NanaWall HSW50

The Thermally Broken Aluminum Framed Individual Panel Sliding System with Horizontal Rollers

Unique Features
The thermally broken aluminum framed NanaWall HSW50 is an exterior, weather-resistant, individual single panel sliding system that provides the ultimate in versatility and flexibility. This is a storefront and entrance system that can easily and efficiently slide completely out of-sight when desired, offering designers new possibilities for large, exterior opening glass walls. To see these operable wall concepts in action, please visit www.nanawall.com and click on the "Animations" link on the HSW50 page.

For benefits of all NanaWall systems, see the "General Introduction" section. For common features and a comparison between aluminum inidividual panel systems, see the "Aluminum Individual Panel Sliding Systems" Introduction.

Incorporated Swing Entry/Exit Panel(s)
If desired, every other sliding panel can include an incorporated single acting swing panel. A pair of incorporated swing panels allows the possibility that either panel can be opened first. The conversion from swing door to sliding panel is quick and easy. Swing panels can open inward or outward.

Multiple Stacking Options
The sliding storefront can be completely out-of-sight during business hours. The tracks can be laid out beyond the frame in a variety of configurations, and the stacking bays can be positioned anywhere along the track. The two-carrier suspension system permits the use of track with right-angle turns and curves, allowing multiple options for space set-up and remote storage. See Possible Stacking Options.

Multiple Space Set-up
Using the same panels with additional parallel and perpendicular tracks will expand or reduce heated or air conditioned spaces with ease and convenience.

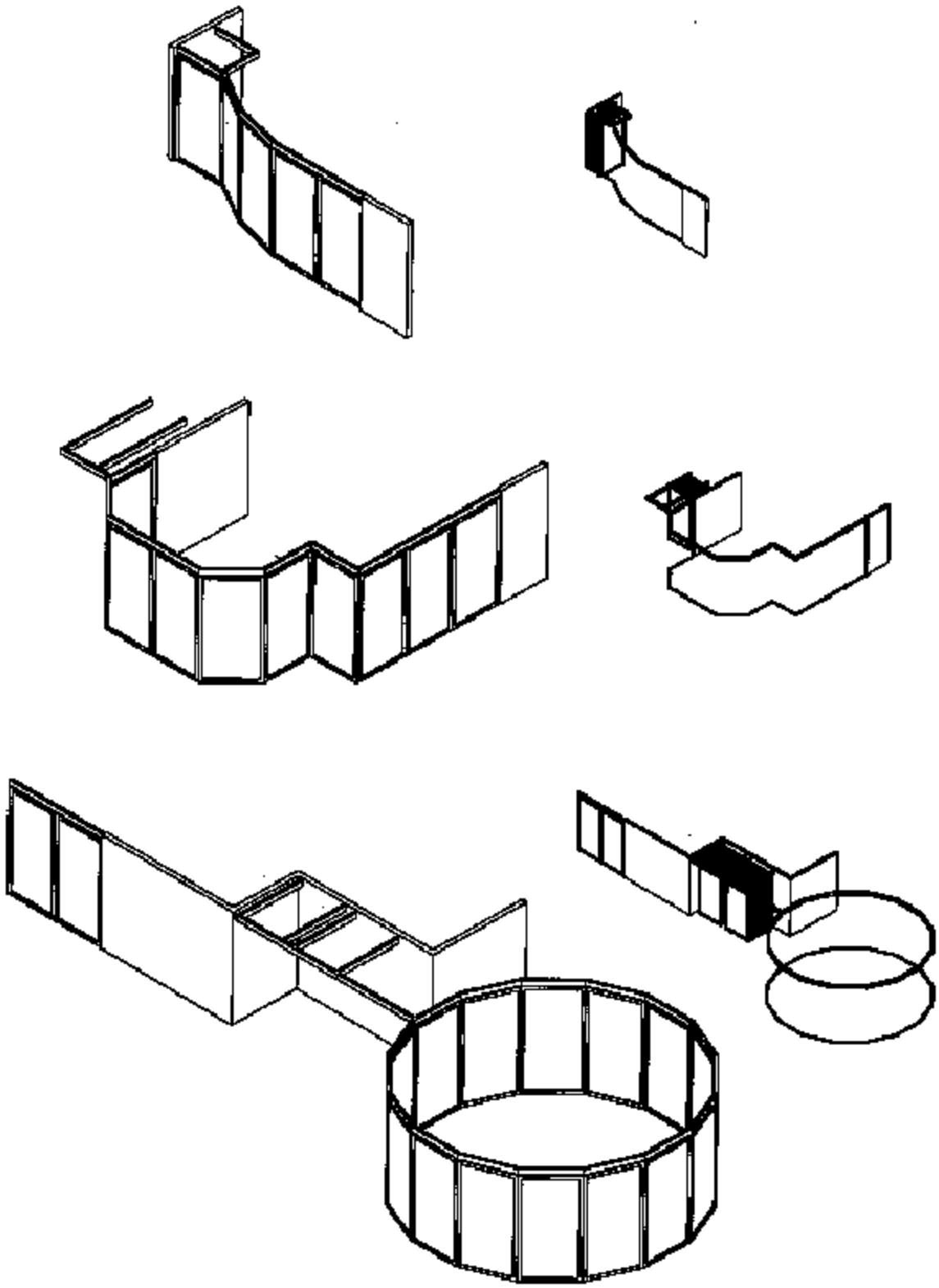
Right Turns and Segmented Curved Walls
With an ingenious, variable angle astragal profile, systems can be supplied with any segmented angle between 0° and 90° between panels, allowing the designer to create completely open corners or bays.

