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Owner's Manual

NanaWall SL45

ALUMINUM FRAMED TOP HUNG FOLDING PANEL SYSTEM

This Owner's Manual contains instructions on the installation, operation, maintenance and warranty of the NanaWall SL 45 aluminum framed top hung folding system. This manual is to be used by the installer for installation and is to be kept by the Owner for reference. Replacement parts can be ordered directly through NANA Wall Systems.

If a screen unit is ordered, separate instructions are provided in the package with the screen unit. See also screen installation considerations on page 3.

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INSTALLATION INSTRUCTIONS

The installation of the SL 45 System requires a working knowledge and experience in the use of tools, equipment and methods necessary for the installation of aluminum doors, windows, storefronts and/or partitions. This practice assumes a familiarity with preparing a proper and structurally sound opening, proper anchorage, waterproofing, caulking and sealing and assumes an understanding of the fundamentals of building construction that affect the installation of large aluminum door systems.

Highly recommended is using a NANA Wall-trained independent installer, if available, or, at least, an installer who has some experience in installing NANA Wall systems.

IMPORTANT

READ COMPLETE INSTRUCTIONS BEFORE BEGINNING INSTALLATION. INSTALL AS RECOMMENDED; OTHERWISE, THE UNIT MAY NOT FUNCTION PROPERLY AND ANY WARRANTY, WRITTEN OR IMPLIED, WILL BE VOID.

CAUTION:

As regulations governing the use of glazed windows, doors, storefronts and/or partitions vary widely, it is the responsibility of the building owner, architect, contractor or installer to insure that products selected conform to all applicable codes and regulations, including federal, state and local. NANA Wall Systems, Inc. can assume no obligation or responsibility whatsoever for failure of the building owner, architect, contractor or installer to comply with all applicable laws and ordinances and safety and building codes.

The SL 45 system is shipped with all necessary components. However, **not included** are screws, bolts, shims, etc. to anchor the unit to the rough opening. The frame is shipped knocked down and needs to be assembled. Panels are pre-assembled with or without glass, ready to be attached to the installed frame. In most cases, all hinges, weather stripping, multiple locking, and flat handles are pre-attached to the panels and frame components.

DESCRIPTION OF SUPPLIED PARTS

Check all parts carefully before assembly. Depending on the model, some of these parts may already be pre-installed on the panels. Check that the sizes of the frame components and panels match with what was ordered. In the small cardboard box attached to the frame components that contains hinge pins and various hardware, inspect the elevation drawing, indicating size, configuration, and labeling of the unit ordered. For orders with multiple units, do not mix and match panels and frames, even if two units are exactly the same. Below is a list of supplied parts

Always looking from inside.

- Left side jamb, labeled L, and right side jamb, labeled R.
- Head jamb, labeled O, and sill, labeled U. (In some instances the head jamb and sill may be in segments.)
- Pre-assembled panels. The number of panels depends on the model ordered. **The sequence of labeling of panels starts from the left with the left most panel labeled Panel 1.** If supplied unglazed, panels have to be glazed before being installed in the opening. See Appendix A: Glass Installation and Glazing.
- Screws to connect the four corners of the frame.
- Hinge pins and screws.
- Lever handles, other handles or other entry hardware as ordered. These may be pre-attached to the panels.
- Panel holder – one for each swing door not attached to a side jamb.

HANDLING OF COMPONENTS

1. Upon receipt, inspect the shipment to ensure it is in good condition.
2. Make sure that the small cardboard box with the hinge pins and other hardware does not get lost.
3. Store in a clean and dry location and protect against defacement or damage, especially to the edges of panels.

PREPARATION OF THE ROUGH OPENING

For necessary clearance and adjustment space, rough opening is suggested to be 3/4" wider and 3/8"-1" higher than the outside frame size of the unit ordered (check to comply with applicable codes for maximum shim space allowed, especially in high windload areas). It is important that the opening be the correct size. Note that the outside frame height of the unit ordered is measured from the bottom of the sill and **not** from the finished floor. Allowance must be made in height for the portion of the sill that is below the measured opening.

IMPORTANT - Because of the large opening sizes and the weight and movement of the panels, any application should take into consideration the following:

1. The structural integrity of the header is critical for proper operation. Vertical deflection of the header under full live and dead loads should be the lesser of L/720th of the span and 1/4". Structural support for lateral loads (both windload and when the panels are stacked open) must also be provided.
2. A qualified engineer or architect should be used to determine the proper construction details and header to be used in your particular application.
3. **THE ROUGH OPENING SHOULD BE LEVEL, PLUMB AND SQUARE AT ALL POINTS. THERE SHOULD BE NO UNEVENNESS OR BOWING. MAKE SURE THAT THE HEADER IS NOT TILTED OR TWISTED. THERE SHOULD BE NO BUMPS ON THE FLOOR. THE SIDES SHOULD BE IN THE SAME VERTICAL PLANE AND NOT OFFSET OF EACH OTHER. A TRANSIT AND OTHER SIMILAR PRECISE MEASURING EQUIPMENT SHOULD BE USED.**
4. With a recessed sill, if concrete is to be poured after the installation of the unit, the sill has to be securely attached to the construction. If the sill is to be cast in concrete, then an expansion gap with appropriate material has to be created next to the sill.
5. With a low profile saddle sill some resistance to water infiltration may be achieved by installing drain connections to the outside.

If any anchorage or drain connection holes are made through these drain channels, make sure that they are properly sealed to prevent any water leakage. The open ends of these drain channels at each end of the sill should also be properly sealed. Alternative anchoring systems for the sill (without using screws through the drain channels) are using L brackets attached to both sides of the sill.

6. For better performance and protection, any exterior folding system should be installed under an overhang or with other similar protection.
7. For better performance it is recommended that all dead loads such as upper levels, roof, etc. be constructed before a unit is installed.

Properly flash and waterproof around the perimeter of the opening, especially at the sill. Make sure you seek proper professional advice for the appropriate construction needed for your particular application. Do not install unit in structures that do not allow for proper management/drainage of moisture.

To avoid future problems, do not install your unit until the rough opening has been correctly prepared.

