plates and provide a continuous surface.

Optional Advanced Security Mechanism

For applications requiring state-of-the-art security, an optional lock monitoring system with Reed contacts is available located within the head track. A special concealed locking mechanism end cap, in combination with the concealed Reed contact, creates an open or closed loop for the home security system supplied by others. This optional locking feature can be concealed cable routed through the frames to a home security system. Additionally, the Reed contact can be connected to a service/maintenance system by others that counts the number of opening and closing cycles of the unit advising when it may be time to contact a service technician for routine maintenance.

Concealed Locking for Clean Appearance

Standard to the system is concealed locking between folding panels that operates with a 180° turn of a flat handle. The top

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and bottom locking bolts have approximately a 1" (24 mm) throw for maximum security engagement into the head and floor track.

Standard and Tested Locking Option on Primary Swing Panels:

1. Multi-point locking operated by lever handles and with European profile cylinder. Locking is independently tested for air, water, structural load performance, and forced entry. Instead of a profile cylinder, an adapter case is available for use with an SFIC core.

Non-standard Commercial Locking Options on Primary Swing Panels (no air, water, or structural load values for primary swing panel):

1. Deadbolt lock(s) and push/pull handles and key/key European profile cylinder on both sides. Only recommended for end swing panel with door closer by others. Instead of a profile cylinder, an adapter casing is available for use with an SFIC core.
2. Latch and deadbolt single motion operated by GU Rondo lever handles and with European profile cylinder. Instead of a profile cylinder, an adapter casing is available for use with an SFIC core.

Non-standard Commercial Locking Options on Primary Swing Panels Prepped for Supply by Others (no air, water, or structural load values for primary swing panel):

1. Latch and deadbolt single motion locking operated by lever handles with locking with a US mortise cylinder that can accommodate standard 5 - 7 pin, SFIC, FSIC, or LFIC cores that currently includes Yale 8808-2 series and Schlage L/LV9000 series only.
2. Panic hardware (prep provided for the push side):
   a. Von Duprin 33/35A Series Narrow Stile Rim Exit Device
   b. Von Duprin 98/99 Series Rim Exit Device
   c. DORMA 9700 Series Narrow Stile Rim Exit Device

Standard and Tested Locking for Secondary Swing Panels:

1. Concealed edge lock with top and bottom locking bolts have approximately a 1" (24 mm) throw for maximum security engagement into the head and floor track. Locking is independently tested for air, water, structural load performance, and forced entry.

For additional hardware options, contact NanaWall.

Handles

Stainless Steel Lever Handles
Stainless steel lever handles and escutcheon plates are available either in a brushed satin or black titanium finish.

Stainless Steel Flat Handles
Stainless steel flat handles are available either in a brushed satin or black titanium finish.

Spring-Loaded Pull Handle
For outswing units with larger panel sizes, a spring-loaded pull handle is supplied for ease of closing the system.
The pull handle is located above the flat handle. When not in use, the handle lays flat against the adjacent panel and is supplied with bumpers to avoid metal-to-metal contact.

Handles are either silver or black titanium stainless steel with the attachment to coordinate with the hinge hardware of the system.

System Sizes

Depending on the desired glazing of the unit, maximum panel sizes range. For double or triple glazed systems, units can reach heights of 10' 2" (3100 mm) and panel widths up to 3' 3" (1000 mm). Unlimited system widths are possible with the addition of unhinged FourFold or SixFold Panel Sets.

Thermal Efficiency and Glazing Options

A fundamental benefit of this Generation 4 folding glass wall is energy efficiency. Depending on glass type selected, NW Aluminum 640 offers thermal performance values as low as ".24". The system comes standard with continuous seals along the face of each panel frame. Furthermore, standard for each system are two levels of insulating thermal breaks for optimal defense from heat and cold.

The glass pocket can accommodate glass from 1/4" (6 mm) to 1 3/4" (45 mm) insulated glass.

Florida Product Approval

NW Aluminum 640 for all panel sizes and configurations is Florida statewide approved with Product Approval number FL38736. This approval includes inswing, outswing, and cornerless units.

Finishes

NW Aluminum 640 is available in 50 standard powder coat colors in standard AAMA 2604 (2605 optional) and over another 200 optional colors available in powder coat and anodized finishes. Flouropolymar Kynar painted finishes, custom-matched colors, and simulated wood effects are also available. For accurate color swatch examples, please request our Powder Coating Finish Options brochure.

For a classic look, SE (Steel Effect) colors are available with a fine matte texture. Three glass stop options are possible; Classic, Contemporary, and Standard.

Performance Sill

NW Aluminum 640

TYPE OF TEST	INWARD OPENING UNITS	OUTWARD OPENING UNITS
Air Infiltration ① ASTM E-283, ft³/min./ft. and NFRC 400	@ 1.57 psf (75 Pa): 0.03 (0.03 exfiltration) A3 ②	@ 1.57 psf (75 Pa): 0.03 (0.03 exfiltration) A3 ②
	@ 6.24 psf (300 Pa): 0.07	@ 6.24 psf (300 Pa): 0.07
Water Penetration ①* ASTM E-547 and E-331	**No uncontrolled water entry** ① @ 9 psf (450 Pa) Please contact NanaWall for more information when higher water ratings are necessary.	
Structural Load ① ASTM E-330: pass **See design windload charts for other sized panels** *Note that the structural test pressures were 50% higher than the design pressures shown.*	**DESIGN PRESSURE** Positive @ 50 psf (2400 Pa) Negative @ 55 psf (2670 Pa) Uniform Load Deflection, L/175 @ 25 psf (1190 Pa) Class CW-PG25 - FLD 4000 x 2600 & Class LC-PG50 - FLD 4000 x 2600	**DESIGN PRESSURE** Positive @ 55 psf (2670 Pa) Negative @ 50 psf (2400 Pa) Uniform Load Deflection, L/175 @ 25 psf (1190 Pa) Class CW-PG25 - FLD 4000 x 2600 & Class LC-PG50 - FLD 4000 x 2600
Forced Entry Resistance ① AAMA-1304	In accordance with AAMA-1304 requirements	
Operating Force ① ASTM E-2068	The NW Aluminum 640 meets: • Swing Panel: Open 1 lbf (2.8 N) & Close 1 lbf (3.9 N) • Folding Panels: Initiate Motion - Open 4 lbf (20 N) & Close 3 lbf (15 N) • Folding Panels: Maintain Motion - Open 1 lbf (3 N) & Close 1 lbf (4 N)	
Operation / Cycling Performance AAMA 920 & DIN EN 1191 Windows and Pedestrian Doors - Mechanical Durability	The NW Aluminum 640 meets: • "AAMA 920" requirement for swing panel attached to side jamb: 500,000 cycles - Pass • German "DIN EN 1191/12400 Classification," where a unit is tested after 20,000 opening and closing cycles and is still functional	

① Excerpts of results of 13' 1" W x 8' 6" H (4000 mm x 2600 mm) 4 panel unit (1L3R configuration) specific or equivalent to lab tested by Intertek Building & Construction, an independent testing laboratory in March 2020 per AAMA/WDMA/CSA 101/I.S.2/A440-17, NAFS-17 - North American Fenestration Standard

② For Canada, tested to NAFS-17 or equivalent and CSA A44051-09 (for drainage of standing water, weep hole in sill by others).

* Water rating may not be applicable for configuration not tested, especially even panels plus even panels configurations.

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Thermal Performance

NW Aluminum 640 ③ - Rated, certified, and labeled in accordance with NFRC 100 + 200

		INWARD OPENING UNITS				OUTWARD OPENING UNITS			
TYPE OF GLASS (1 LITE) ④	CENTER OF GLASS U-FACTOR	UNIT U-FACTOR	SHGC⑤	VT⑥	2015 ENERGY STAR	UNIT U-FACTOR	SHGC⑤	VT⑥	2015 ENERGY STAR
Double IG Clear (air filled)	.48	.50	.58	.60	–	.51	.58	.60	–
Double IG Standard Low E (argon filled)	.25	.34	.20	.46	–	.35	.20	.46	–
Double IG Standard Low E (air filled)	.30	.37	.21	.46	–	.38	.21	.46	–
Double IG Standard Low E #2 & #4 surfaces (argon filled)	.20	.31	.20	.45	–	.31	.20	.45	–
Double IG Standard Low E #2 & #4 surfaces (air filled)	.24	.33	.20	.45	–	.34	.20	.45	–
Triple IG Low E x 2 (argon filled)	.12	.24	.18	.32	*	.25	.18	.32	*
Triple IG Low E x 2 (air filled)	.15	.26	.18	.32	*	.27	.18	.32	*
Double IG Alternate Higher SHGC Low E (argon filled)	.25	.34	.30	.53	–	.35	.30	.53	–
Double IG Alternate Higher SHGC Low E (air filled)	.29	.37	.30	.53	–	.38	.30	.53	–
Double IG Alternate Higher SHGC Low E #2 & #4 surfaces (argon filled)	.20	.31	.29	.51	–	.31	.29	.51	–
Double IG Alternate Higher SHGC Low E #2 & #4 surfaces (air filled)	.24	.33	.30	.51	–	.34	.30	.51	–
Triple IG Alternate Higher SHGC Low E (argon filled)	.12	.24	.26	.43	**	.25	.26	.43	**
Triple IG Alternate Higher SHGC Low E (air filled)	.15	.26	.26	.43	**	.27	.26	.43	**

NOTES

③ U-Factor, SHGC, & VT for NW Aluminum 640 system unhinged panels will be about the same except in some cases variations of +/- .01 from what is shown.

④ NFRC simulated U-factors of units with a horizontal mullion will have values of about .01 to .02 higher than units with no horizontal mullion. Please contact NanaWall for details.

⑤ SHGC = Solar Heat Gain Coefficient
⑥ VT = Visible Transmittance

* 2015 Energy Star Qualification Criteria: U-Factor for doors in all climate zones ≤.30, SHGC ≤.25 in South/South Central zones and ≤.40 in North/North Central zones. (For guidance only. NanaWall is not a participant of the Energy Star program.)

** Meets SHGC Energy Star Qualification criteria for North/North Central zones only.

Shown above are thermal values for select glass options only. Thermal values for many other glass options are available. These may be able to meet specific requirements, such as Energy Star values for other zones, CA Title 24 prescriptive values, other state and local energy codes, etc. Thermal values for glass with other Low E coatings and Suntuitive dynamic glass are available. Please contact NanaWall for more information.

Low Profile Saddle Sill

NW Aluminum 640

TYPE OF TEST	INWARD OPENING UNITS	OUTWARD OPENING UNITS
Air Infiltration ① ASTM E-283, ft³/min./ft. and NFRC 400	@ 1.57 psf (75 Pa): 0.12 (0.12 exfiltration) A2 ②	@ 1.57 psf (75 Pa): 0.12 (0.12 exfiltration) A2 ②
	@ 6.24 psf (300 Pa): 0.30	@ 6.24 psf (300 Pa): 0.28
Water Penetration ①* ASTM E-547 and E-331	**No uncontrolled water entry** ① @ 5.43 psf (260 Pa) Subject to the following adaptations of the sill in the field by others: 1. Remove the gaskets covering the inner channel. 2. Drill weep holes through the bottom of the channel and drill weep holes from the middle channel to the exterior bottom hollow in sill (about one 5/16" weep hole per panel). 3. Drill weep holes through the lower front face of sill to the inner channel bottom (3/8" weep hole per panel). Please note that due to the varying site requirements and conditions, these sills will not be prepared for drainage by NanaWall. If this drainage system is desired, we recommend that qualified professionals construct this system on the project site strictly in accordance with instructions provided by NanaWall and in accordance with good waterproofing techniques, if drain connections are not made or not possible, unit may leak with wind driven rain.	
Structural Load ① ASTM E-330: pass **See design windload charts for other sized panels** *Note that the structural test pressures were 50% higher than the design pressures shown.*	**DESIGN PRESSURE** Positive @ 50 psf (2400 Pa) Negative @ 50 psf (2400 Pa)	**DESIGN PRESSURE** Positive @ 50 psf (2400 Pa) Negative @ 50 psf (2400 Pa)
	Uniform Load Deflection, L/175 @ 25 psf (1190 Pa) Class CW-PG25 - FLD 4000 x 2600 & Class LC-PG35 - FLD 4000 x 2600	Uniform Load Deflection, L/175 @ 25 psf (1190 Pa) Class CW-PG25 - FLD 4000 x 2600 & Class LC-PG35 - FLD 4000 x 2600
Forced Entry Resistance ① AAMA-1304	In accordance with AAMA-1304 requirements	
Operating Force ① ASTM E-2068	The NW Aluminum 640 meets: • Swing Panel: Open 1 lbf (2.8 N) & Close 1 lbf (3.9 N) • Folding Panels: Initiate Motion - Open 4 lbf (20 N) & Close 3 lbf (15 N) • Folding Panels: Maintain Motion - Open 1 lbf (3 N) & Close 1 lbf (4 N)	
Operation / Cycling Performance AAMA 920 & DIN EN 1191 Windows and Pedestrian Doors - Mechanical Durability	The NW Aluminum 640 meets: • "AAMA 920" requirement for swing panel attached to side jamb: 500,000 cycles - Pass • German "DIN EN 1191/12400 Classification," where a unit is tested after 20,000 opening and closing cycles and is still functional	

① Excerpts of results of 13' 1" W x 8' 6" H (4000 mm x 2600 mm) 4 panel unit (1L3R configuration) specific or equivalent to lab tested by Intertek Building & Construction, an independent testing laboratory in March 2020 per AAMA/WDMA/CSA 101/I.S.2/A440-17, NAFS-17 - North American Fenestration Standard

② For Canada, tested to NAFS-17 or equivalent and CSA A44051-09 (for drainage of standing water, weep hole in sill by others).

* Water rating may not be applicable for configuration not tested, especially even panels plus even panels configurations.

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Thermal Performance

NW Aluminum 640 ③ - Rated, certified, and labeled in accordance with NFRC 100 + 200

		INWARD OPENING UNITS				OUTWARD OPENING UNITS			
TYPE OF GLASS (1 LITE) ④	CENTER OF GLASS U-FACTOR	UNIT U-FACTOR	SHGC⑤	VT⑥	2015 ENERGY STAR	UNIT U-FACTOR	SHGC⑤	VT⑥	2015 ENERGY STAR
Double IG Clear (air filled)	.48	.50	.58	.60	–	.51	.58	.60	–
Double IG Standard Low E (argon filled)	.25	.34	.20	.46	–	.35	.20	.46	–
Double IG Standard Low E (air filled)	.30	.38	.20	.46	–	.39	.20	.46	–
Double IG Standard Low E #2 & #4 surfaces (argon filled)	.20	.31	.20	.44	–	.32	.20	.44	–
Double IG Standard Low E #2 & #4 surfaces (air filled)	.24	.33	.20	.44	–	.34	.20	.44	–
Triple IG Low E x 2 (argon filled)	.12	.25	.17	.32	*	.25	.17	.32	*
Triple IG Low E x 2 (air filled)	.15	.27	.18	.32	*	.27	.18	.32	*
Double IG Alternate Higher SHGC Low E (argon filled)	.25	.35	.30	.53	–	.35	.30	.53	–
Double IG Alternate Higher SHGC Low E (air filled)	.29	.38	.30	.53	–	.39	.30	.53	–
Double IG Alternate Higher SHGC Low E #2 & #4 surfaces (argon filled)	.20	.31	.29	.51	–	.32	.29	.51	–
Double IG Alternate Higher SHGC Low E #2 & #4 surfaces (air filled)	.24	.33	.30	.51	–	.34	.30	.51	–
Triple IG Alternate Higher SHGC Low E (argon filled)	.12	.25	.26	.43	**	.25	.26	.43	**
Triple IG Alternate Higher SHGC Low E (air filled)	.15	.27	.26	.43	**	.27	.26	.43	**

NOTES

③ U-Factor, SHGC, & VT for NW Aluminum 640 system unhinged panels will be about the same except in some cases variations of +/- .01 from what is shown.