Design Flexibility
Custom sizes of frame heights up to 9'10" (3000 mm) and panel widths up to 3'11" (1200 mm) are possible. Individual panels can be designed with different widths, glazing choices (insulated glass, laminated glass, etc.) and muntin layouts (horizontal mullions, glued-on muntins, grills between the glass, solid panels, higher bottom rails, etc.).

Weather Resistant
The system is engineered to provide weather resistance, high structural performance, and resistance to dust infiltration.

Superior Thermal Break
Thermally broken with a 9/16" (14 mm) polyamide plastic reinforced with glass fibers. This thermal barrier provides increased strength, superior humidity control, improved acoustics, and energy savings.

Some Application Ideas



Technical Description

General Description

The HSW50 is a thermally broken, aluminum framed, individual single panel sliding system, designed to provide an opening glass wall or storefront with any custom panel size within the limitation of the Maximum Size Chart. Different panel widths are possible with additional tracks in the stacking bay for the different widths. Sliding L frames with incorporated swing entry/exit panel(s) are possible (note the panel size constraints). An end panel can be a swing panel hinged to a side jamb. Swing panels are single acting but can be either inward or outward opening. Possible configurations and stacking bay options are virtually limitless (see drawings for some possibilities).

Frames

The nominal head jamb thickness is 2 3/4" (70 mm) and is thermally broken with cover plates on both sides. The nominal side jamb thickness is 1 15/16" (50 mm) extruded aluminum thermally broken with a 9/16" (14 mm) wide polyamide plastic. All pins and screws to assemble the frame are provided. Various sill options are available. Also available is a no sill option with locking point sockets to be installed on the finish floor. The stacking bay and the upper track leading to the stacking bay are the same profile as the head jamb.

Panels

The stiles and rails of sliding panels and sliding L frames with incorporated swing panels are extruded aluminum, 1 15/16" (50 mm) thick and thermally broken with a 9/16" (14 mm) wide polyamide plastic with interlocking tongue-and-groove profiles; *see cross-section drawings.* Standard finishes available are clear or dark bronze anodized, dark brown or white powder coated. Custom finishes can be chosen from a range of anodized finishes and over two hundred RAL powder-coated colors. Different finishes are also possible on interior and exterior sides; *see "Aluminum Finish Options" in the General Introduction.*

Panels are pre-assembled and panel stiles and rails are connected by special zinc die cast alloy, thermally broken corner fittings that incorporate carriers, hinge components, and male and female locking receptacles. Finish for corner connectors is matched to finish of frame and panels.