INSTALLATION CONSIDERATIONS IF THE NANASCREEN IS TO BE INSTALLED FOR THE NANAWALL UNIT

1. There must be an adequate frame by others at the top and sides to which the NanaScreen is to be attached. Although there is not much weight or load from the NanaScreen, the frame must not sag or deflect.
2. The bottom rail would need to be attached to the top of the finished floor. The installation of the NanaScreen may need to be delayed until the finished floor is installed.
3. If the finished floor is higher than the bottom of the NanaWall sill, the height of the NanaScreen will need to be shorter than the height of the NanaWall unit to allow for the difference in height between the bottom of the NanaWall unit and the finished floor.
4. To allow for stacking of the NanaScreen beyond the NanaWall opening, the width of the NanaScreen will need to be wider.
5. If the width of the NanaScreen is the same as the NanaWall unit and if the header and wall are wide enough, they can be used as the frame for the NanaScreen. If not, a separate frame will be needed. It could be attached to the header and wall.
6. Please note that if a separate frame for the NanaScreen is made, please make sure that there are no gaps between the frame and wall that will allow any bugs to pass through.
7. **Sufficient distance must be allowed between the NanaScreen and NanaWall units to allow clearance for any handles on the units. The NanaScreen must also clear the sill of the NanaWall unit.**
8. Please see the separate Installation Manual of the NanaScreen.

UNIT INSTALLATION

The Installation of the folding unit is described in the following categories:

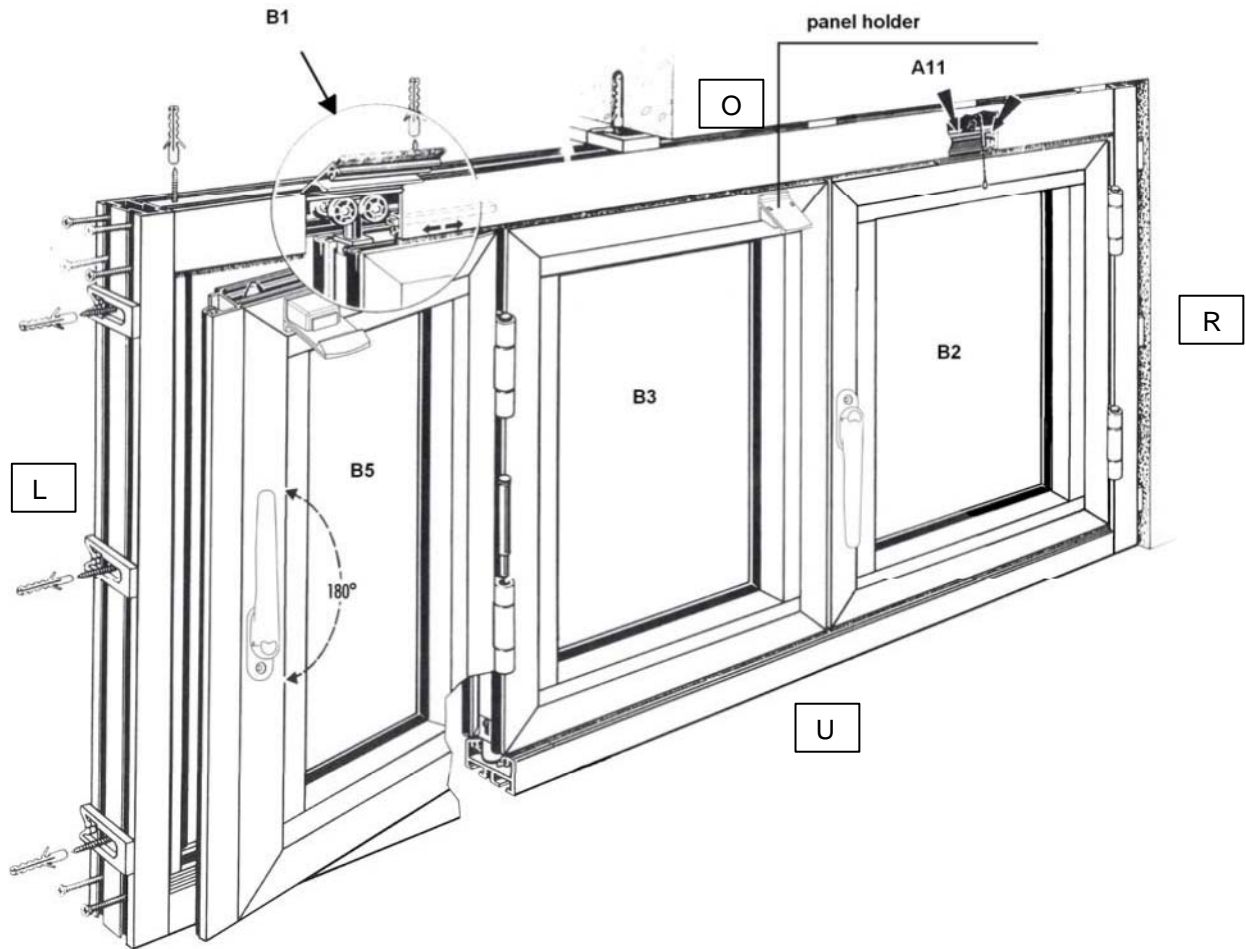
- A. FRAME ASSEMBLY AND INSTALLATION
- B. PANELS AND FOLDING HARDWARE INSTALLATION
- C. FINAL STEPS

A. FRAME ASSEMBLY AND INSTALLATION

It might be easier to drill the holes as described in Step A7 before assembling the frame.

- Step A1. Lay the four frame components flat on the floor and align the ends to be connected. *If the head jamb and sill regarding their length provided in segments, then connect them first. If a unit has angle changes in the floor plan, then separate information will be supplied.*
Make sure that the frame components are in the correct positions. The frame should be labeled U for sill, O for head jamb, and looking from inside, R for right side jamb and L for left side jamb. Note: If there are no weep holes in the sill, please check whether such holes are required and drill them if necessary. Please be careful to avoid scratching or damaging the components.
- Step A2. Apply exterior grade sealant to all connection points between the frame components. The ends of the sill should be completely filled with sealant to prevent water leakage from the ends of the water channels on the sill. All drilled holes and fastener screws have to be sealed too.
- Step A3. If a unit is ordered with a standard or a flush sill, assemble all frame parts as shown in diagram 1.

Diagram 1: SL45 Example of a 3 Panel Unit Inwards Opening.



Step A4. If the unit is ordered with a low profile saddle sill, then the side jamb rest on top of the sill. On the end of the sill are end dams with two flanges, which slide into the slots on the outside of the vertical side jambs. Screw them together with the provided screws.

Step A5. Be sure that appropriate flashing around the perimeter of the opening is installed. Set the assembled frame into the rough opening at the proper position relative to the header. Make sure the direction is correct with respect to inward or outward opening.