④ NFRC simulated U-factors of units with a horizontal mullion will have values of about .01 to .02 higher than units with no horizontal mullion. Please contact NanaWall for details.

⑤ SHGC = Solar Heat Gain Coefficient
⑥ VT = Visible Transmittance

* 2015 Energy Star Qualification Criteria: U-Factor for doors in all climate zones ≤.30, SHGC ≤.25 in South/South Central zones and ≤.40 in North/North Central zones. (For guidance only. NanaWall is not a participant of the Energy Star program.)

** Meets SHGC Energy Star Qualification criteria for North/North Central zones only.

Shown above are thermal values for select glass options only. Thermal values for many other glass options are available. These may be able to meet specific requirements, such as Energy Star values for other zones, CA Title 24 prescriptive values, other state and local energy codes, etc. Thermal values for glass with other Low E coatings and Suntuitive dynamic glass are available. Please contact NanaWall for more information.

Low Profile Saddle Sill with UniverSILL®

NW Aluminum 640

TYPE OF TEST	OUTWARD OPENING UNITS
Air Infiltration ① ASTM E-283, ft³/min./ft. and NFRC 400	@ 1.57 psf (75 Pa): 0.04 (0.02 exfiltration) A3 ②
	@ 6.24 psf (300 Pa): 0.07
Water Penetration ①* ASTM E-547 and E-331	**No uncontrolled water entry** ① @ 7.5 psf (360 Pa) UniverSILL transforms a Low Profile Saddle sill to obtain a better water rating when needed and to be easily removed when not required. To meet a water rating with the UniverSILL, the following needs to be done in the field by others: 1. Weepholes and drainage as described for the low profile saddle sill (minimum needed are weepholes from the middle channel). 2. Remove the gasket covering the inner channel and insert the UniverSILL. 3. Seals at ends at the side jambs.
Structural Load ① ASTM E-330: pass **See design windload charts for other sized panels** *Note that the structural test pressures were 50% higher than the design pressures shown.*	**DESIGN PRESSURE** Positive: @ 50 psf (2400 Pa) Negative: @ 50 psf (2400 Pa) Uniform Load Deflection, L/175 @ 25 psf (1190 Pa) Class CW-PG35 - FLD 4000 x 2600 & Class LC-PG50 - FLD 4000 x 2600
Forced Entry Resistance ① AAMA-1304	In accordance with AAMA-1304 requirements
Operating Force ① ASTM E-2068	The NW Aluminum 640 meets: • Swing Panel: Open 1 lbf (2.8 N) & Close 1 lbf (3.9 N) • Folding Panels: Initiate Motion - Open 4 lbf (20 N) & Close 3 lbf (15 N) • Folding Panels: Maintain Motion - Open 1 lbf (3 N) & Close 1 lbf (4 N)
Operation / Cycling Performance AAMA 920 & DIN EN 1191 Windows and Pedestrian Doors - Mechanical Durability	The NW Aluminum 640 meets: • "AAMA 920" requirement for swing panel attached to side jamb: 500,000 cycles - Pass • German "DIN EN 1191/12400 Classification," where a unit is tested after 20,000 opening and closing cycles and is still functional

① Excerpts of results of 13' 1" W x 8' 6" H (4000 mm x 2600 mm) 4 panel unit (1L3R configuration) specific or equivalent to lab tested by Intertek Building & Construction, an independent testing laboratory in March 2020 per AAMA/WDMA/CSA 101/I.S.2/A440-17, NAFS-17 - North American Fenestration Standard

② For Canada, tested to NAFS-17 or equivalent and CSA A44051-09 (for drainage of standing water, weep hole in sill by others).

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Thermal Performance

NW Aluminum 640 ③ - Rated, certified, and labeled in accordance with NFRC 100 + 200

		OUTWARD OPENING UNITS			
TYPE OF GLASS (1 LITE) ④	CENTER OF GLASS U-FACTOR	UNIT U-FACTOR	SHGC⑤	VT⑥	2015 ENERGY STAR
Double IG Clear (air filled)	.48	.51	.58	.60	–
Double IG Standard Low E (argon filled)	.25	.35	.20	.46	–
Double IG Standard Low E (air filled)	.30	.39	.20	.46	–
Double IG Standard Low E #2 & #4 surfaces (argon filled)	.20	.32	.20	.44	–
Double IG Standard Low E #2 & #4 surfaces (air filled)	.24	.34	.20	.44	–
Triple IG Low E x 2 (argon filled)	.12	.25	.17	.32	*
Triple IG Low E x 2 (air filled)	.15	.27	.18	.32	*
Double IG Alternate Higher SHGC Low E (argon filled)	.25	.35	.30	.53	–
Double IG Alternate Higher SHGC Low E (air filled)	.29	.39	.30	.53	–
Double IG Alternate Higher SHGC Low E #2 & #4 surfaces (argon filled)	.20	.32	.29	.51	–
Double IG Alternate Higher SHGC Low E #2 & #4 surfaces (air filled)	.24	.34	.30	.51	–
Triple IG Alternate Higher SHGC Low E (argon filled)	.12	.25	.26	.43	**
Triple IG Alternate Higher SHGC Low E (air filled)	.15	.27	.26	.43	**

NOTES

③ U-Factor, SHGC, & VT for NW Aluminum 640 system unhinged panels will be about the same except in some cases variations of +/- .01 from what is shown.

④ NFRC simulated U-factors of units with a horizontal mullion will have values of about .01 to .02 higher than units with no horizontal mullion. Please contact NanaWall for details.

⑤ SHGC = Solar Heat Gain Coefficient
⑥ VT = Visible Transmittance

* 2015 Energy Star Qualification Criteria: U-Factor for doors in all climate zones ≤.30, SHGC ≤.25 in South/South Central zones and ≤.40 in North/North Central zones. (For guidance only. NanaWall is not a participant of the Energy Star program.)

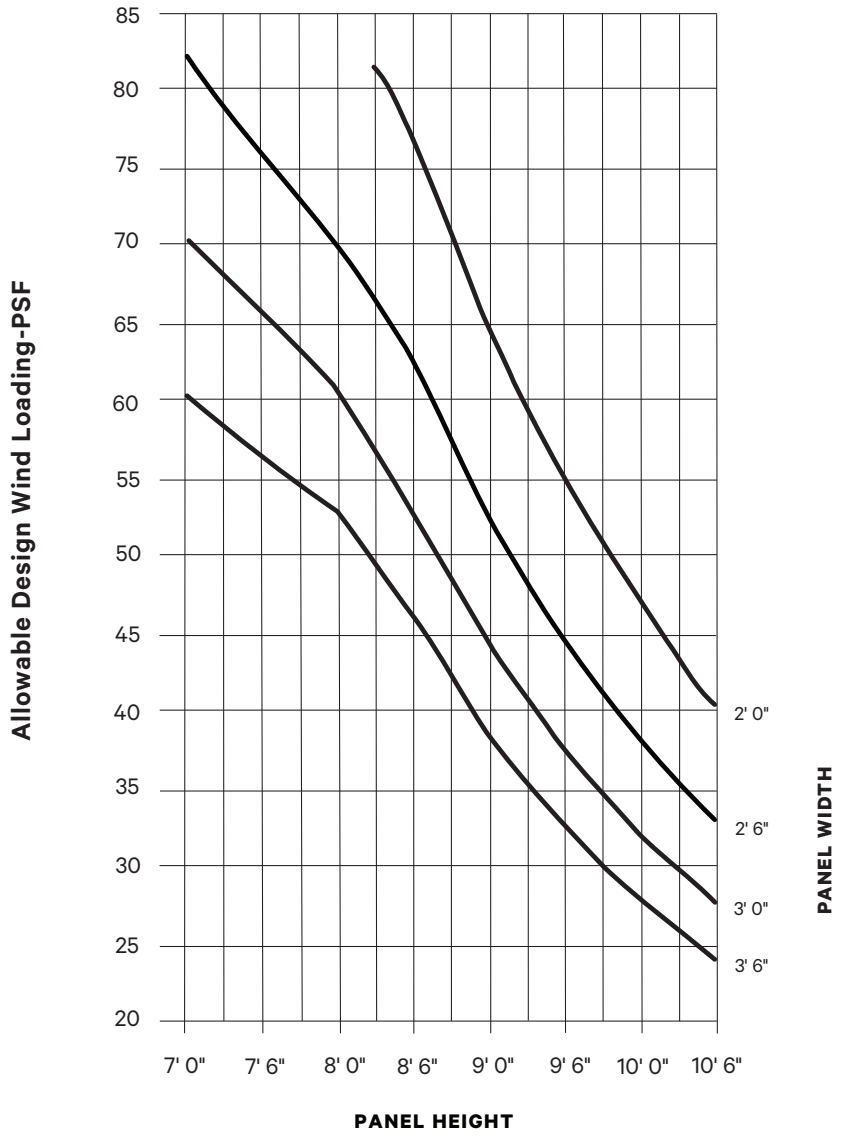
** Meets SHGC Energy Star Qualification criteria for North/North Central zones only.

Shown above are thermal values for select glass options only. Thermal values for many other glass options are available. These may be able to meet specific requirements, such as Energy Star values for other zones, CA Title 24 prescriptive values, other state and local energy codes, etc. Thermal values for glass with other Low E coatings and Suntuitive dynamic glass are available.
Please contact NanaWall for more information.

Design Windload Chart | NW Aluminum 640

Applies to Negative Design Pressure for Inswing Units with the Performance Sill and Positive Design Pressure for Outswing Units with the Performance Sill

(In Accordance with Allowable Stress Design (ASD) Design Pressures*)



Any Custom Size is Possible. See Maximum Frame Size Chart for Possible Sizes.

(Derived from Comparative Analysis) Test Panel Size: 3' 3" W x 8' 2" 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 approval products, please see the FL Evaluation Report and Installation Instructions for restrictions. This chart is only applicable for units with standard NanaWall supplied locking and is not accounted for any water rating or L/175 deflection restrictions.

* If the project design pressures have been calculated in accordance with Ultimate Design Wind Speed (ULT), then these design pressures have to be multiplied by a factor of 0.6 to obtain the equivalent ASD design pressures shown in this chart.

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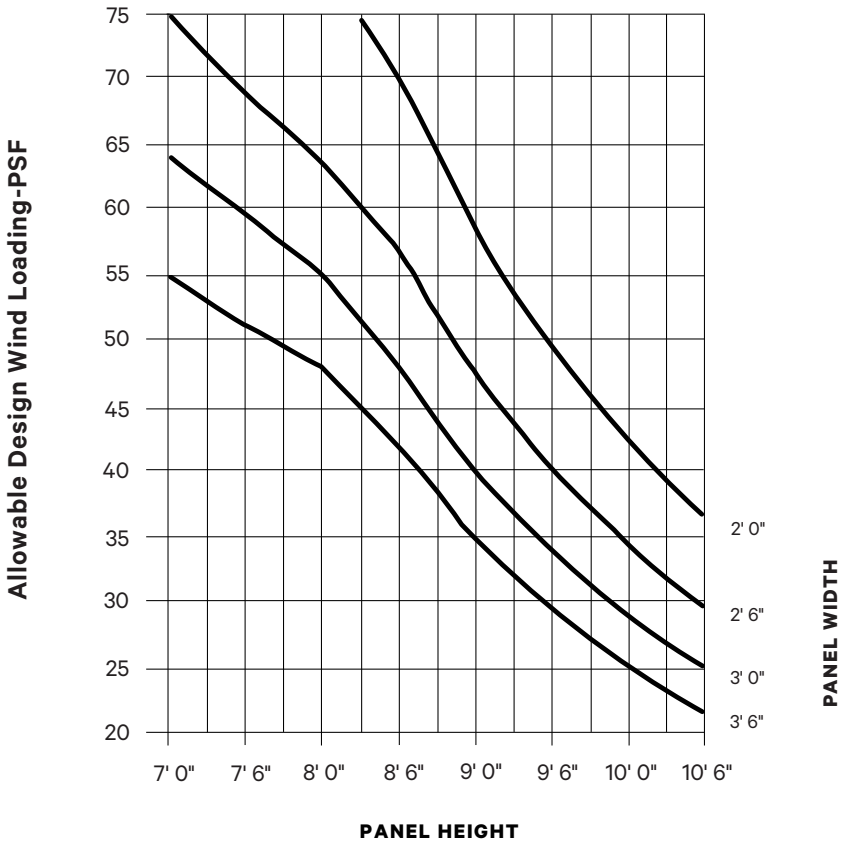
Design Windload Chart | NW Aluminum 640

Applies to Positive and Negative Design Pressure for both Inswing and Outswing Units with the Low Profile Saddle Sill; Positive Design Pressure for Inswing Units with Performance Sill and Negative Design Pressure for Outswing Units with the Performance Sill

(In Accordance with Allowable Stress Design (ASD) Design Pressures*)

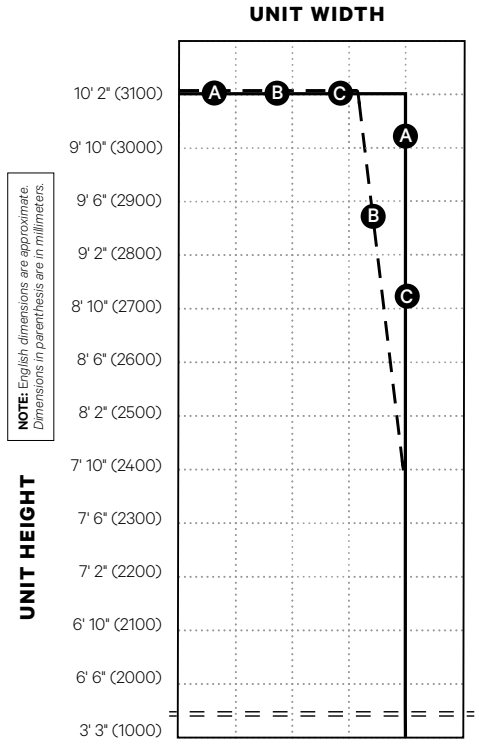


Any custom size is possible. See Maximum Frame Size Chart for Possible Sizes.

(Derived from Comparative Analysis) Test Panel Size: 3' 3" W x 8' 2" 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 approval products, please see the FL Evaluation Report and Installation Instructions for restrictions. This chart is only applicable for units with standard NanaWall supplied locking and is not accounted for any water rating or L/175 deflection restrictions.

* If the project design pressures have been calculated in accordance with Ultimate Design Wind Speed (ULT), then these design pressures have to be multiplied by a factor of 0.6 to obtain the equivalent ASD design pressures shown in this chart.