Glazing

Units can be supplied glazed with single tempered, laminated, clear insulating tempered, or insulating Low-E tempered glass, or open. If panels are supplied open, standard glass stops and dry glazing gaskets supplied are for glass thickness of 1/4" (6 mm) for single-glazing and 15/16" (24 mm) for double-glazing. Glass stops for other glass thickness are available as an option; *see "Glazing" in the General Introduction.*

Weatherstripping

Double APTK weatherstripping is provided for vertical sealing between panels and between panels and frames; brush seals with flexible plastic web are provided for all horizontal sealing; *see cross-section drawings.*

Sliding/Folding Hardware

For sliding, two load-bearing stainless steel uni-directional carriers are attached to the upper corners of each panel. Each carrier has one glide-roller and two horizontal counter-rotating wheels that roll in the track. Each wheel has sealed bearings and is coated with toughened Polyamide to ensure sound-free running and optimal resistance to temperature extremes. Carriers can easily negotiate square or angled corners without mechanical switches. For any swing panel, an appropriate quantity of hinges is provided.

Locking Hardware and Handle Options

On all swing panels and on sliding panels as needed, a two point locking hardware is provided, consisting of top and bottom locking rods operated by a 180° turn of a flat handle on the inside only. On sliding panels, the top rod interlocks the male locking receptacle with the female receptacle of the adjacent panel. The lower rod is thrown into a designated striker plate. Standard handle finishes are dark brown, white, white aluminum, dark gray, or match panel profile color.

If there is a swing panel, there are the following additional hardware options on the primary entry panel.

1. Three Point Locking. Three point locking hardware consisting of top and bottom Polyamide capped locking rods and a horizontal bolt operated by a 180 degree turn of L-shaped handles located on both the inside and outside. Lockable with a lockset. Turn of key or thumb turn operates lock (also possible on sliding panel to be opened first).

2. Deadbolt Lock. ADA approved nylon pull handles on both sides with deadbolt(s) operated by a lockset. Turn of key or thumb turn operates lock. Lockset option of having key operation on both sides. To keep the panel closed, a door closer should be field installed.

3. One Point Lockable Latch with Deadbolt. Nylon lever handles on both sides that operates a lockable latch. A lockset locks latch and deadbolt. Turn of key or thumb turn operates lock. Not recommended for units with a frame height over 7'0".

4. No Hardware. For panic hardware to be installed by others, the main entry panel can be supplied with no locking hardware.

From thirteen available colors, the nylon handle color will be the closest match to the aluminum profile color.

Performance of the HSW50 NanaWall - Testing Results

Excerpts of results of 2 units tested by Architectural Testing, Inc., an independent testing laboratory, in February 2000. Unit 1 was a nominal 10' wide x 9'10" high three panel unit with 2 sliding panels and 1 swing panel attached to the side jamb and with standard 3 point locking. Unit 2 was a nominal 10'5" wide x 8'2" high three panel unit with 2 sliding panels and with middle sliding panel having an incorporated swing panel with latch and 3 deadbolts.

Air Infiltration: ASTM E-283, ft.3/min/ft.

Unit 1: @ 1.57 psf (25 mph): 0.18 @ 6.24 psf (50 mph): 0.44

Unit 2: @ 1.57 psf (25 mph): 0.27 @ 6.24 psf (50 mph): 1.11

Water Penetration - ASTM E-547-86,

Standard Unit: No uncontrolled water entry @ 0 psf (0 mph)

With 1" high interior water trough and weep holes through channel in sill:

no uncontrolled water entry @ 3.75 psf (39 mph)

With 1" high interior water trough and drainage under sill:

no uncontrolled water entry @ 5.25 psf (45 mph)

Structural Load Deflection - ASTM E-330-90: pass

Standard Unit 1

Design Pressure (positive): 20 psf (88 mph) Structural Test Pressure (positive): 30 psf (110 mph)

Design Pressure (negative): 20 psf (88 mph) Structural Test Pressure (negative): 30 psf (110 mph)

Unit 1 and Unit 2 with aluminum locking rods and extended caps

Design Pressure (positive): 40 psf (125 mph) Structural Test Pressure (positive): 60 psf (153 mph)

Design Pressure (negative): 40 psf (125 mph) Structural Test Pressure (negative): 60 psf (153 mph)

See Design Windload Chart on pages 16, 17 and 18 for other sized panels .