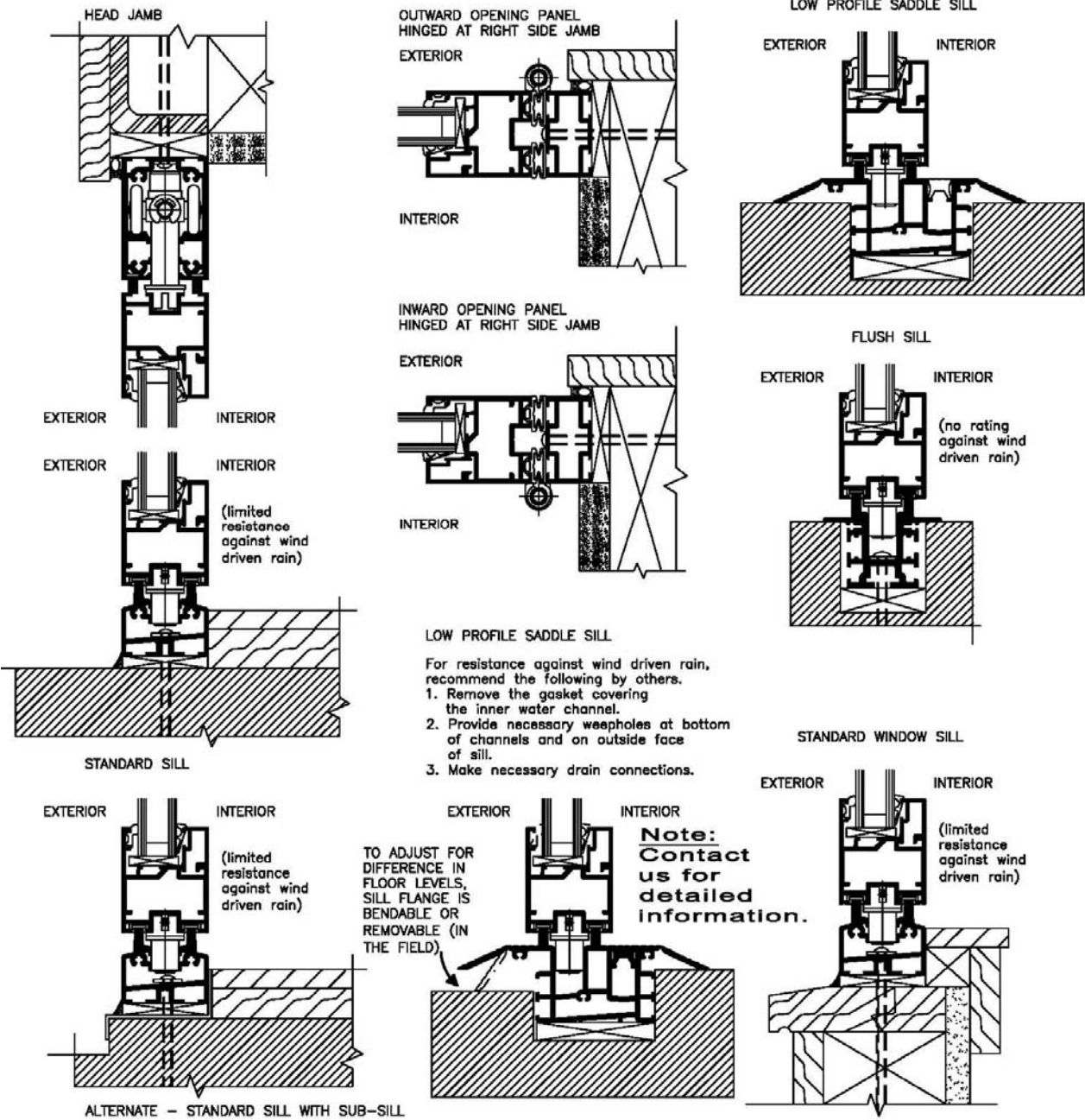
See diagram 2 for Suggested Installation Details. Please note that these are suggestions only and that these may not be suitable in all applications.

Step A6. Temporarily secure the frame to the rough opening with clamps.

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.

Diagram 2: SL45 Suggested Typical Installation

INWARD AND OUTWARD OPENING DETAILS



Drawings not to scale.

Details shown are subject to change without notice.

Step A7. Looking on a standard installation, which is limited to areas with a basic wind speed of not more than 90mph, in a low rise building (max. 60feet roof height), Exposures B or C and a non critical status. Fasteners locations should start about 4" from the interior edge, drill holes for the anchorage devices to connect the frame to the opening at a spacing of not more than every 16" along the head jamb and the sill. On the head jamb and sill an additional fastener should be placed at the meeting point of panels in the closed position

and anchorage points every 4" in the stacking area on either side. The spacing of the side jamb should be about 14" starting at the bottom, using an extra screw at the top. **For installation that are beyond the above limitations, a structural engineer should be consulted for specific fastening requirements. For Florida installations, please see Appendix B for specific installation requirements.**

Use appropriate screws or other equivalent anchorage devices depending on the adjacent substrate material and construction. Make sure they are corrosion resistant. Anchorage devices should penetrate or hold sufficiently to the opening to withstand necessary structural loading. Generally, for wood frame use #14 (1/4" diameter) wood screws with 2-1/2" minimum embedment, for concrete with a minimum compressive strength of 3,200 psi use 3/16" diameter ITW Tapcons (concrete screws) with 1-1/4" min. embedment. For masonry use 1/4" diameter ITW Tapcons (masonry screws) with 1-1/4" embedment. Standard installation into light gage steel substrates with a minimum of 18 gage (0.0451" thick) should have 1/4" diameter type 410 stainless steel self drilling screws. Into structural steel substrates thicker than 1/4" should be predrilled and 1/4" diameter SAE Grade 2 bolts can be used. Another option is to use type 410 stainless steel self drilling screws. For this option first drill small pilot holes.

Make sure that the screw head with washer (if any) is small enough to fit inside the slot in the middle of the head jamb and sill; otherwise, it will interfere with the rolling of the running carriages.