Maximum Size Chart NW Aluminum 640 (Double Glazed)



Number of Panels in Unit

1	1' 11" (600)	2' 3" (700)	2' 7" (800)	2' 11" (900)	3' 3" (1000)
2	3' 11" (1200)	4' 7" (1400)	5' 3" (1600)	5' 10" (1800)	6' 6" (2000)
3	5' 10" (1800)	6' 10" (2100)	7' 10" (2400)	8' 10" (2700)	9' 10" (3000)
4	7' 10" (2400)	9' 2" (2800)	10' 6" (3200)	11' 9" (3600)	13' 1" (4000)
5	9' 10" (3000)	11' 5" (3500)	13' 1" (4000)	14' 9" (4500)	16' 4" (5000)
6	11' 9" (3600)	13' 10" (4200)	15' 8" (4800)	17' 8" (5400)	19' 8" (6000)
7	13' 10" (4200)	16' 0" (4900)	18' 4" (5600)	20' 8" (6300)	22' 10" (7000)
8	15' 8" (4800)	18' 4" (5600)	20' 11" (6400)	23' 7" (7200)	26' 1" (8000)
9	17' 9" (5400)	20' 7" (6300)	23' 6" (7200)	26' 6" (8100)	29' 4" (9000)
10	19' 8" (6000)	22' 10" (7000)	26' 1" (8000)	29' 6" (9000)	32' 9" (10000)
11	21' 7" (6600)	25' 1" (7700)	28' 8" (8800)	32' 5" (9900)	36' 1" (11000)
12	23' 6" (7200)	27' 4" (8400)	31' 5" (9600)	35' 5" (10800)	39' 4" (12000)

Frame Width of Unit

(Wider widths possible with addition of Panel Sets.)

Any Custom Size is Possible Up to the Maximum Size Limit Lines Shown

MAXIMUM SIZE LIMIT LINE OF:

A CONFIGURATIONS ——

(Swing panel hinged at jamb only.)

Standard Configurations:

1L 1R	1L 4R	2L 1R	4L 1R	6L 1R
1L 2R	1L 6R			

Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

1L 4L/R | 1L 6L/R 1R | 4L/R 1R

Addition of Panel Sets to all A Configurations possible.

C CONFIGURATIONS ——

(No swing panels.)

Standard Configurations:

2L	4L	6L	2L 2R	4L 2R	6L 2R
2R	4R	6R	2L 4R	4L 4R	6L 4R
			2L 6R	4L 6R	6L 6R

Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

2L 4L/R | 4L/R 4R | 6L 6L/R | 4L/R 4L/R | 6L/R 4L/R

Addition of Panel Sets to all C Configurations possible.

B CONFIGURATIONS – — –

(Swing panel as part of odd number of panels to one side.)

Standard Configurations:

3L	5L	1L 3R	3L 2R	5L 1R	4L 3R	5L 3R	5L 4R	5L 6R
3R	5R	3L 1R	3L 3R	2L 5R	5L 2R	3L 6R	6L 3R	6L 5R
		2L 3R	1L 5R	3L 4R	3L 5R	4L 5R	5L 5R	

Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

3L 4L/R | 3L 6L/R | 3L 4L/R 3R

Addition of Panel Sets to all B Configurations possible.

GLAZING

- Glass thicknesses from 7/8" (22 mm) to 1 7/16" (36 mm) can be accommodated.
- Maximum size chart is based on maximum glass weight of 30 kg/m² (6 lbs/ft²).
- Dry glazing system.

NOTES

- Max. panel width swing panel attached to side jamb 3' 3" (1000 mm).
- Min. panel width 23 5/8" (600 mm) for paired panels hinged to side jamb.
- Min. panel width 21 5/8" (550 mm) for Panel Sets 4L/R, 6L/R.
- Max. number of hinged panels to one side is 6.
- No limitation on number of unhinged panel sets in a unit. Additional adequate structural lateral support by others where panels stack.
- Configurations with even panels meeting even panels, including panel sets, provide lower weather resistant results from tested units.
- For other configurations, contact NanaWall.

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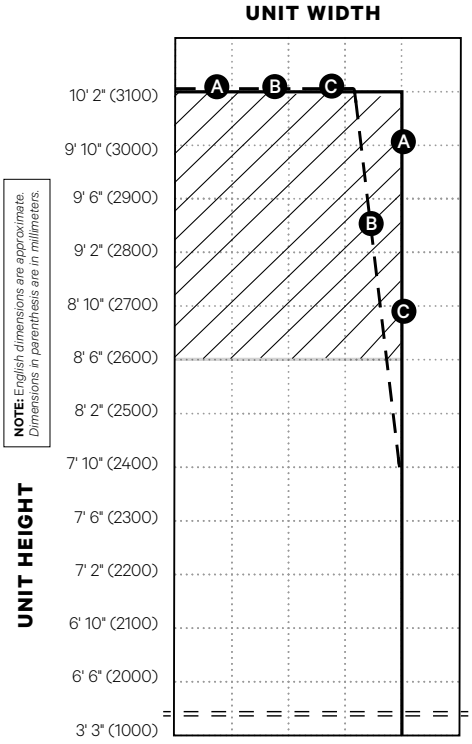
Maximum Size Chart NW Aluminum 640 (Triple Glazed)



Number of Panels in Unit

1	1' 11" (600)	2' 3" (700)	2' 7" (800)	2' 11" (900)	3' 3" (1000)
2	3' 11" (1200)	4' 7" (1400)	5' 3" (1600)	5' 10" (1800)	6' 6" (2000)
3	5' 10" (1800)	6' 10" (2100)	7' 10" (2400)	8' 10" (2700)	9' 10" (3000)
4	7' 10" (2400)	9' 2" (2800)	10' 6" (3200)	11' 9" (3600)	13' 1" (4000)
5	9' 10" (3000)	11' 5" (3500)	13' 1" (4000)	14' 9" (4500)	16' 4" (5000)
6	11' 9" (3600)	13' 10" (4200)	15' 8" (4800)	17' 8" (5400)	19' 8" (6000)
7	13' 10" (4200)	16' 0" (4900)	18' 4" (5600)	20' 8" (6300)	22' 10" (7000)
8	15' 8" (4800)	18' 4" (5600)	20' 11" (6400)	23' 7" (7200)	26' 1" (8000)
9	17' 9" (5400)	20' 7" (6300)	23' 6" (7200)	26' 6" (8100)	29' 4" (9000)
10	19' 8" (6000)	22' 10" (7000)	26' 1" (8000)	29' 6" (9000)	32' 9" (10000)
11	21' 7" (6600)	25' 1" (7700)	28' 8" (8800)	32' 5" (9900)	36' 1" (11000)
12	23' 6" (7200)	27' 4" (8400)	31' 5" (9600)	35' 5" (10800)	39' 4" (12000)

Frame Width of Unit

(Wider widths possible with addition of Panel Sets.)

Any Custom Size is Possible Up to the Maximum Size Limit Lines Shown

MAXIMUM SIZE LIMIT LINE OF:

A CONFIGURATIONS ——

(Swing panel hinged at jamb only.)

Standard Configurations:

1L 1R	2L 1R	4L 1R	6L 1R
1L 2R	1L 4R	1L 6R	

Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

1L 4L/R | 4L/R 1R | 1L 6L/R 1R

Addition of Panel Sets to all A Configurations possible.

C CONFIGURATIONS ——

(No swing panels.)

Standard Configurations:

2L	4L	6L	2L 2R	4L 2R	6L 2R
2R	4R	6R	2L 4R	4L 4R	6L 4R
			2L 6R	4L 6R	6L 6R

Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

2L 4L/R | 4L/R 4R | 6L 6L/R | 4L/R 4L/R | 6L/R 4L/R

Addition of Panel Sets to all C Configurations possible.

B CONFIGURATIONS – — –

(Swing panel as part of odd number of panels to one side.)

Standard Configurations:

3L	5L	1L 3R	3L 2R	5L 1R	4L 3R	5L 3R	5L 4R	5L 6R
3R	5R	3L 1R	3L 3R	2L 5R	5L 2R	3L 6R	6L 3R	6L 5R
		2L 3R	1L 5R	3L 4R	3L 5R	4L 5R	5L 5R	

Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

3L 4L/R | 3L 6L/R | 3L 4L/R 3R

Addition of Panel Sets to all B Configurations possible.

Horizontal mullion required for unit height taller than 8' 6" (2600 mm) such that no glass pane is more than 7' 10" (2400 mm) tall.

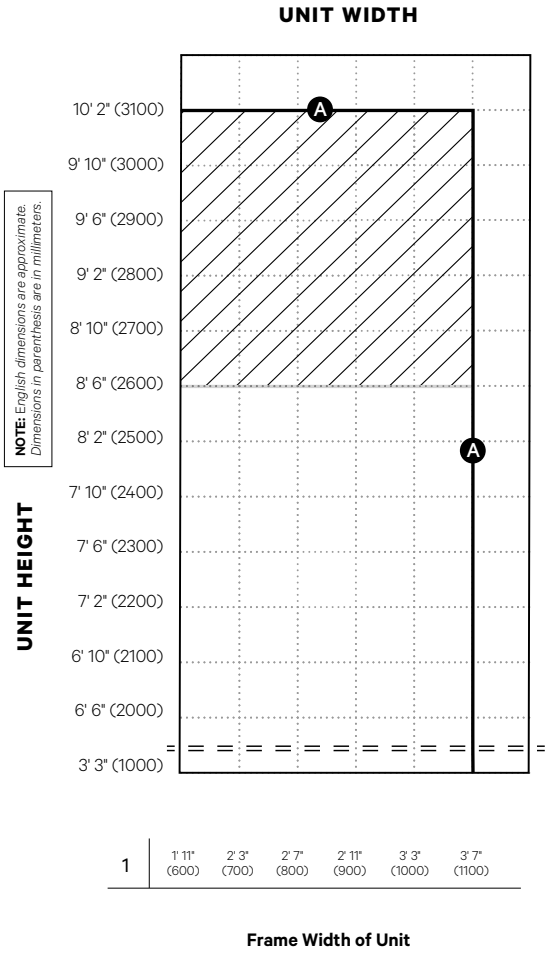
GLAZING

- Glass thicknesses from 1 7/16" (36 mm) to 1 3/4" (45 mm) can be accommodated.
- Maximum size chart is based on maximum glass weight of 30 kg/m² (6 lbs/ft²).
- Dry glazing system.

NOTES

- Max. panel width swing panel attached to side jamb 3' 3" (1000 mm).
- Min. panel width 23 5/8" (600 mm) for paired panels hinged to side jamb.
- Min. panel width 21 5/8" (550 mm) for Panel Sets 4L/R, 6L/R.
- Max. number of hinged panels to one side is 6.
- No limitation on number of unhinged panel sets in a unit. Additional adequate structural lateral support by others where panels stack.
- Configurations with even panels meeting even panels, including panel sets, provide lower weather resistant results from tested units.
- For other configurations, contact NanaWall.

Maximum Size Chart NW Aluminum 640 - Single Swing Door (Double and Triple Glazed)



Single Swing Door Possible Up to the Maximum Size Limit Lines Shown

MAXIMUM SIZE LIMIT LINE OF:

A CONFIGURATIONS ——
(Swing door hinged at jamb only.)

Standard Configurations:

1L | 1R

Horizontal mullion required for triple glazing with unit height taller than 8' 6" (2600 mm) such that no glass pane is more than 7' 10" (2400 mm) tall.

GLAZING

- Glass thicknesses from 1/4" (6 mm) to 1 3/4" (45 mm) can be accommodated.
- Maximum size chart is based on maximum glass weight of 30 kg/m² (6 lbs/ft²).
- Dry glazing system.

NOTES

- Max. panel width swing panel attached to the side jamb 3' 7" (1100 mm).
- Min. panel width swing panel attached to the side jamb 21 5/8" (550 mm).
- For other options, contact NanaWall.

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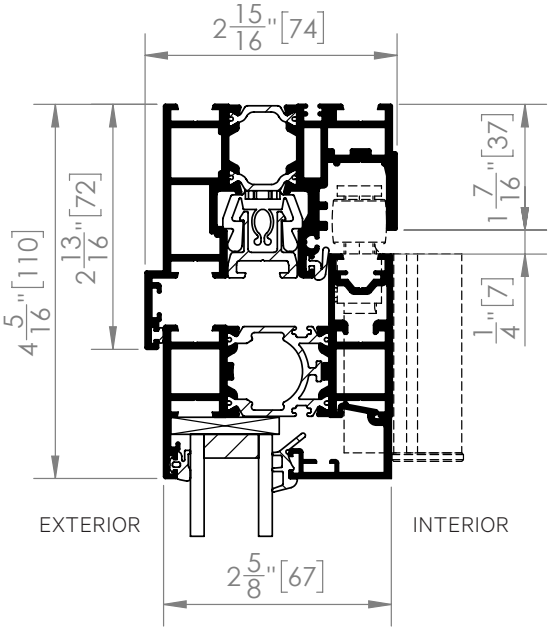
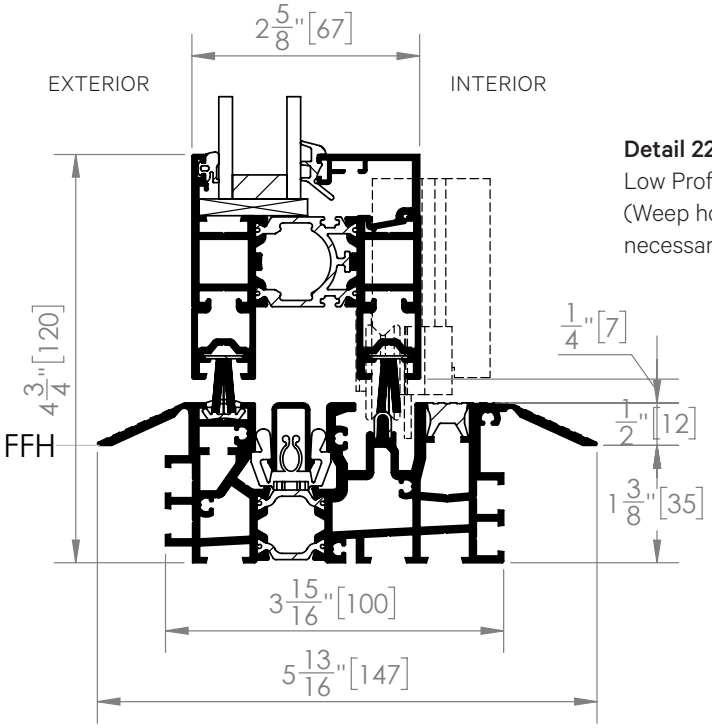
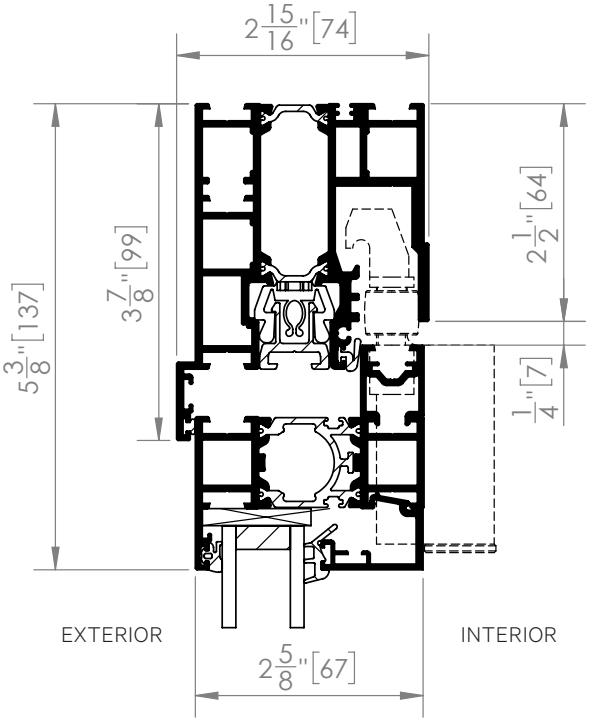


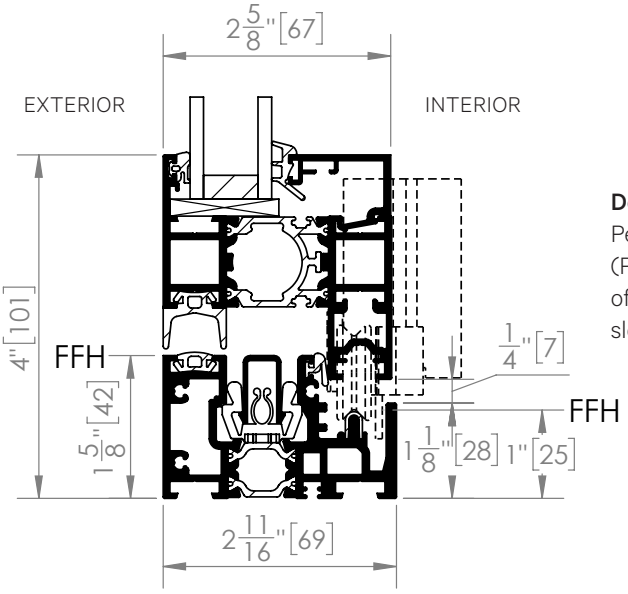
Detail 1.0
Head Jamb



Detail 22.0
Low Profile Saddle Sill
(Weep holes and drainage by others necessary for water rating.)