Forced Entry Resistance - 3 point locking in accordance with AAMA 1303.5 and CAWM 300-96 requirements

Thermal Performance - Summary of NFRC U-Factor Computer Simulation Report prepared by Architectural Testing, Inc. - raised sill

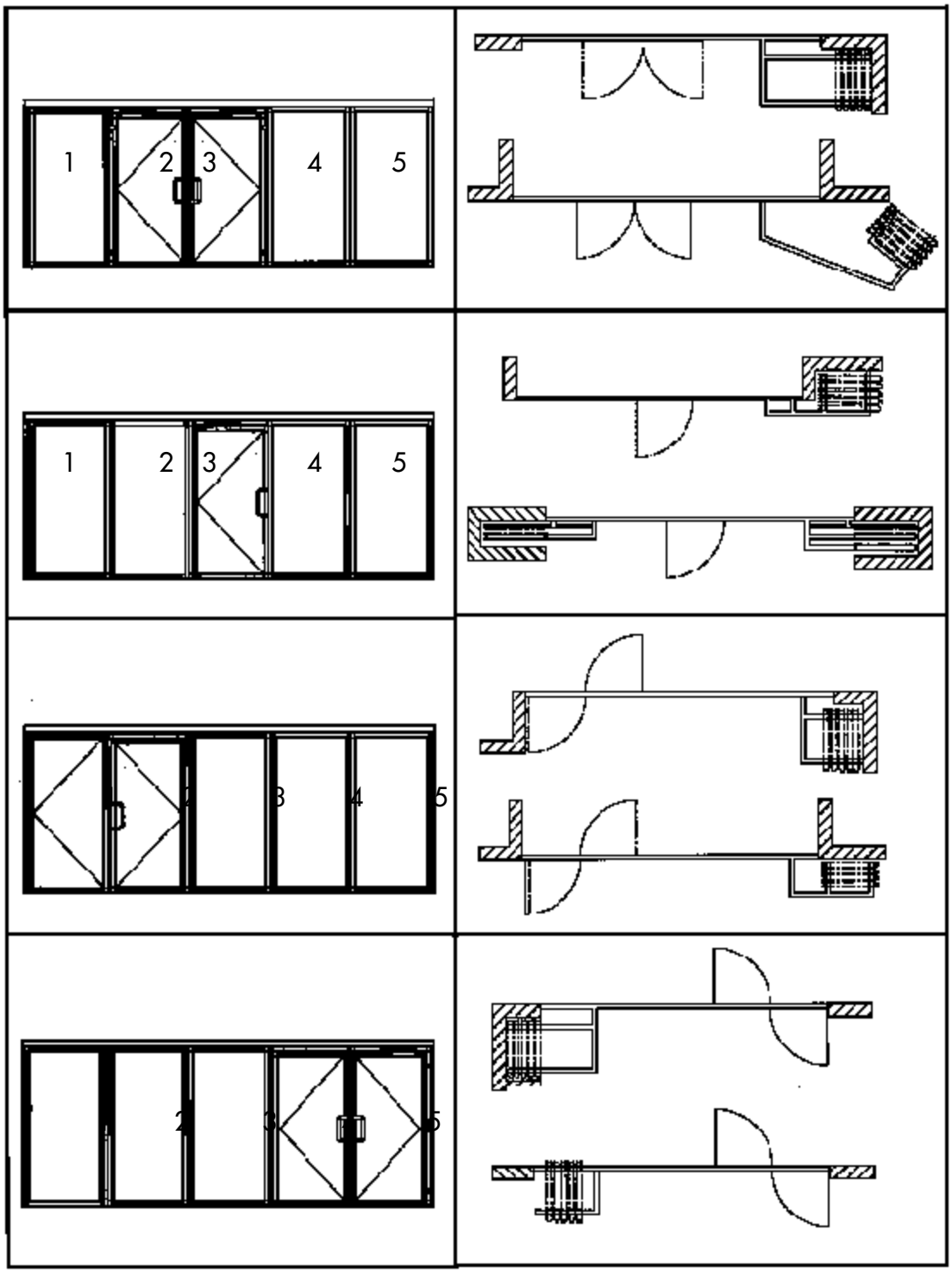
U-Factor	Nominal Overall Glazing Thickness	Type	Gap Thickness	Gas Fill	Solar Heat Gain Coefficient
.55	.94" (24 mm)	Insulated clear	.63"	Air	.56
.45	.94" (24 mm)	Insulated Low E (.16)	.63"	Air	--
.40	.94" (24 mm)	Insulated Low E (.04)	.63"	Argon	.30

Lower values are achievable with Heat Mirror™ options.