Make sure that the frame is level, plumb and square at all points. There should be no unevenness or bowing. If, for any reason, the floor is not level, shim with plastic horseshoe shims to the highest point of the floor, provided there is still enough clearance at the top. Place plastic, horseshoe type shims tightly at every fixing point between the frame profile and rough opening. **Use hard plastic horseshoe shims only.**

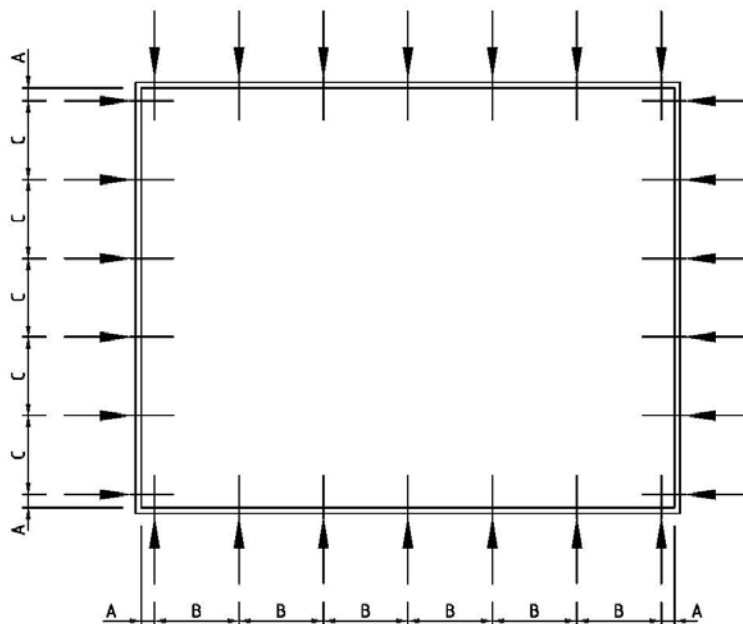


diagram 3:
Suggested Frame Fastening Points

- A = About 4" from the interior edge.
- B = Distance about 16", except at the stacking area on one or both sides where spacing should be about 4". Plus extra screws at meeting point of panels.
- C = Distance about 14" from the bottom using extra screw at top.

See Appendix B for Florida installations.

Step A8. Anchor the sill to the sub floor in correct relation to the finish floor. Make sure that the sill is not tilted or twisted. Make sure that all holes drilled through the sill are properly sealed with silicone underneath and around the screws. All weep holes in the sill are not to be obstructed. Make any necessary adjustments to level, plumb, and square before proceeding on.

Step A9. Anchor the side jambs to studs or walls in the same manner. Make sure that the jambs are

plumb and straight.

Step A10. Anchor the head jamb through the pre-drilled holes and shims. Make sure that the head jamb is level.

IMPORTANT

Make sure no shims are forced to ensure that frame sections are not bowed. Check frame constantly to be certain that it is level, plumb and square. A transit and other similar precise measuring equipment should be used to make these determinations.

Step A11. **IMPORTANT**

Make sure that all the surfaces of the upper and lower tracks are clean and free of any debris, especially, cuttings from drilled holes. Use the brush provided.

B. PANELS AND FOLDING HARDWARE INSTALLATION

Look for glass stops to determine the interior side of a panel.

Step B1. Looking at the elevation drawing, note where the installation slot in the head jamb is located. Slide the rod and open the plate.

Step B2. Start with the panel furthest away from the slot. If it is to be hinged off the side jamb, align the hinges and insert the proper hinge pins.
Do not force any hinge pins. The security set screws on the hinges have to be loosen with an Allen key before inserting the hinge pins, tighten them till they touch the pin and then back off a full turn. See also illustration c1.
If it is part of unhinged paired panels not hinged to the side jamb, set lower guide that is pre-attached to the bottom of the panel, in the lower track. Insert the upper running carriage roller that is pre-attached on top of the panel, through the slot in the head jamb.

Step B3. Again, looking at the elevation drawing, attach the next panel needed to create a folding Pair. Set the guide in the lower track and insert the roller through the slot in the head track. Slide the panel and align the hinges with the first panel. Insert the proper hinge pins to create a folding pair. If necessary, place temporary blocks under the panels to assist in keeping the panels in a steady position.
After installation of each panel, check to make sure that the panel is vertically straight.

Step B4. If there are additional panels to be attached to the folding pair, close the pair by turning the handle 180°.

Step B5. Attach additional panels in the same manner.

C. FINAL STEPS

Step C1. Attach handles and other hardware that have not been pre-attached. Attach the profile cylinder (if any) to the locking gear by inserting it into the lock hole and attaching the set screw through the screw hole on the gear located at the edge of the panel. Cut the set screw, if needed, so it is not longer than 1-1/2" to 2" depending on locking type.

Step C2. **IMPORTANT**

For swing panels not attached to a side jamb, attach the panel holder to the top of the upper rail of the adjacent panel. See diagram 1. Follow the specific instructions that are on the sheet in the panel catch kit. The purpose of this is that the swing panel should always be opened and engaged into the panel holder before the folding panels are to be opened.

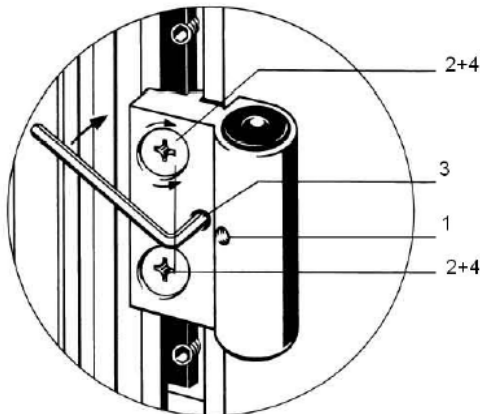
Step C3. Close and lock all panels into position.

Step C4. Check all horizontal joints:

Make sure the head jamb and sill are still level. Then along the entire width of the opening, check the spacing between the sill and each panel and the spacing between the head jamb and each panel. Both spaces should be about 1/4" along the entire length of the unit. Check especially to see if the upper corner of a panel where the running carriage is located is not higher than the other corner of the panel. If it is slightly lower (not more than 1/16"), it is okay. **Proper spacing is critical for proper operation of the unit.**

Step C5. Check all vertical joints:

Make sure that the side jambs are still vertically straight. All vertical spacing between side jamb and panel, panel and panel should be 5/16". If necessary, the hinges can be adjusted. Adjust across the length of the unit and at all hinges at a pivot point, not just in one place.



ill. c1: SL45 Hinge
1. Security set screw

Hinge Adjustment

2. Loosen Phillips screw.
3. Adjust Allen screw with an Allen key as necessary.
4. Re-tighten Phillips screw.

Step C6. If the horizontal spacing are still not correct, try by adjusting the glass setting blocks that are bracing the glass in the panel. Remove the gasket and glass vertical stops from the panel. See Appendix A for the correct location of the setting blocks. The panel can be raised by increasing the thickness of the upper vertical setting block and lowered by decreasing this thickness. The lower vertical setting block will have to be adjusted accordingly.

Glass suction cups may be needed to raise the glass up for easier placement of the setting block. The panel frame will rack up or down at the appropriate corners with adjustments of the setting blocks. Adjust as needed to obtain the correct spacing and re-install the glass stops and gasket. See Appendix A for further details on glazing.

Step C7. Check that the system operates and functions properly. The panels should be able to be moved easily by one person without much effort (for not more than 6 panels to one side) when opening or closing and all shoot bolts should engage smoothly. If the panels do not move easily or a lot of effort is needed, the indication is that the unit is not properly installed. Correct any problems before finish trimming.