Detail 12.0
Head Jamb for
Unhinged Panel Sets



Detail 2.0
Performance Sill
(Proper drainage by others
of water exiting sill weep
slots necessary.)

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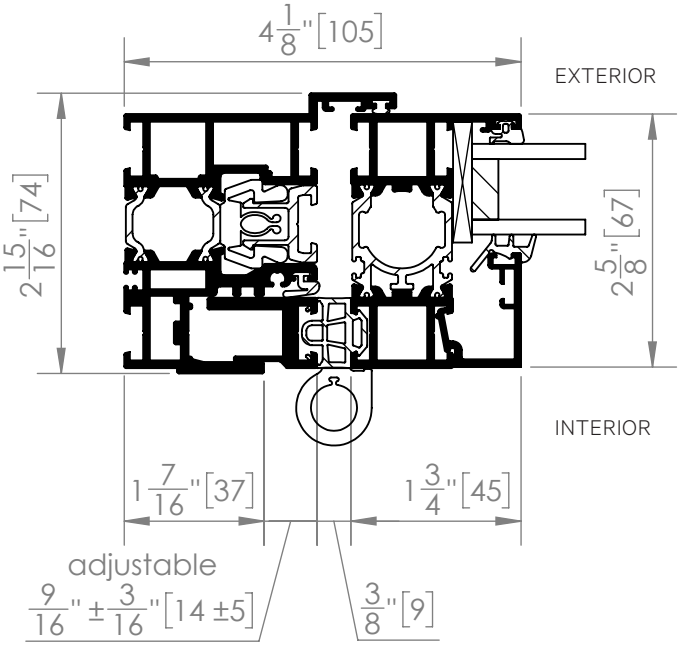
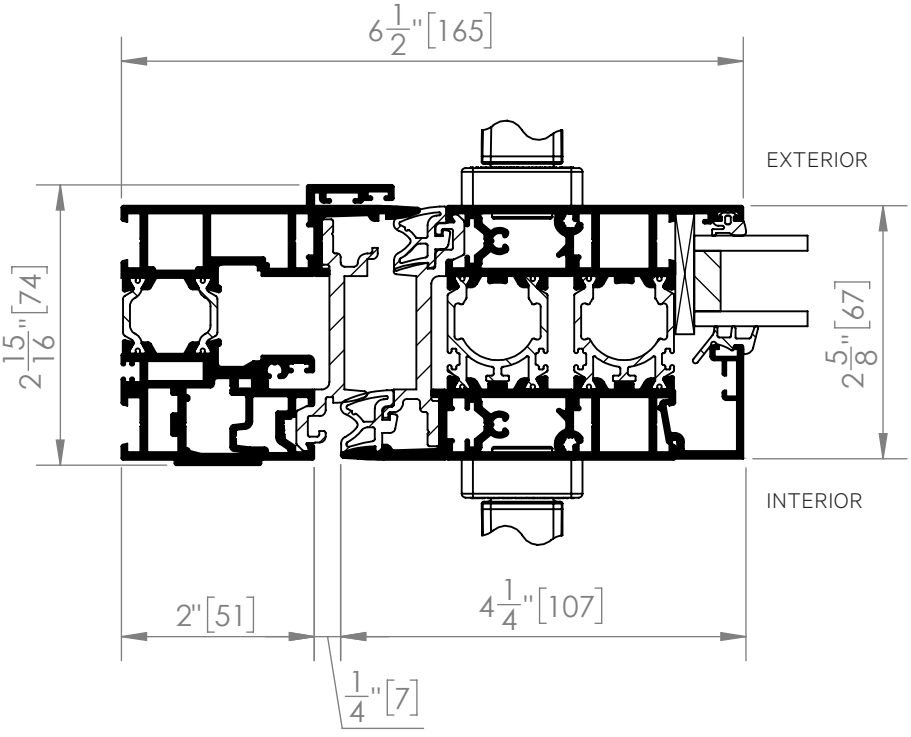
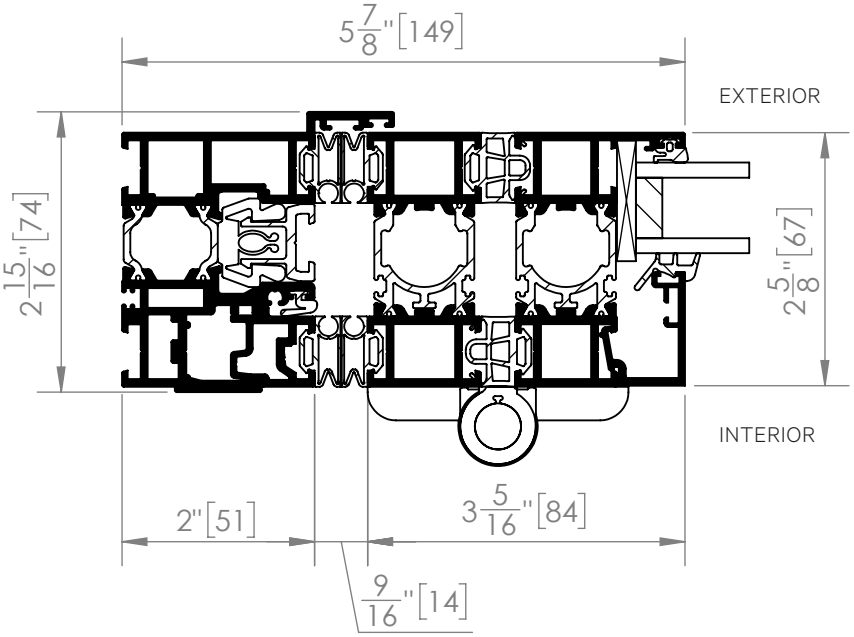


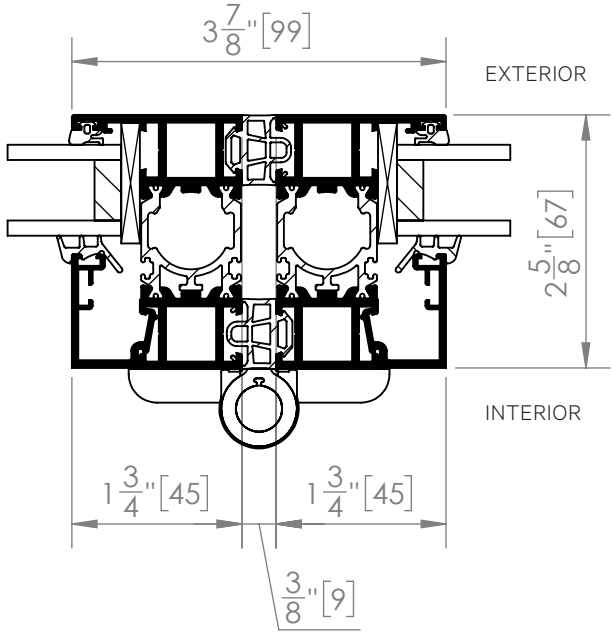
Detail 3.0
Panel Hinged to Side Jamb

Detail 4.0
Swing Panel with
Locking at Side Jamb





Detail 5.0
Panel with Running Post and Top and Bottom Rollers Attached Meeting at Side Jamb



Detail 7C.0
Hinged Folding Panels

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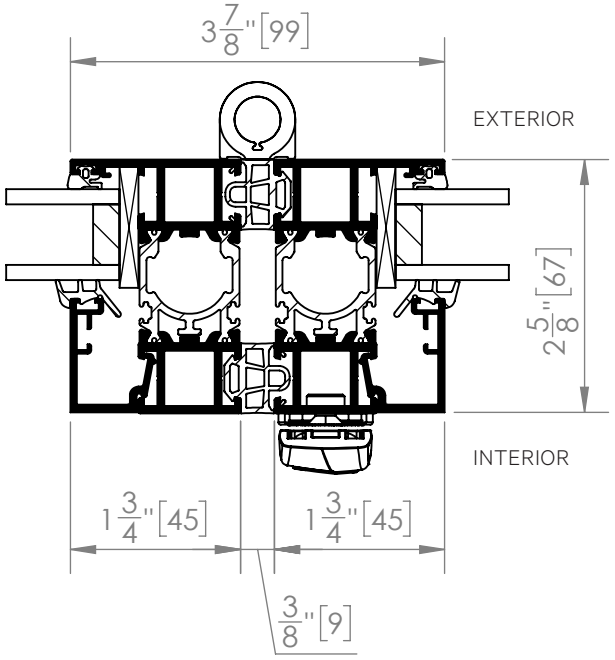
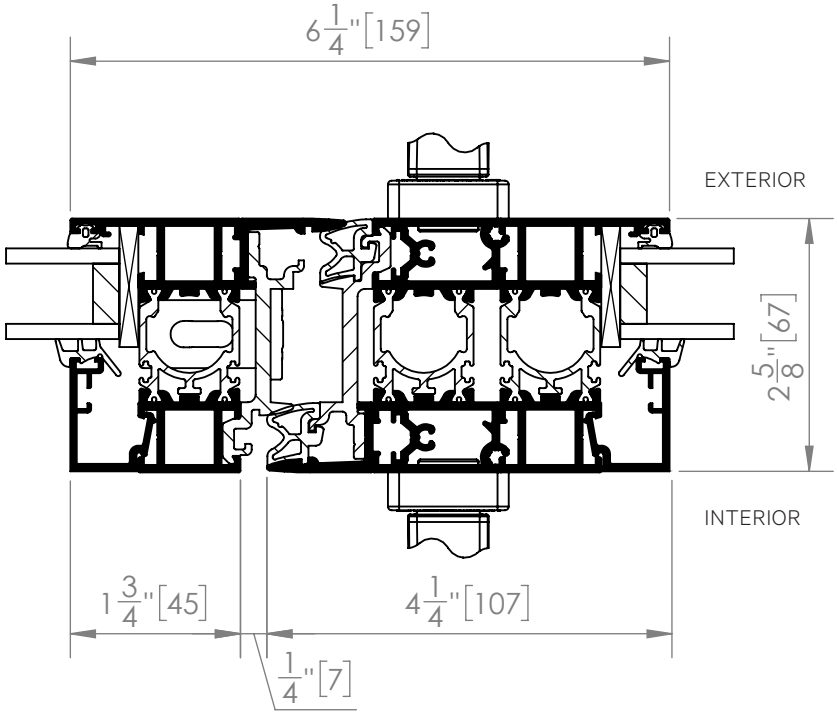
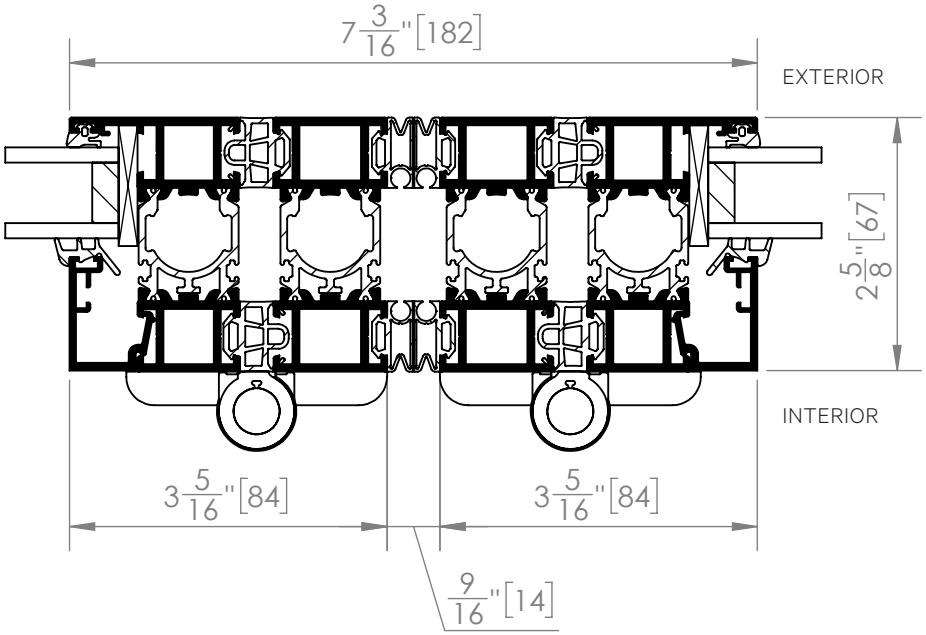


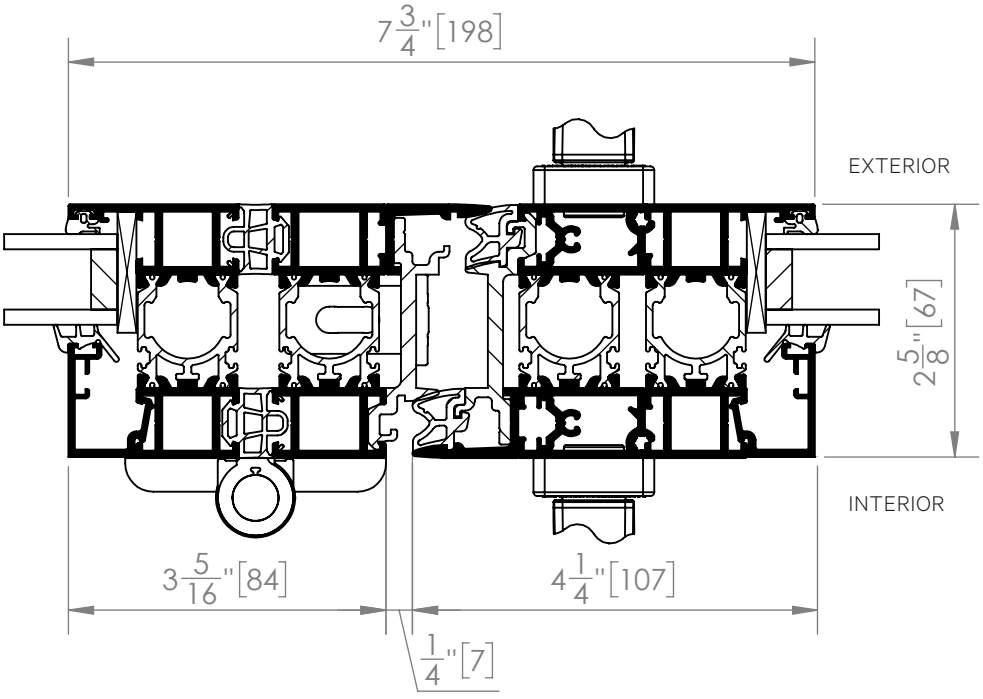
Detail 7.0
Hinged Folding Panels
with Locking



Detail 8.0
Pair of Swing Panels with
Primary Swing Panel with Lever
Handle Locking on Right and
Secondary Swing Panel with
Concealed Edge Lock on Left