Possible Stacking Options

As there can be many other stacking possibilities, please submit your ideas and sketches to Nana Wall Systems, Inc. for evaluation.

A switch is defined as a break in the upper track at the head jamb to lead panels away from the opening to the stacking bay.



Switch at the left running carriage of panel 5 – perpendicular stacking.

Switch at the left running carriage of panel 5 – stacking at an angle away from the opening.

Parallel stacking with 2 switches.

Multi-track pocket stacking.

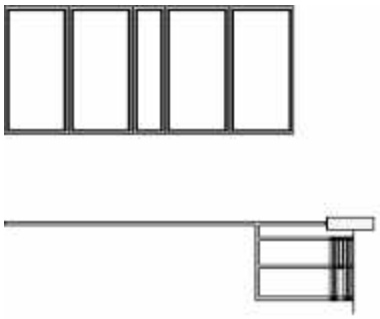
Single switch in the middle of panel 5 – made possible with opening of the swing panel attached to the side jamb first.

Perpendicular stacking in pocket.

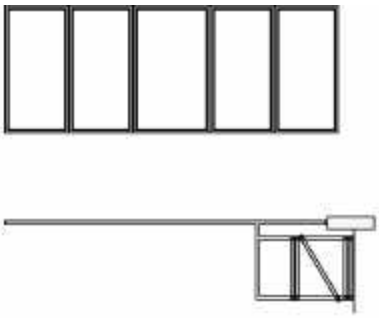
Perpendicular stacking within the opening.

More Stacking Options

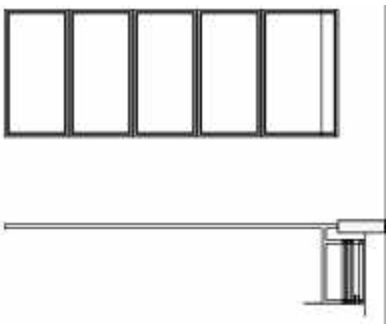
Extra track in stacking bay for narrower panel.



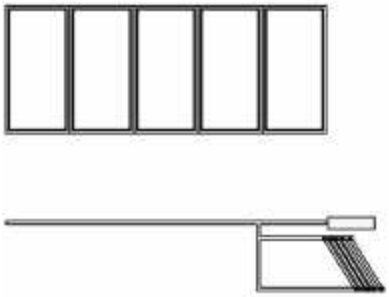
Alternative stacking solution for unequal panel.



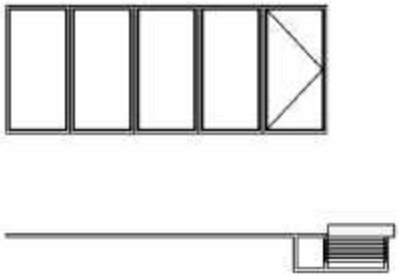
Wiggle panel attached to the last panel, so easy opening with single switch that is away from side jamb.



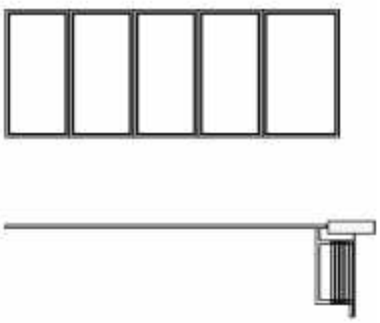
A stacking bay that is narrower than the width of the panels.



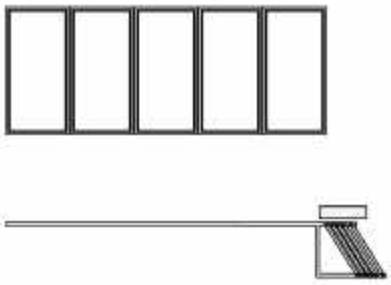
Stacking of panels in front of the swing panel that is opened 180°.



Wider last panel for offsetting the running carriage on the panel to allow for easy opening with a single switch away from the side jamb.



Compact stacking with the unit installed so that it is offset from the wall opening.



Stacking in a narrow space away from the opening.