Step C8. Apply a thick bead of exterior grade sealant with a backer rod if needed on the joint between the sill and sub floor on both sides along the length of the sill. Do similar for the gaps between the head jamb and side jambs with the opening.

Step C9. Finish any waterproofing, flashing, trim and sealant needed around the perimeter of the opening.

Important: Make sure any weep holes in the sill are not blocked.

Step C10. To prevent uncontrolled movement of the panels when in open position, place appropriate door holder by others as needed.

PROTECTION OF UNIT DURING CONSTRUCTION PHASE

It is important that during the construction phase the unit be kept closed, covered and protected from damage. During this phase, a unit is often subject to the most extreme conditions from all types of construction operations that can permanently damage and destroy it. A unit can be damaged by cement splatter, tar, paint, weld splatter, falling objects, construction dust, sand blasting, etc. All temptations to use the large opening of an installed system for easy ingress and egress by tradesmen should be resisted.

OPERATION OF A NANAWALL FOLDING UNIT

For opening and closing the folding system, please observe the special notes on the following pages in as far as they relate to your folding system.



When operating the folding system similar to any other door, please do not place your fingers between the panels/pivot points. You may hurt them!

Do not have anyone not properly trained on operation and children operate the unit.

Do not force the system if not operating properly. Please have it repaired as soon as possible by a qualified technician.

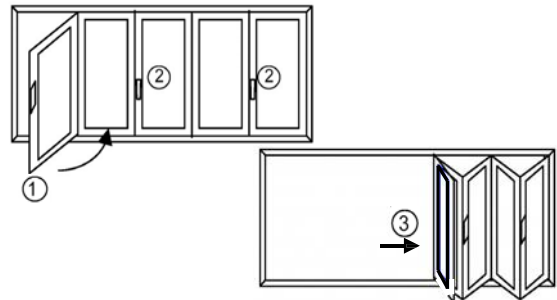
Anchor panels when in the open position to prevent uncontrolled movement, especially in windy conditions, that might cause damage and injury.

It is highly recommended that if not used, the NanaWall folding unit be kept closed as much as possible, in order to provide best security and weather resistance. When closed, please engage all locking mechanisms fully.

The correct sequence of opening and closing of panels is dependent on the configuration ordered. Panels must be opened and closed in the right order.

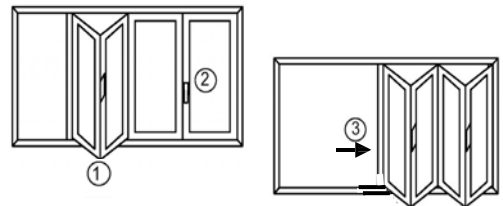
With a Swing Panel Attached to a Folding Pair.

1. Open the swing panel a full 180 degrees and connect to the panel catch on the adjacent panel.
2. Disengage the locking points on all the other panels.
3. Slide folding panels, starting with the pair adjacent to the swing panel.
For closing, proceed in reverse order.



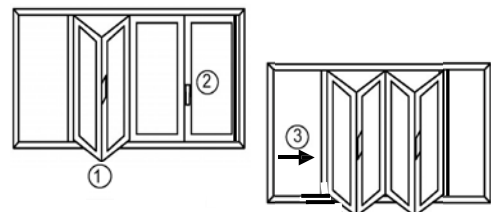
Without a Swing Panel.

1. Disengage locking points on primary opening panel pair and fold it slightly.
2. Do the same with any adjacent panel pair.
3. Slide folding panels completely to the side.
For closing, proceed in reverse order.

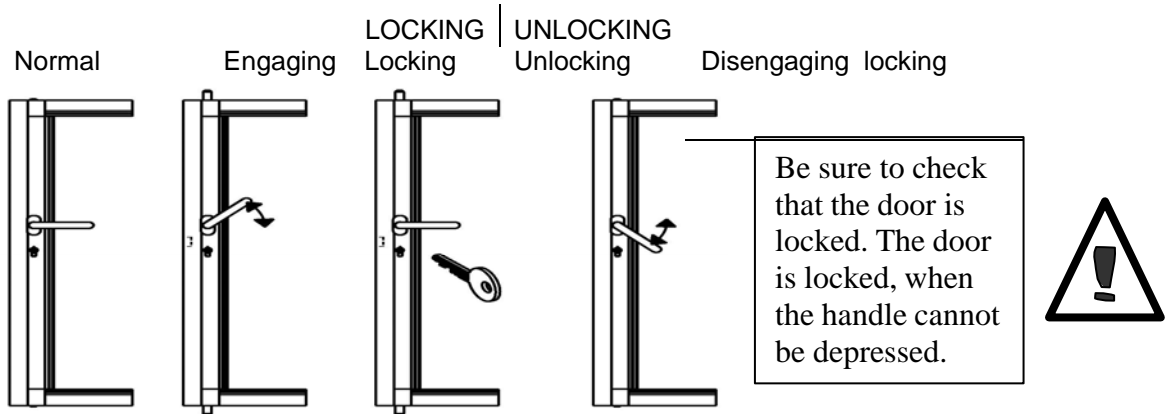


Without a Swing Panel, unhinged pairs (LR).

1. Disengage locking points on primary opening panel pair and fold it slightly.
2. Do the same with any adjacent panel pair (s).
3. Slide folding panels into desired stacking position.
For closing proceed in reverse order.



Operating the SL-multipoint locking on the primary swing panel



Engaging the locking points and locking

- Turn handle up about 45° to engage the locking points. Then let it move back into its normal position.
- Only now can it be locked with a key on the outside or a thumb turn on the inside.

Unlock and disengaging the locking points

- Unlock the lock with key or thumb turn.
- By operating the door handle downwards, the locking points at the top and the bottom are disengaged.

RECOMMENDED MAINTENANCE OF NANAWALL PRODUCTS

Some General Considerations on all Projects:

1. It is important that the product is installed correctly. A poorly installed unit will not function properly. This will cause more abnormal force or stress on the components and will lead to premature failure. When operating the unit, the panels should generally be able to be moved easily by one person (except when there are very large panels or when there are more than 6 panels folding to one side). All locking points should engage smoothly. There should be no rubbing on the floor and no binding. When the unit is closed, the reveal between panels and head jamb and between panels and sill should be consistent. There should be no daylight seen from the inside. Please have all problems corrected as soon as possible by a qualified technician.
2. From time to time, due to building movement or settlement, a unit may need to be adjusted by a qualified technician to compensate for any building change.
3. It is important that a unit is operated properly. Locking points should be gently opened and closed and not forced. Panels should be opened and closed in the proper manner and sequence. See the Operation section for proper operation.
4. Periodically check for worn or damaged components and replace as soon as possible. A unit with nonworking components will subject the other components to increased stress and lead to premature failure. A unit with worn or damaged components will compromise the performance level expected for air and water infiltration, structural loading and forced entry.
5. Periodically, inspect the sealant/caulking on the exterior perimeter of the unit. It is extremely important that the sealant/caulking remains intact and in good condition. Trim off any old, loose caulking and seal any gaps with a good quality caulk.
6. Check that all weep holes are clean and clear of any obstructions. Remove debris and other foreign bodies which have dropped into the tracks in the head jamb and sill immediately to prevent damaging the running carriages and guide trolleys. Clean all components as needed.