Detail 9.0
Meeting of Folding Panels with Running Post and Top and Bottom Rollers Attached



Detail 10.0
Meeting of Swing Panel with Locking and Folding Panel with Running Post and Top and Bottom Rollers Attached

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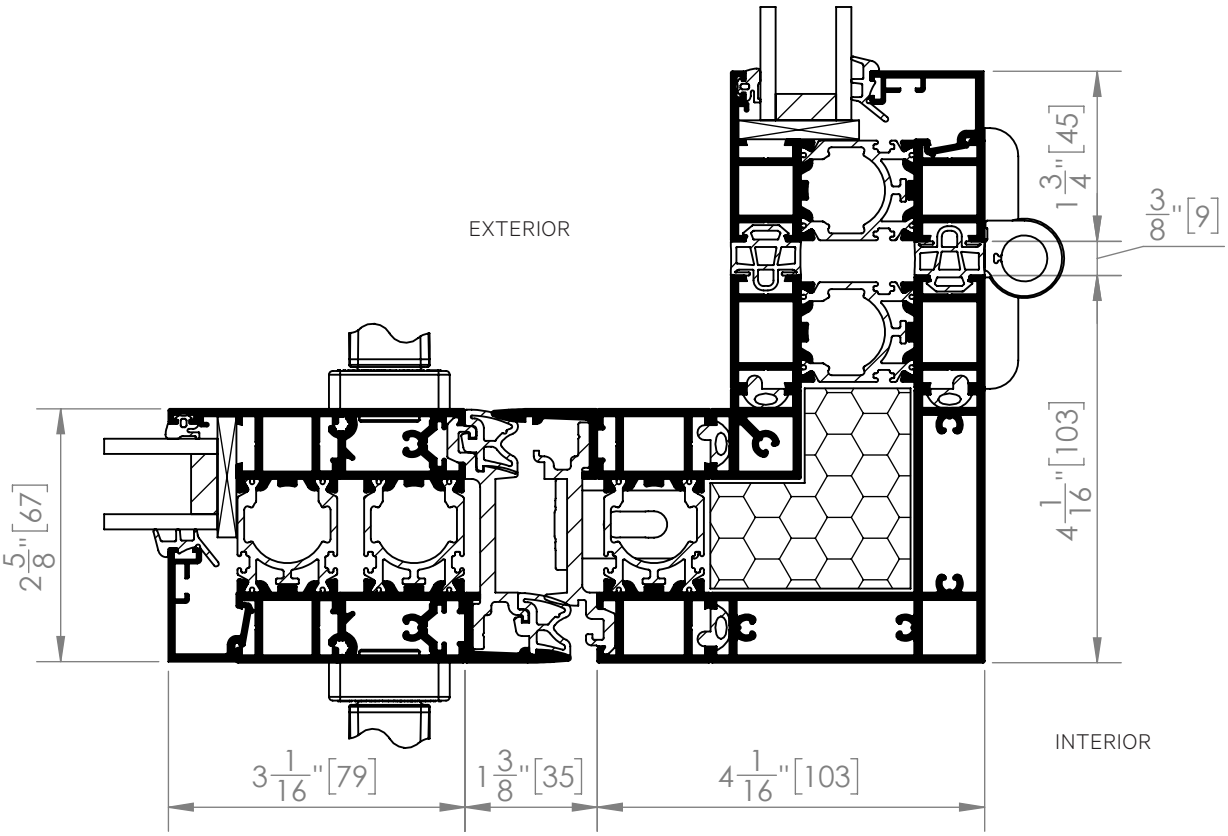
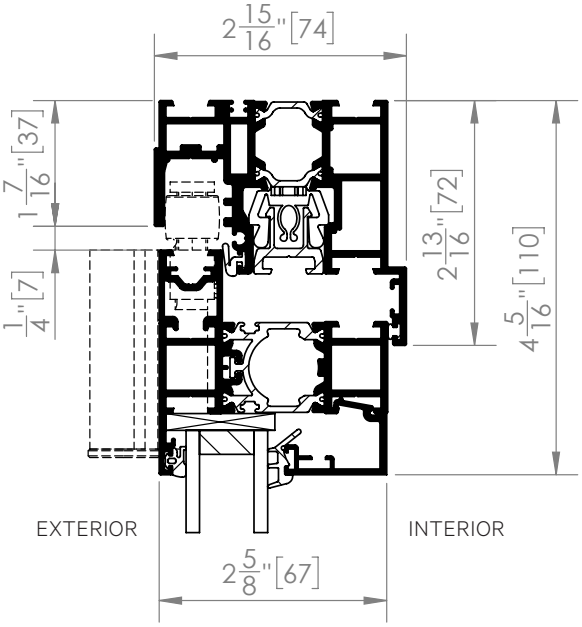
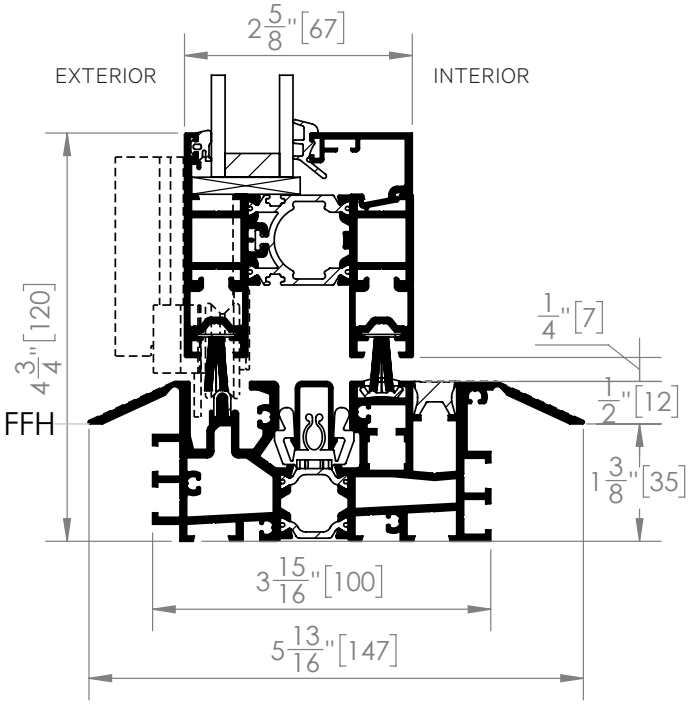


Detail 35.0
Meeting of Swing Panel with Locking and Folding Panel with a Combined Running Post with Top and Bottom Rollers and a 90-Degree Corner Post Attached with Concealed Edge Lock for an Inside Corner

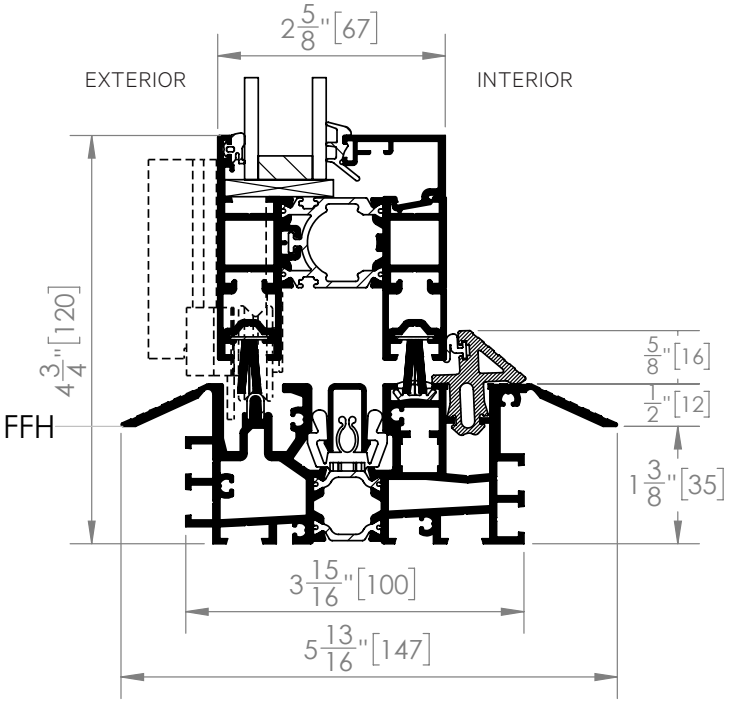


Detail 1.1
Head Jamb

Detail 22.1
Low Profile Saddle Sill
(Weep holes and drainage by others necessary for water rating.)



Detail 22.1 UniverSILL®
Low Profile Saddle Sill with UniverSILL
(Weep holes and drainage by others necessary for water rating.)



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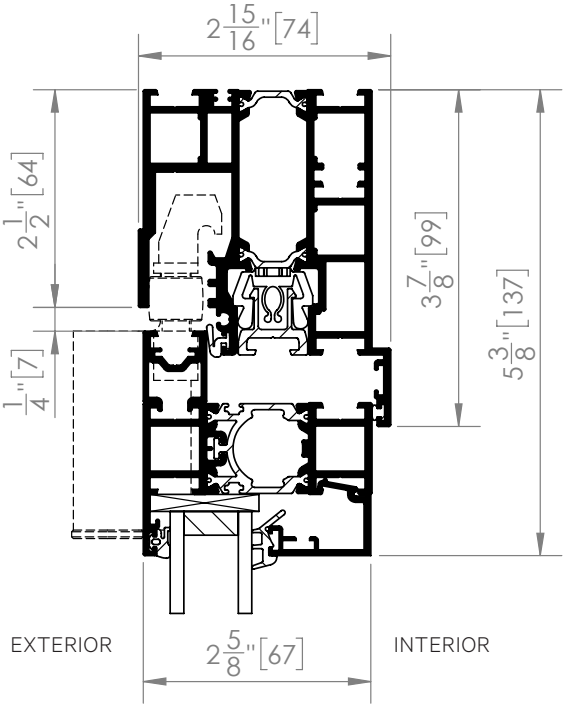
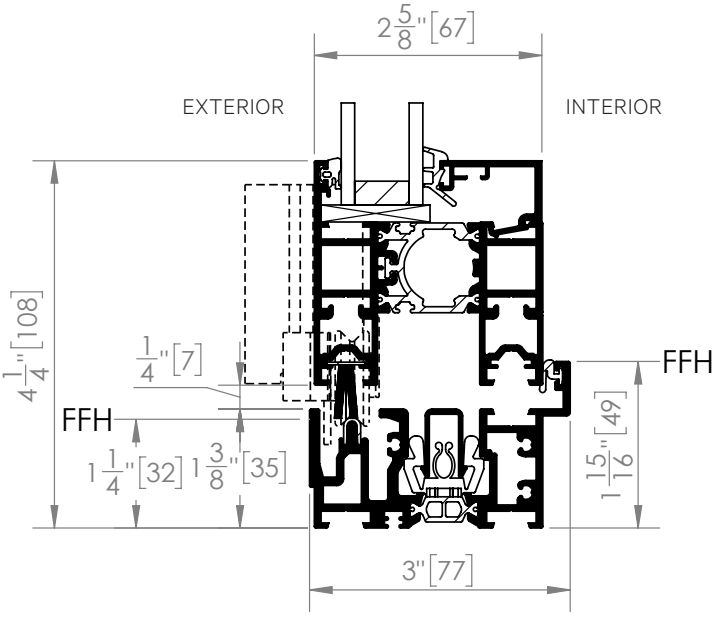
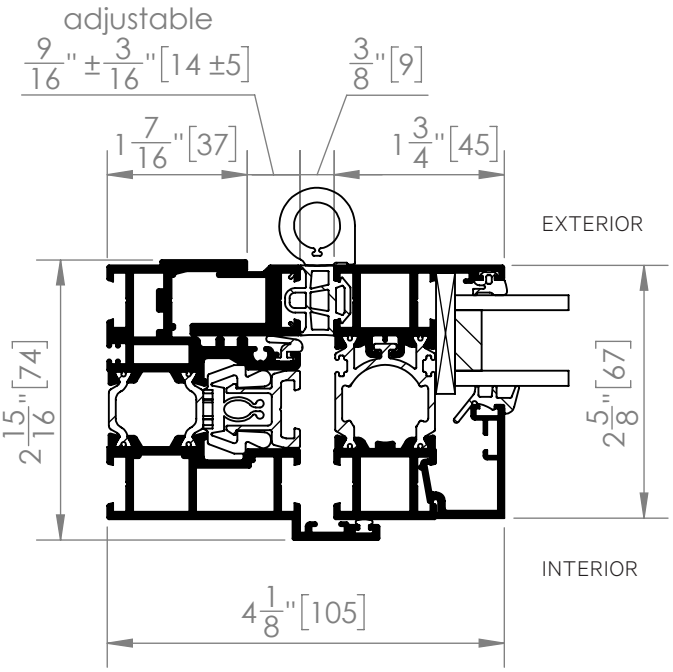


Detail 12.1
Head Jamb for Unhinged Panel Sets

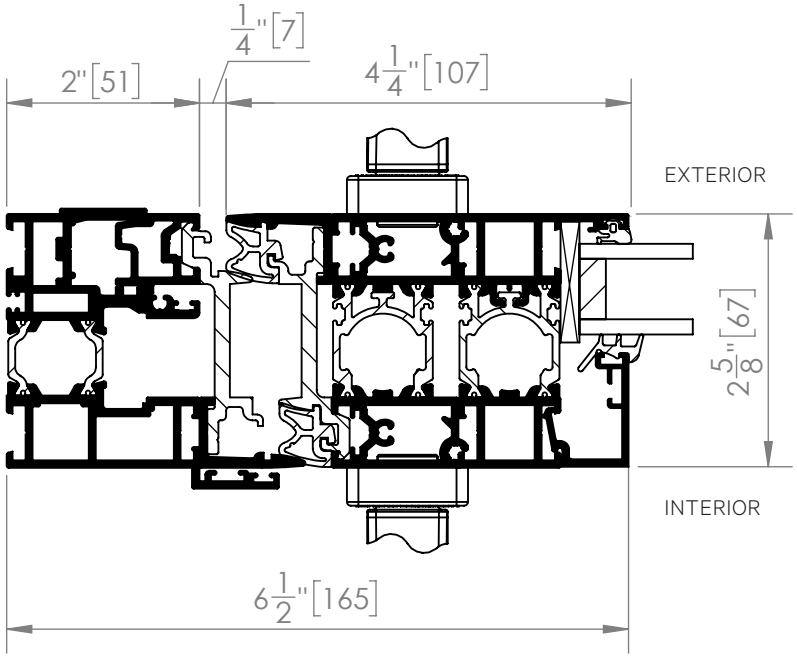


Detail 2.1
Performance Sill
(Proper drainage by others of water exiting weep slots necessary.)



Detail 3.1
Panel Hinged to Side Jamb

Detail 4.1
Swing Panel with
Locking at Side Jamb



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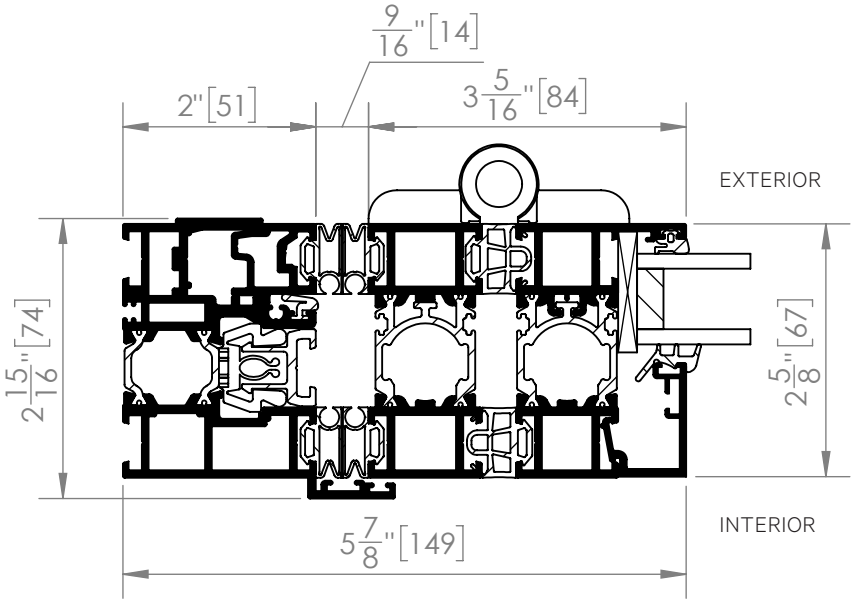
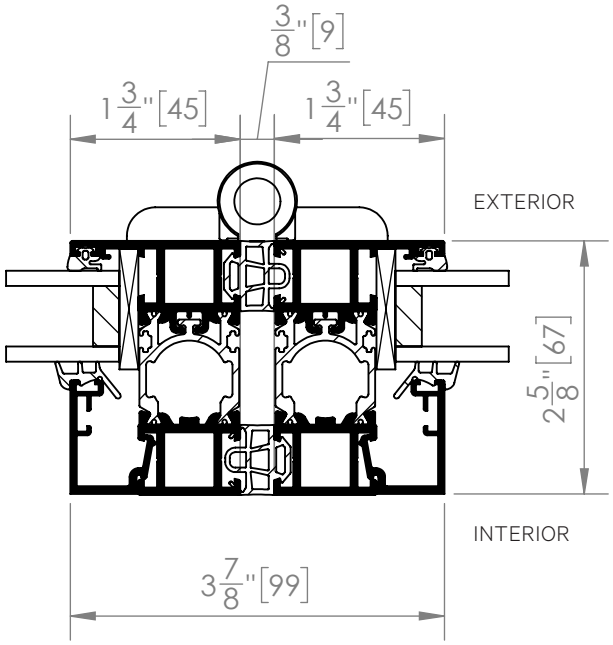
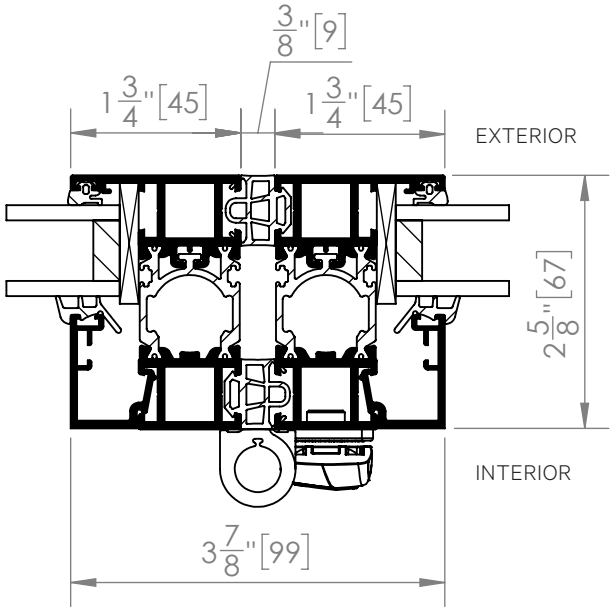


Detail 5.1
Panel with Running Post and Top and Bottom Rollers Attached Meeting at Side Jamb

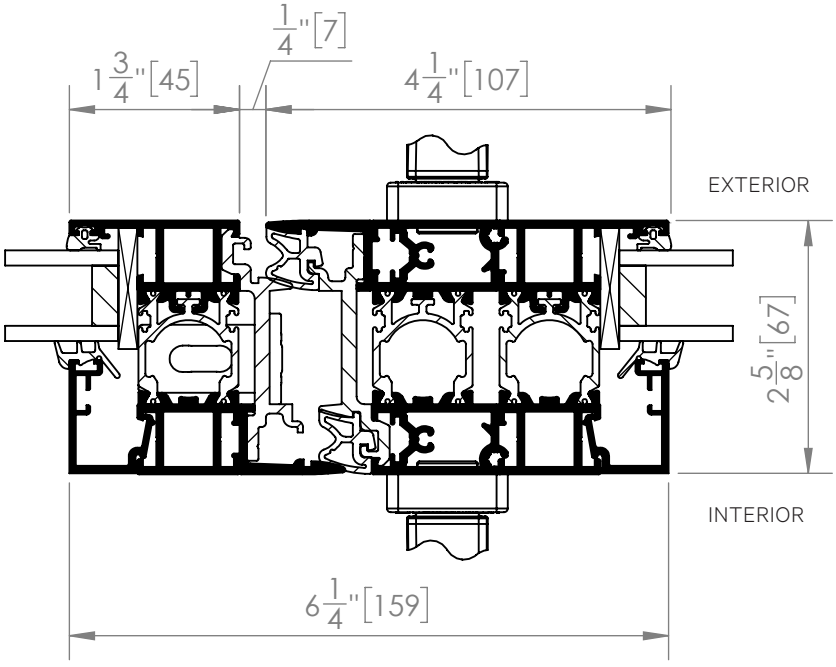


Detail 7C.1
Hinged Folding Panels



Detail 7.1
Hinged Folding Panels with Locking

Detail 8.1
Pair of Swing Panels with Primary Swing Panel with Lever Handle Locking on Right and Secondary Swing Panel with Concealed Edge Lock on Left



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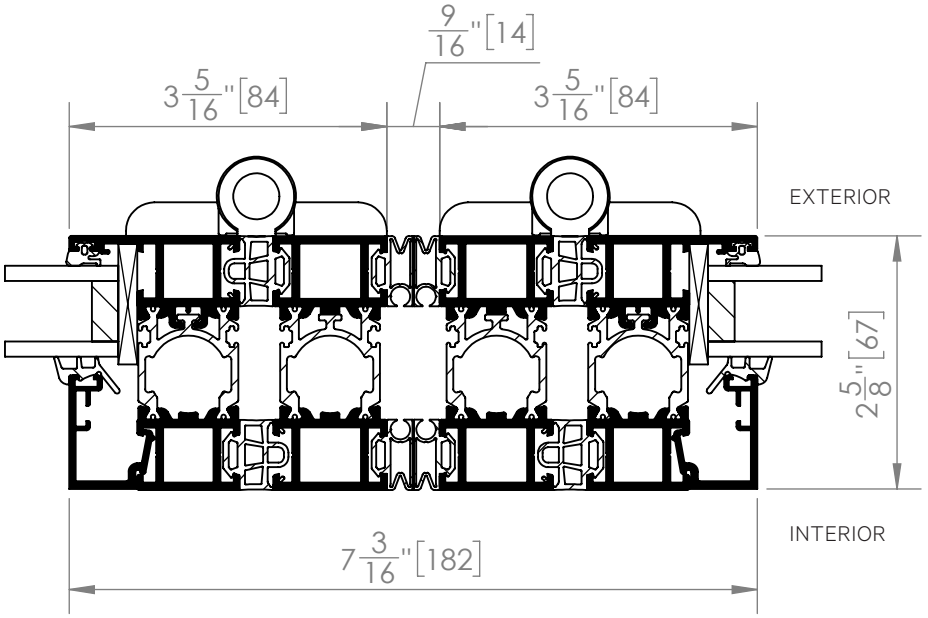
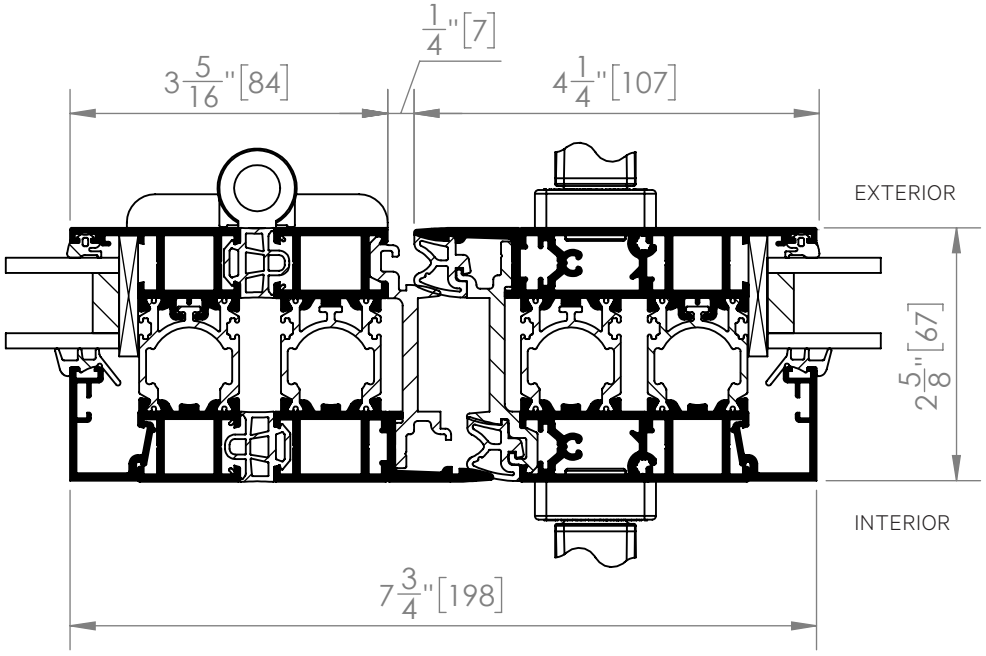
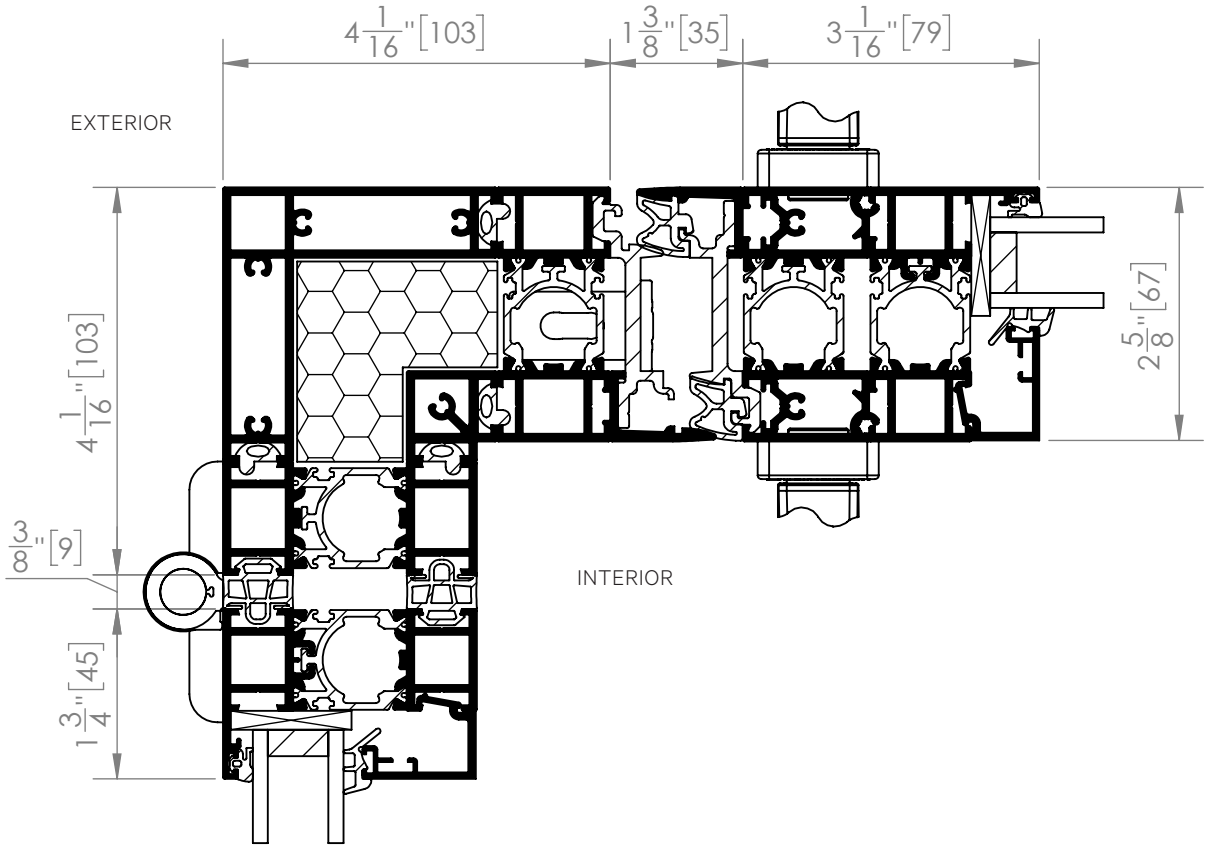


Detail 9.1
Meeting of Folding Panels with Running Post and Top and Bottom Rollers Attached



Detail 10.1
Meeting of Swing Panel with Locking and Folding Panel with Running Post and Top and Bottom Rollers Attached



Detail 35.1
Meeting of Swing Panel with Locking and Folding Panel with a Combined Running Post with Top and Bottom Rollers and a 90-Degree Corner Post Attached with Concealed Edge Lock for an Outside Corner

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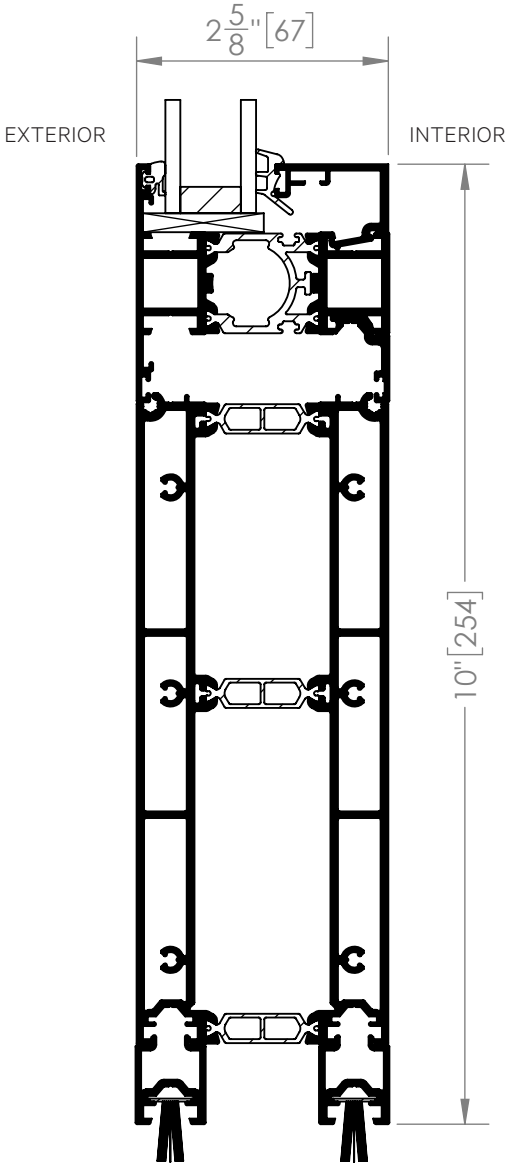
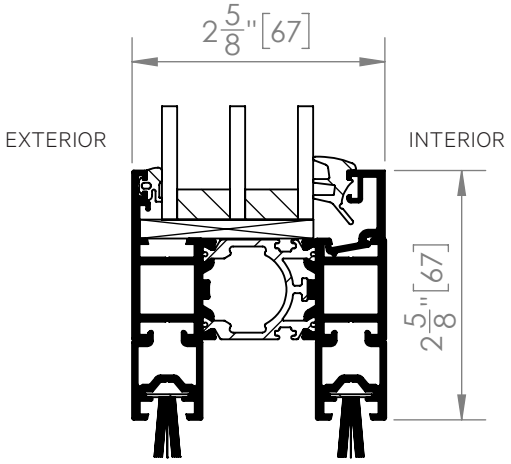
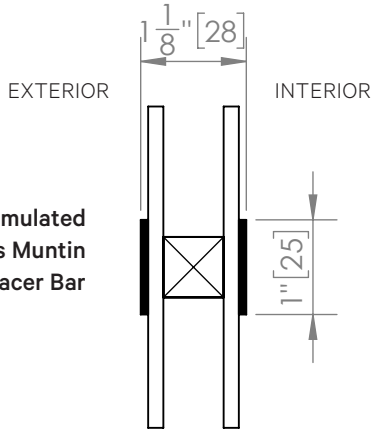