- Check gaskets for proper seating and condition. Remove dust and any deposits from these gaskets.
7. The finished aluminum or wood surface needs periodic cleaning and maintenance. Its appearance may be marred by harsh chemicals, abuse or neglect. Frequency of cleaning depends on exposure and needs. For aluminum surfaces, generally warm soapy water should be sufficient. Stubborn stains and deposits may be removed with mineral spirits. For wood surfaces, superficial surface dirt can be removed by washing with water and a soft-bristled, long-handled brush. Heavier accumulations can be removed with a mild solution of household detergent. For all surfaces, aggressive alkaline or acid cleaners should not be used. Excessive abrasive rubbing should be avoided. Sealants and weather stripping may be affected by strong organic solvents. Superficial damage to the aluminum surface must be touched up immediately with proper touch up paint.
 8. If it is a wood product, the surface should be visually inspected every six months or earlier, depending on the exposure of the NanaWall unit. Periodically repaint or restain the wood as needed. Exposure to the environment will break down the finish and compromise its protective features if not refinished. See Finishing Recommendations in the Owner's Manual of the wood systems.
 9. All hardware, hinges and handles should be periodically cleaned with a soft cloth and mild cleanser. Excessive abrasive rubbing should be avoided. Please note that oil rubbed brass is a finish that will develop its own unique patina over time.
 10. About every six months, apply lubricant to all the hinges and Teflon spray to the running carriages and guiding trolleys.

Some specific suggested maintenance for coastal salt water and other extreme environments:

Please note that the environment within one mile of a sea coast can be extremely corrosive. Products installed in this environment will typically deteriorate sooner than products installed in a less severe environment.

1. Open and close completely a unit at least once a week and inspect all surfaces.
 - a. Salt and other corrosive or abrasive materials such as sand must not be allowed to build up on any surfaces, including all hardware and sill.
 - b. The sill and head jamb tracks should be free from all dirt and debris.
 - c. There should be no standing water in the track in the sill.
 - d. All hardware should be intact and operating properly.
2. All surfaces must be cleaned with a mild detergent soap and fresh water at least every month and more frequently if necessary.
 - a. After washing, the surface should be rinsed thoroughly with clean water and allowed to dry.
 - b. For cleaning, do not use abrasive household cleaners or materials like steel wool or hard brushes that can wear and harm finishes.
 - c. Any glass cleaner used should not be allowed to run down on any other surface.
3. Any breaches in the paint coating, such as scratches, chips or areas of abrasion, must be repaired immediately.
4. Every 3 months, thoroughly clean and dry all upper and lower rollers and all hinges. Liberally apply lubricant such as Teflon spray (no grease) on the wheels and bearings of the rollers. Oil all hinges including the hinge pin with light weight lubricating oil or Teflon spray.
5. As with any painted surface exposed to corrosive environments, every 6 months apply a wax to the outside of the painted panel and painted track. If the system includes corner connections make sure the wax penetrates the connection joints.

GLASS INSTALLATION AND GLAZING

This section applies only if you need to install glass for any reason or if glass setting blocks need to be adjusted. Proper glass installation is critical, as, with the NanaWall folding system, glass is a structural part of the panel.

Glass stops and glazing gasket are to be used for "dry" glazing of each panel. Also needed are setting blocks. Use glass setting blocks with varying thickness made from hard plastic. Rubber setting blocks are not acceptable. Width of setting blocks should be at least 1/8" wider than the glass thickness and 1/16" to 1/8" less than the width of the glazing pocket.

Glass, with appropriate dimensions, thickness and specifications will be needed. Depending on the model, widths of all glass panels may not be equal. Please note that glass is required to be fully tempered unless the unit is a window placed above a certain height from the floor. Check with all applicable codes and regulations.

Float glass, including the glass components of insulated glass, shall meet the current requirements of ASTM C 1306 "Standard Specifications for Flat Glass" for quality, thickness and dimensional tolerances. Tempered float glass shall meet the current requirements of ASTM C 1048 "Standard Specifications for Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass." All tempered glass shall have a permanent logo, which signifies Safety Commission 16 CFR-1201 and the safety glass test requirements of ANSI Z 97.1 (current editions). Insulating Glass shall meet the requirements of ASTM E 774, Class A, B or C.

Although glass installation with the "dry" glazing system is relatively straight forward, it is recommended that an experienced glazing contractor be used.

It is **very important** that the bracing direction and placement of glass setting blocks on opposite diagonal corners be correct. Setting blocks are to be placed only at opposite diagonal corners with corners alternating with each succeeding panel. This is necessary for the stability and balance of the panels when in operation. If not correctly braced, the unit will not operate properly.

The general rules for bracing are as follows:

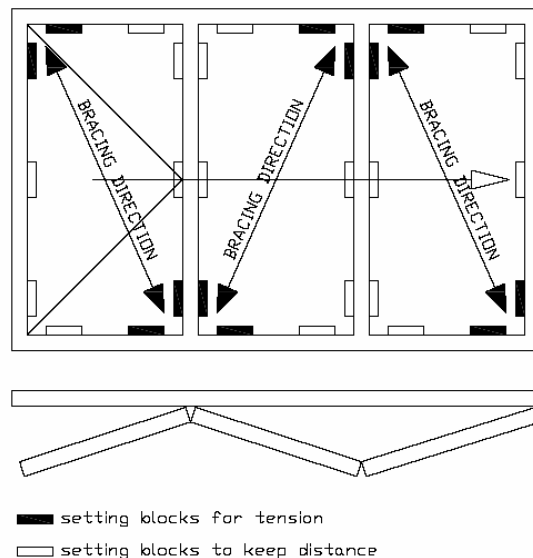
- For a panel attached to a side jamb, the lower brace should be at the lower corner closest to the side.
- For a panel with a running carriage, the lower brace should be on the lower corner that is on the same side as the running carriage.
- For a swing panel, the lower brace should be at the lower corner away from the stile with the locking hardware. See Diagram 1 for an example of setting block locations.