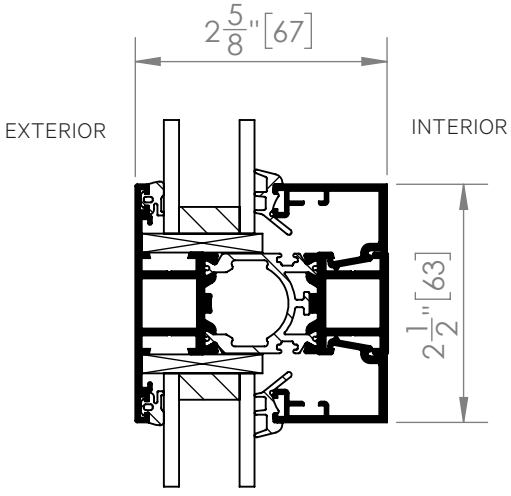
Typical Higher Bottom Rail



Typical Glass Stop Profile with Triple Glazing

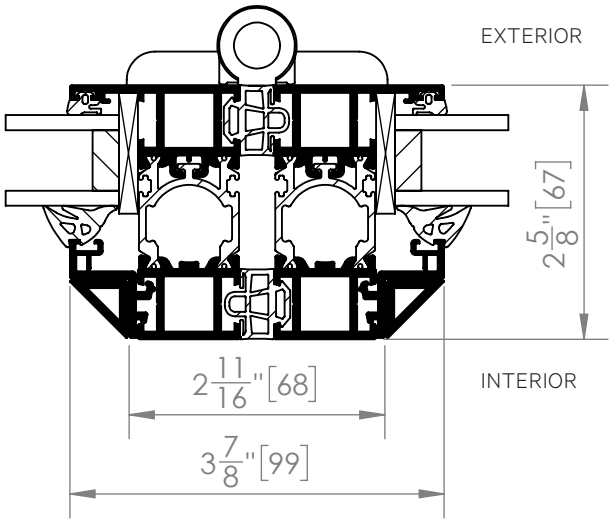


Typical Simulated Divided Lites Muntin with Spacer Bar

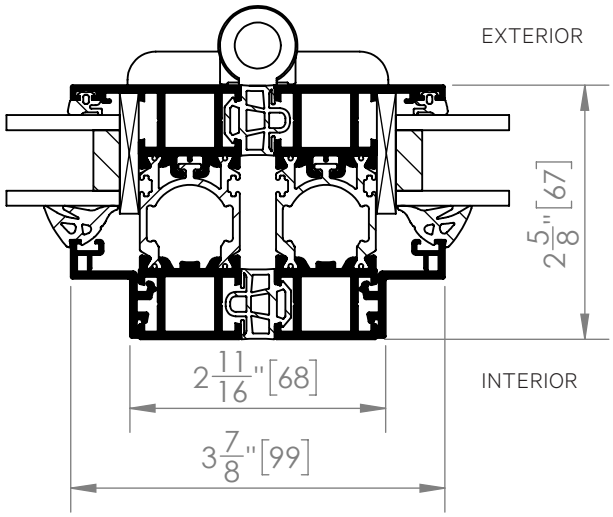


Typical Mullion Profile

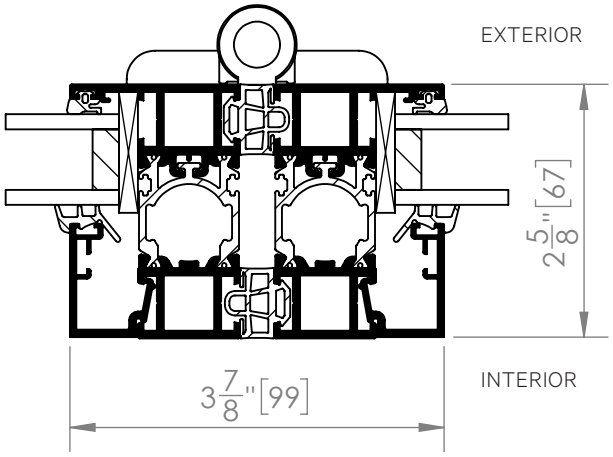
Steel Effect Glass Stop Options



Classic



Contemporary



Standard

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Suggested Typical Installation

INSTALLATION NOTES

Suggested Typical Installation drawings shown are very general and may not be suitable for any particular installation. Product placement, fasteners, flashing, waterproofing, sealant, trim, and other details for specific surrounding conditions must be properly designed and provided by others.

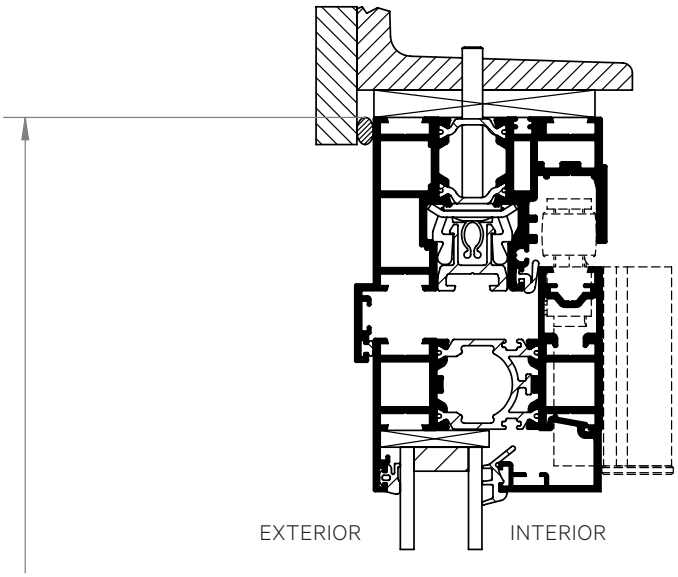
INSTALLATION CONSIDERATIONS

The approximate weight of a panel with double glazing is 5.5-7.5 lbs/ft^2 (27-37 kg/m^2), and with triple glazing is 7-8 lbs/ft^2 (34-39 kg/m^2). The maximum vertical structural deflection of the header should be ¼" (6 mm) under full live and dead loads. Although for Floor Supported systems, there is no vertical live load deflection of the header from the weight of the panels, structural support for lateral loads (both windload and when the panels are stacked open) must be provided for the header, surrounding walls, and floor. For further information, see “Preparation of the Rough Opening” section in the Installation Instructions for the applicable system. An owner’s manual with these Installation Instructions is available from NanaWall or from NanaWall’s website.

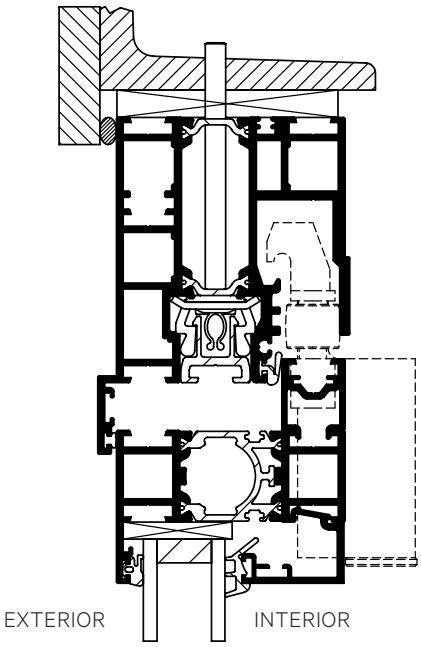
It is recommended that all building dead loads be applied to the header prior to installing the NanaWall. If so and if a reasonable amount of time has been allowed for the effect of this dead load to be imposed on the header, then only the building’s live load can be used to account for the above maximum header deflection of ¼" (6 mm). There may be additional structural requirements not mentioned here.

Note: For some jurisdictions, any standing water in sill channels must be drained. Weep holes for this purpose are to be done by others in the field, including drain connections if sill is recessed.

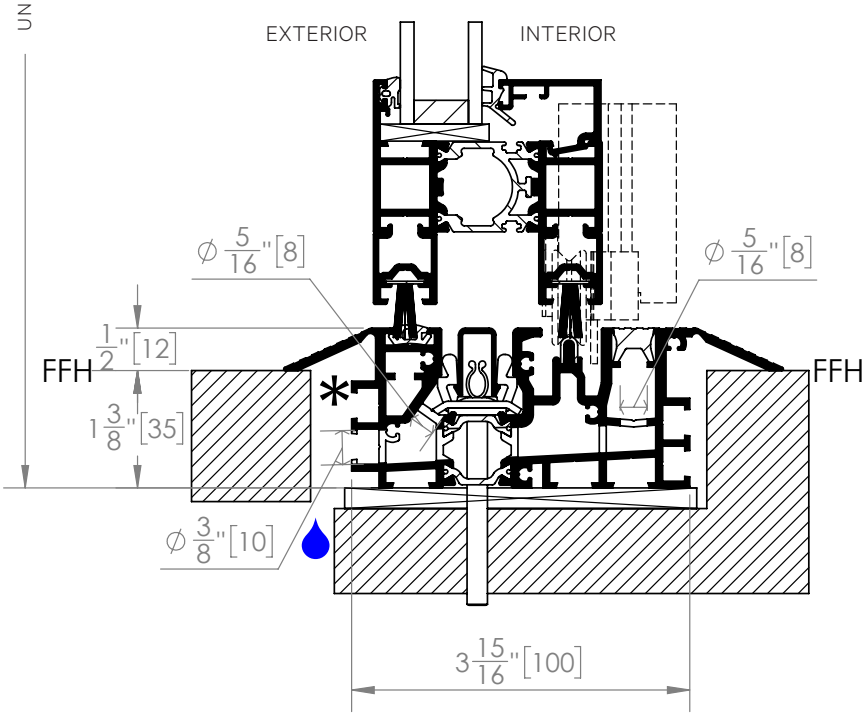
Inward Opening Details



Head Track



Head Track for Left/Right FourFold and SixFold Panel Sets



Low Profile Saddle Sill - Option 1
(*Weep holes have to be unobstructed. Drainage by others is necessary for water rating. Please see detail drawing available from NanaWall for weep hole sizes, pattern, and spacing.)

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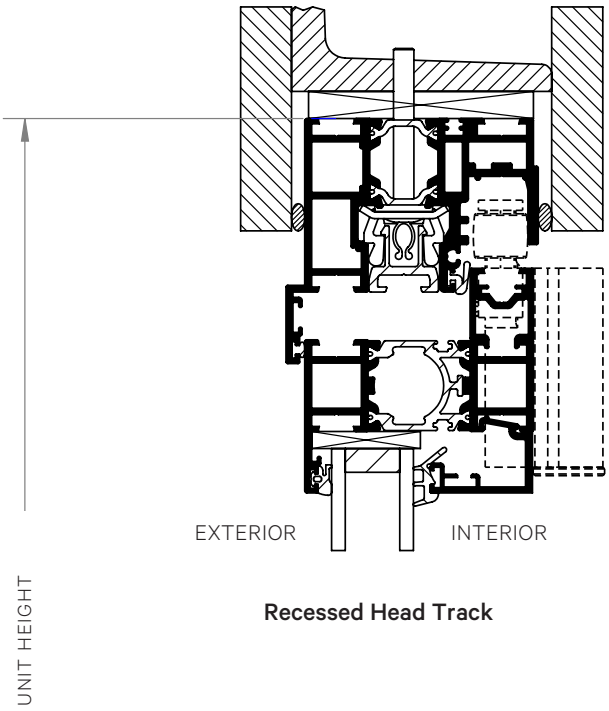
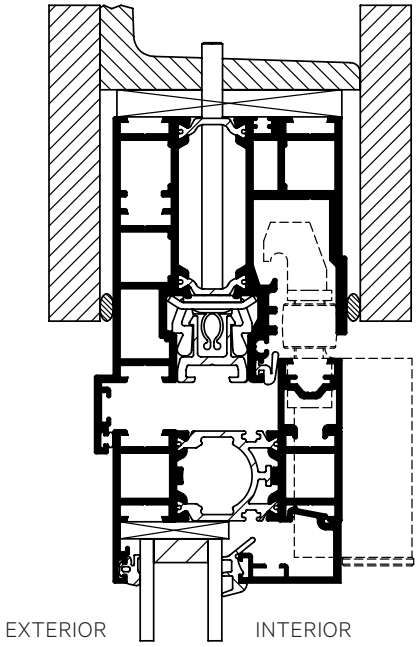
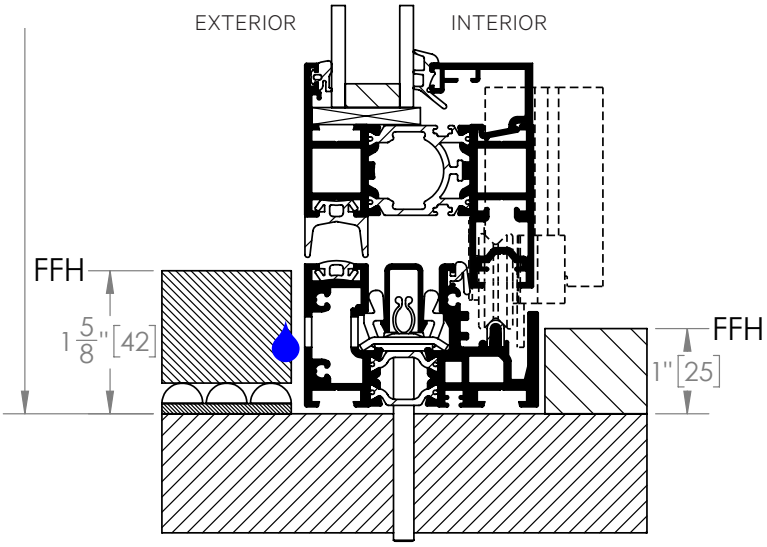
Inward Opening Details



Recessed Head Track

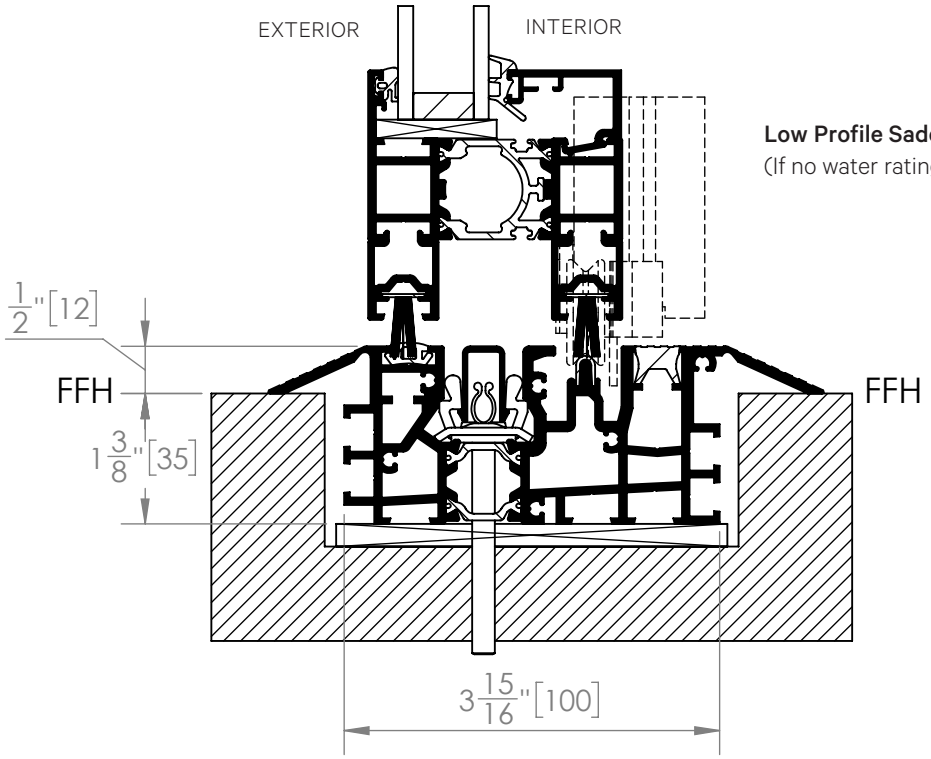


Recessed Head Track for Left/Right FourFold and SixFold Panel Sets



Performance Sill
(Weep slots have to be unobstructed. Details of the management of water exiting the weep slots must be designed and installed by others.)