Follow all proper applicable glass installation and glazing techniques as recommended in the Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual". Always use suction cups to shift glass within an opening. It would be best to install the glass on the panels before they are installed in the opening. Panels can be laid flat on sawhorses. If the panels are already installed, they can still be glazed.

1. Close all panels and secure them with the multiple point lock bolts. Start with a panel that is attached to a side jamb or, in the case of unhinged pairs, closest to a side jamb.
2. Remove all glass stops on the panel. Be sure to protect the finish.
3. Measure both the vertical and horizontal dimensions of the glass and the panel opening. Subtract the vertical glass size from the vertical panel opening size. Divide the difference by two. This will give the nominal thickness of the setting block to use at the top and bottom rails. Several setting blocks of different thickness may need to be combined to obtain the desired thickness. Do the same for the horizontal dimension to obtain the thickness of the setting block to use at the stiles.

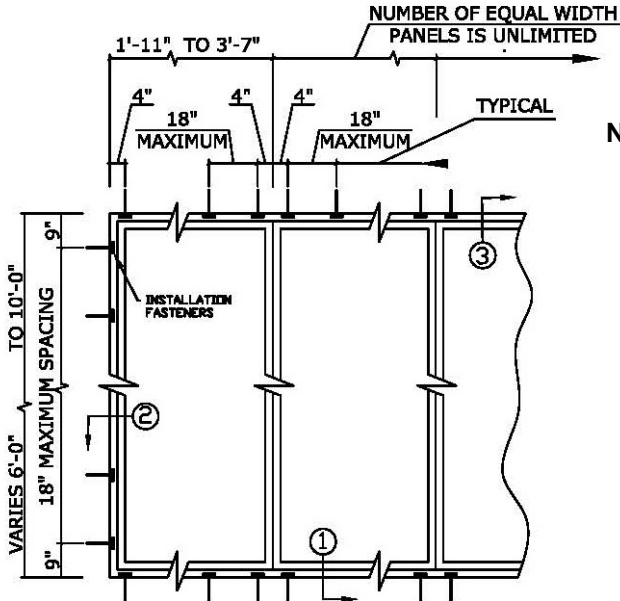
4. Place a setting block (or combination of setting blocks with desired thickness) on the bottom rail of the panel opening such that it is about 2" from the bottom corner as determined by the bracing rules above.
5. Carefully place the glass in the opening, making sure it rests on the setting block. With insulated glass, make sure that both inner and outer panes are supported evenly.
6. Place a second setting block in the same corner as the first setting block, but in the vertical direction along the stile such that it is about 2" above the corner.
7. Place another setting block in the upper diagonal corner vertically on the opposite stile in the same manner. If necessary, apply a little adhesive that is non-damaging to the glass edge seals such as Dow Corning 791 silicone, to keep the vertical setting blocks from slipping.
8. Place the last setting block on the upper rail on the same corner as the other upper setting block. To get a proper fit, shift the glass weight by lifting the panel up with a plastic pry bar at the lower corner below the upper setting block. These setting blocks should all fit snugly but should not be forced.
Adjust the thickness of the glass setting blocks such that the panel is slightly out of square. The upper corner with the setting blocks should be about 1/16" higher than the other corner. If the panels are large, additional setting blocks may be needed midpoint on the stiles, especially on a swing panel.
9. For aluminum systems insert the glass stops so that they snap into the panel profile. For wood systems insert the glass stop firmly into position, so they are flush with the panel. Nail to the inner side of the panel with small finish nails. Start with the top and bottom stops and then the sides.
10. Insert the glazing gasket in the space between the glass and the glass stop. First, cut the gasket to a length a little longer than the actual length of the glass stop because gasket material may shrink at low temperatures. Do not stretch or pull the gasket in any manner. If necessary, use soapy water to lubricate the gasket to make insertion easier.
11. Make sure that the stops are locked firmly and securely into position and are flush with the rest of the panel profile.
12. Repeat Steps 2 to 12 for each of the other panels. Setting blocks for each succeeding panel must be placed at diagonally opposite corners in the proper sequence as set forth in Step 1. See Diagram 1 for an example of a three panel unit.
13. After installing the panels, assuming that the head jamb and sill are level, check to see if the gap between the panel and head jamb and panel and sill is even across the width of the panel. With the glass weight, the out of square panels should become almost even. If they remain slightly higher in the upper corner with the setting blocks it is okay. If not, then the lower and upper setting blocks thickness need to be adjusted. Panels have to be braced correctly for proper operation.

Diagram 1:



**NanaWall SL 45 aluminum framed top hung folding system
(FL PRODUCT APPROVAL # 8612 ANCHORAGE REQUIREMENTS)**

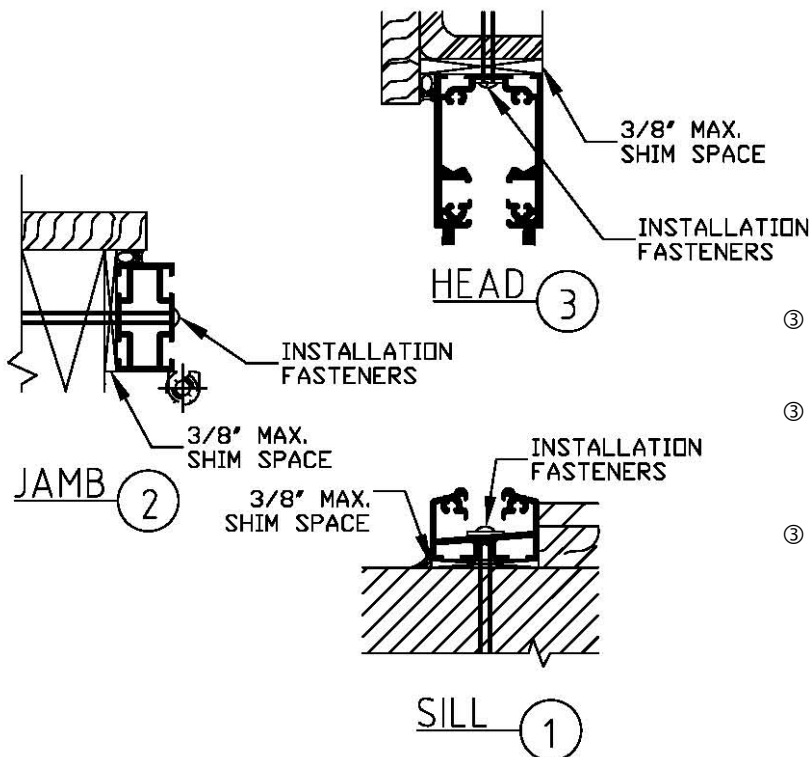
This product must be anchored as specified below



NOTES

1. Fastener installations shown on this sheet are capable of withstand the design wind pressures shown on the curves in the Florida Evaluation Report with appropriate factors of safety.
2. If the rough opening is greater than 3/8", solid wood blocking must be provided.
3. Inward opening details are shown on this drawing. Outward opening panels require the same installation fasteners at the same spacings.
4. Installation fasteners shown in the raised sill detail on this drawing also apply to all recessed type sills.