Inward Opening Details



Low Profile Saddle Sill - Option 2
(If no water rating needed.)

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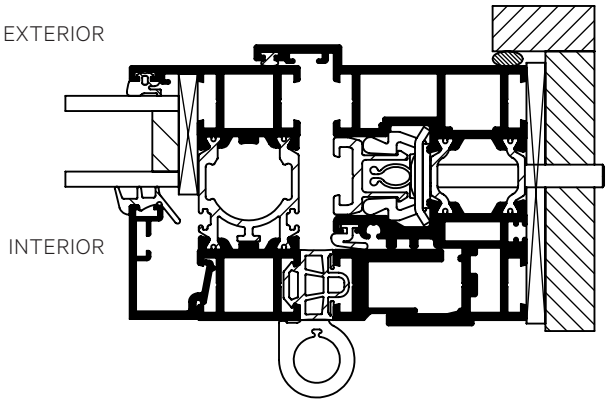
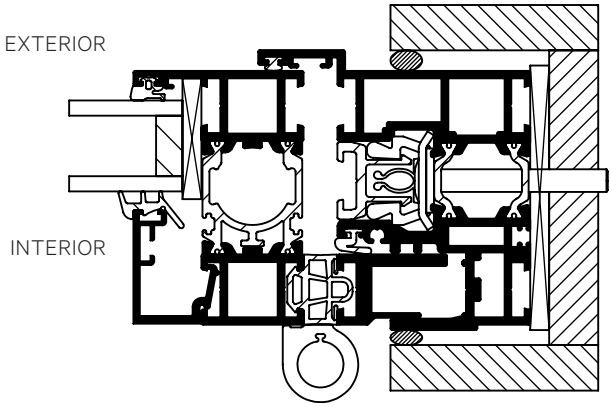
Inward Opening Details

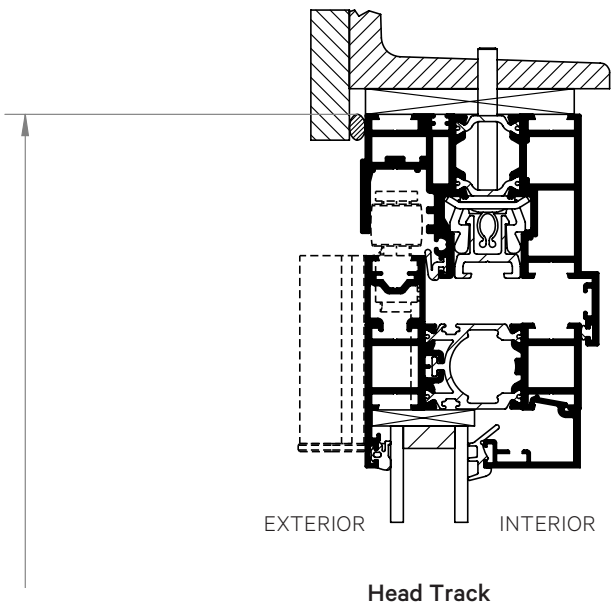


Panel Hinged at Right Side Jamb



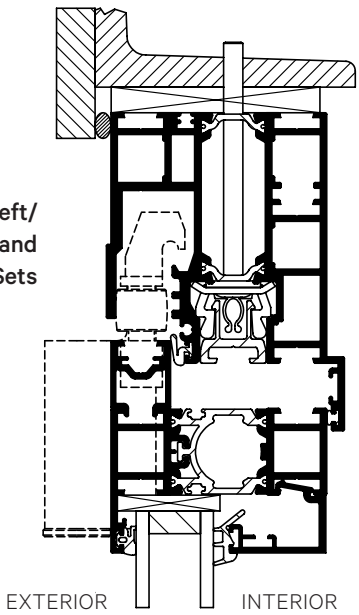
Panel Hinged at Right with Recessed Side Jamb

Outward Opening Details

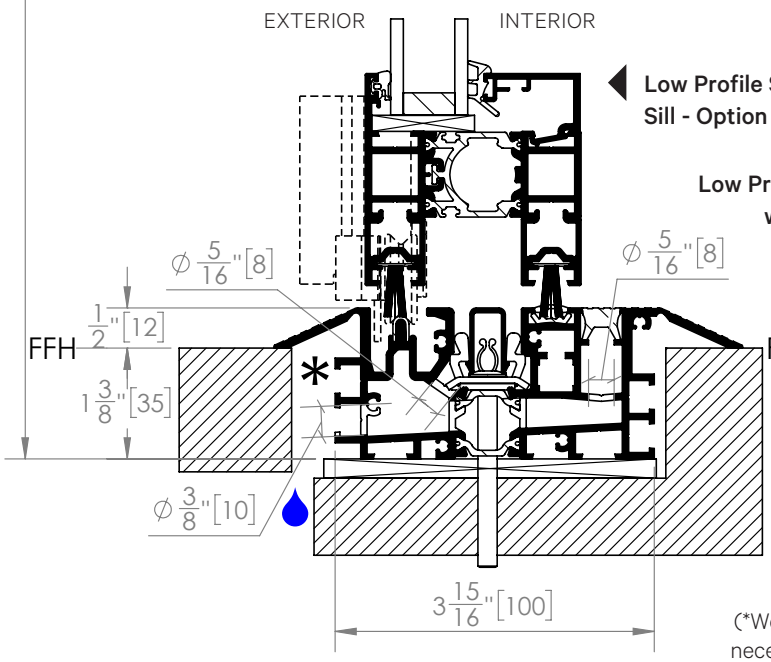


Head Track

Head Track for Left/ Right FourFold and SixFold Panel Sets

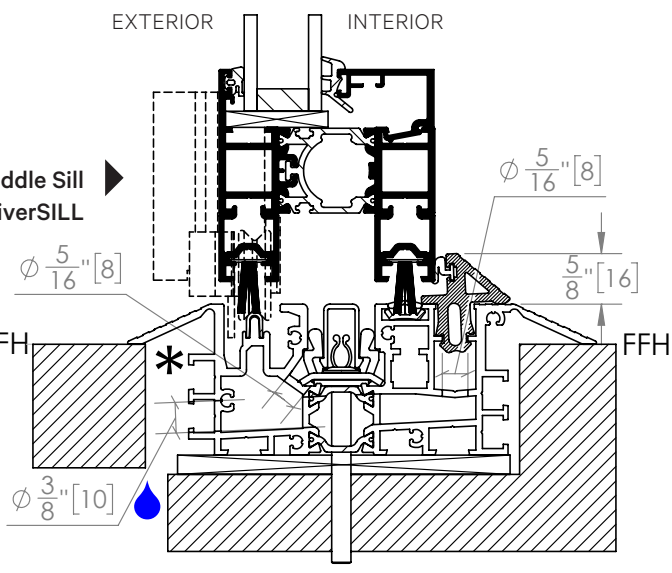


UNIT HEIGHT



Low Profile Saddle Sill - Option 1

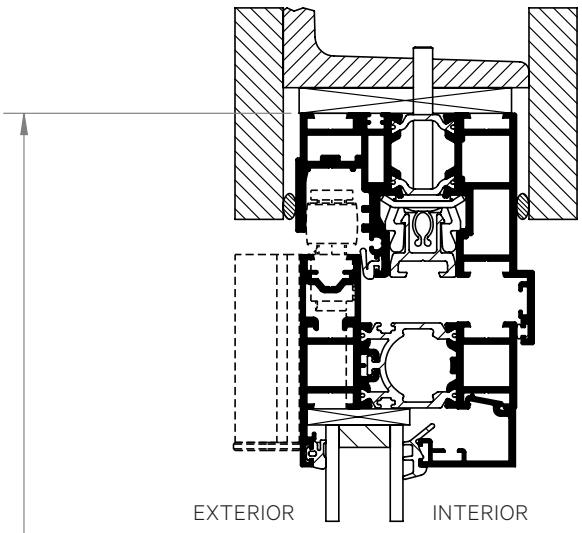
Low Profile Saddle Sill with UniverSILL



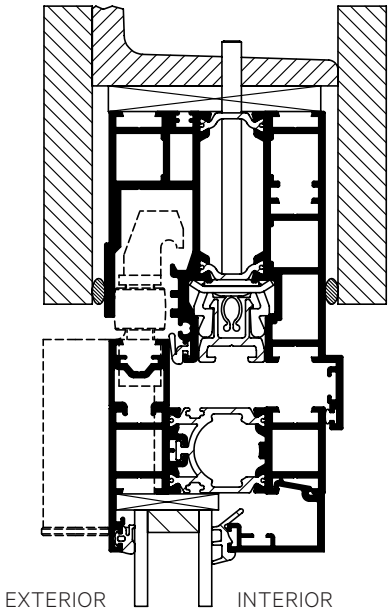
(*Weep holes have to be unobstructed. Drainage by others is necessary for water rating. Please see detail drawing available from NanaWall for weep hole sizes, pattern, and spacing.)

NanaWall® Boundaries Unbound®

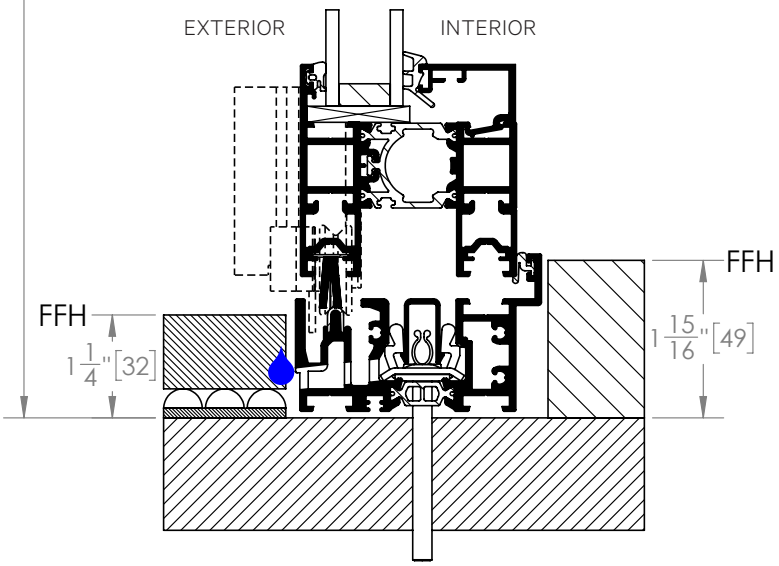
Outward Opening Details



Recessed Head Track

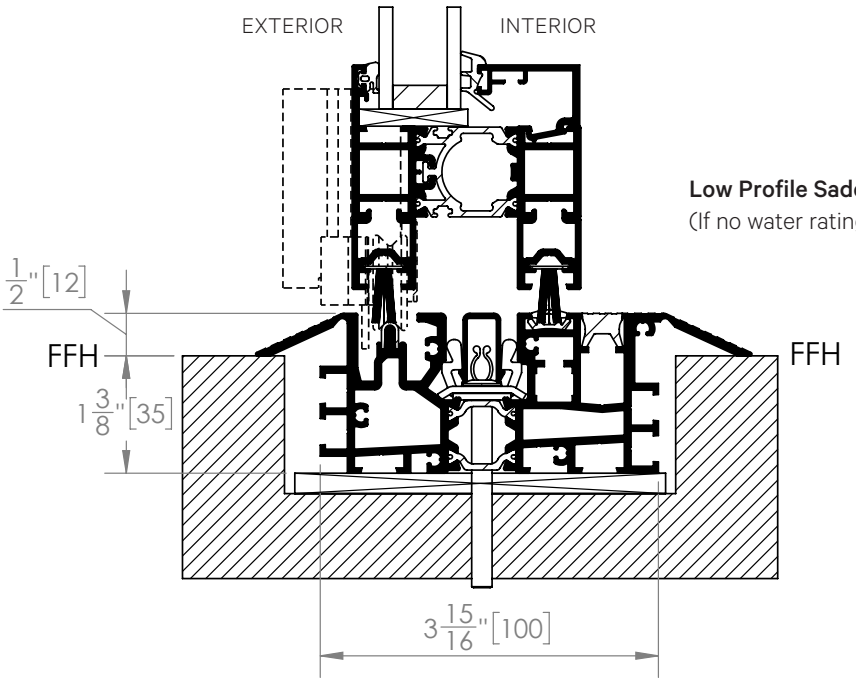


Recessed Head Track for Left/ Right FourFold and SixFold Panel Sets



Performance Sill
(Weep slots have to be unobstructed. Details of the management of water exiting the weep slots must be designed and installed by others.)

Outward Opening Details



Low Profile Saddle Sill - Option 2
(If no water rating needed.)

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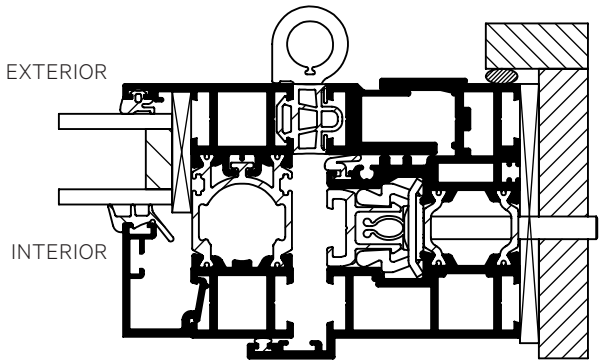
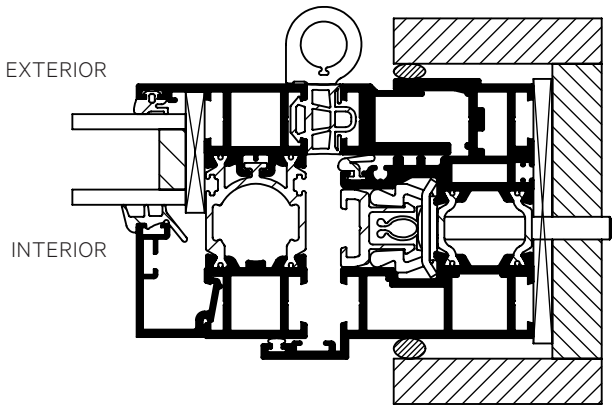
Outward Opening Details



Panel Hinged at Right Side Jamb



Panel Hinged at Right with Recessed Side Jamb