Elevation View: SL45 folding door installation



- ③ **WOOD** – #12 (0.216" diameter) x 4" wood screws, minimum 2-1/4" penetration
- ③ **STEEL** – #12 (0.216" diameter) x 2-1/2" self drilling screws, minimum 0.0478" (18 gage) substrate
- ③ **MASONRY & CONCRETE** – 1/4" diameter x 2-3/4" tapcons, minimum 1-1/4" embedment

Drawings not to scale.



SOLARLUX[®]
technology

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nanawall.com

Warranty Registration

must be filled out and returned to the address printed on the other side within 30 days from date of purchase of the NanaWall in order for the limited warranty to become effective.

Nana Order # _____ **Project Name** _____

Date of Purchase _____ Purchaser Name _____

PROJECT OWNER

Name _____

Address _____

Telephone _____ e-mail _____

Project Address _____
(if different from above)

INSTALLATION

Installer Name _____

Address
Street, City _____

Telephone _____ e-mail _____

Type of project (please check) new residential restaurant shopping mall
 residential remodel office building other _____

Name + Address
of Architect _____

1. Is the installation complete? yes If yes, date completed. _____
 no If no, date scheduled. _____

2. Have you been shown how to operate your new NanaWall?
 yes If yes, is operation satisfying? yes no
 no Why not? _____

signature _____

date _____

800.873.5673

nanawall.com

**Owner's Manual
Warranty Registration**



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NanaWall Standard Warranty

Ten Years:

The insulated glass in NanaWall products is guaranteed for ten (10) years from the date of sale. If a permanent material obstruction of vision due to a premature failure of the glass or failure of the glass seal is brought to Nana's attention during this period, Nana will ship replacement glass to the original location the product was purchased.

The rollers in NanaWall products are guaranteed for ten (10) years from the date of sale. If a premature failure of the roller is brought to Nana's attention during this period, Nana will ship replacement rollers to the original location the product was purchased.

One Year:

Remaining components of NanaWall products not specifically covered by the above warranties, are warranted against defects in materials and workmanship for a period of one (1) year from date of sale. This includes but is not limited to hinges, handles, locking mechanisms, tracks, weather-stripping or any other NanaWall supplied products.

If NanaWall product is installed by a Nana Certified installer, the one year warranty increases to two years.

GENERAL INFORMATION FOR NANAWALL WARRANTY

Nana's obligations under this warranty shall be limited, at its option to (1) repair any product or part of the product without charge (2) furnish any product or part of the product, shipped freight prepaid, in whatever stage of fitting and/or finishing it was in when originally supplied by Nana or (3) refund the price received by Nana for any product. Additionally, Nana reserves the right to determine whether or not a defect exists for which it is responsible under this warranty.

Written notice of any claim under this warranty must be given to Nana Wall Systems, Inc., 100 Meadowcreek Drive Suite 250, Corte Madera, CA 94925 promptly when discovered. You will waive your rights under this warranty if you fail to notify within 30 days of receipt of the product a defect which an ordinary inspection would reveal, or if you fail to make a claim within a reasonable time during the warranty period after a hidden defect is discovered.

The warranty does not cover labor costs to install the product or replaced part nor does it cover delays or construction costs or late or damaged delivery. This warranty does not cover loss of time, inconvenience, or loss of use of the product or any parts.

The warranties detailed in this document are the only statements of the legal responsibility of NanaWall and any seller of Nana products with respect to covered Nana products manufactured on or after July 31, 2004, sold by Nana and installed in the United States or Canada. No one is authorized to make any

different or additional warranties. In no event shall the liability of NanaWall or any seller of Nana products arising out of a product defect exceed the price paid for the product. NOTHING IN THIS DOCUMENT SHALL GIVE RISE TO OR EXTEND THE PERIOD OF ANY WARRANTIES IMPLIED UNDER STATE OR PROVINCIAL LAW, AND NO IMPLIED WARRANTY SHALL EXTEND BEYOND THE PERIODS COVERED BY THIS WRITTEN WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

WARRANTY LIMITATIONS

This warranty does not cover: non-NanaWall products; products that have not been paid for in full; problems caused by improper storage, handling, installation, waterproofing, finishing (including, but not limited to, not finishing all sides of wood products in a timely manner or finishing wood in dark colors), use, locking, modification, or maintenance; use of glass not supplied by Nana that is heavier than 6 lbs/sq ft; products specifically excluded from warranty such as products with larger sizes or special configurations; Acts of God; accidents, including accidental glass breakage; products subjected to conditions outside their design limitations; products installed in structures that do not allow for proper management/drainage of moisture; minor imperfections in glass that do not affect the product's structural integrity or obscure vision; minor variations in glass color; any interior wood finish; normal wear or discoloration of finish; finish problems caused by mechanical damage or abrasion; damage caused by acid rain, salt spray or other corrosive elements; tarnish or corrosion to hardware finishes; problems caused by high humidity (condensation and frost); variations in wood grain or color; allowable warp tolerance for wood panels as defined by ANSI/WDMA I.S. 6-A-01 industry standard: minor resin bleeding from wood panels: discoloration of non-visible parts; wood rot due to improper maintenance or installation; or problems due to water leakage that is not the fault of the Nana product or wrong choice of system or sill. All glass warranties are void if any film is applied to the glass surface. Labor connected with glass replacement (including replacement of sash or door panels), or labor in any other case where Nana elects replacement, is not covered by the warranty and is the responsibility of the owner. In no case does this warranty cover the costs of finishing any repaired or replacement product or component or any trim or other carpentry work that may be required. Replacement products will be the closest equivalent current product and may not exactly match the original. The warranty on any replacement product will extend for the balance of the original warranty period. NanaWall will not be responsible for problems or damages caused by deficiencies in building design, construction, and maintenance, failure to install NanaWall products in accordance with approved methods, or the use of NanaWall products in systems that do not allow for the proper management of moisture within the wall system.

NEITHER NANAWALL NOR ANY SELLER OF NANA PRODUCTS WILL BE RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (WHETHER UNDER THEORIES OF TORT, STRICT LIABILITY, CONTRACT, WARRANTY OR OTHERWISE) THAT MAY RESULT FROM A PRODUCT DEFECT OR MALFUNCTION. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may have additional rights that vary from state to state.