
Aluminum Clad Wood Window Field Mulling and Stacking Instructions

Mulling



Stacking



Mulling and Stacking



IMPORTANT: Please read before you begin.

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Aluminum Clad Wood Window Field Mulling and Stacking Instructions

The following instructions are for completing a tight mull, stack, or mull and stack combination for aluminum clad wood windows.


Contact your customer service representative for instructions for other types of mull and mull stack operations.


To install a combined unit follow the installation instructions packed with the individual windows.

The installation instructions include details for specific window types and should be consulted before installing any mull, stack, or mull stack combined unit.

WARNING

Stacking, mulling, or combinations of stacking and mulling may have installation restrictions and additional reinforcement requirements for your area. The window manufacturer recommends that the installer consult a registered Architect or local Structural Engineer for guidance to ensure the installation meets all codes and application rules regarding installation of stacked, mull, or stacked and mull combinations.

 **IMPORTANT:** Thoroughly read and follow these instructions. Failure to install as recommended will void any warranty, expressed or implied. **Check building codes for the area in which the windows are being installed before installation to ensure proper compliance.** The instructions that follow are based on typical frame construction. Specific applications may differ. The window manufacturer recommends that you consult a qualified installation professional. The window manufacturer is not responsible for installation.

 **IMPORTANT:** A number of jurisdictions have adopted building code design pressure requirements that require windows be installed in the same way they were installed for laboratory testing. To comply with these requirements, we are pleased to supplement the installation instructions with the following:

Sealant **must** be applied in all installations. There must be continuous contact with a generous bead of sealant between the **bare** sheathing and the window unit's nailing fin around the window's entire perimeter.

The following additional steps must be taken as appropriate.

- Exterior house wrap must be cut and temporarily taped back away from rough openings.
- When sealant is applied to the rough opening it must be applied directly to the building's sheathing and **NOT** the building wrap.
- The nailing fin must contact the sealant continuously along the entire perimeter of the unit and must fully contact exterior face of the wall around the window's entire perimeter.
- Exterior housewrap must be trimmed and reapplied over the nailing fin. It must be sealed to the fin along the entire perimeter with silicone sealant.

Fastening methods must conform to those used to install test units. Consult the fastening method chart included in the installation instructions for each specific unit.

A shim space, not to exceed 1/4", is required. If a shim space greater than 1/4" exists on the interior or exterior of the unit, use solid material to fill this space until the maximum 1/4" shim allowance is achieved.

ADDITIONAL NOTES:

- For any installation that has exposed fasteners, it is recommended to use fasteners made of 300 series stainless steel. Follow your local codes if they specify a different series of stainless steel.
- Certain options, accessories and warranty considerations require the unit be installed using installation clips. The clip install method has not been tested for design pressure ratings and should not be used where design pressure ratings must be maintained. Contact your customer service representative for additional assistance.



Recognize this symbol. This is the Safety-Alert symbol. When you see this symbol be alert to the potential for personal injury or product damage.



DANGER

Falling from window opening may result in serious injury or death. **DO NOT** leave openings unattended when children are present.



DANGER

CUT HAZARD



- *Non-safety Glass.
- *May cause serious injuries if broken.
- *Do not install where tempered safety glass is required.



WARNING

Weight of window and accessories will vary. Use a reasonable number of people with sufficient strength to lift, carry and install window unit(s) and accessories. Always consider site conditions and use appropriate techniques when installing.



DANGER



Screen will not stop children, any one or anything from falling out window.

Keep children and objects away from open window.

Field Mulling and/or Stacking Preparation

SAFETY INSTRUCTIONS

Read these instructions completely before beginning procedure.

⚠ WARNING

Wear gloves, safety glasses, goggles or eye shields appropriate to procedure.

⚠ WARNING

Improper use of hand and power tools could result in personal injury and/or product damage. Follow equipment manufacturers' instructions for safe operation. Always wear safety glasses.

The process for mulling or stacking differs from mulling and stacking. Please follow the proper steps.

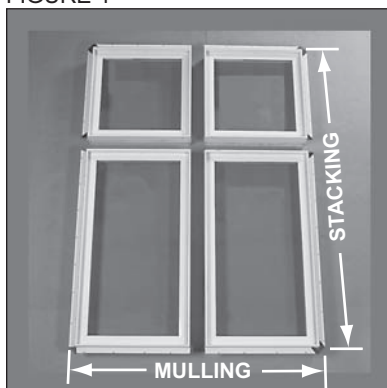
Please observe the following definitions for terms used in the subsequent instructions:

- **Mulling:** Joining two or more units together horizontally (**FIGURE 1**).
- **Stacking:** Joining two or more units together vertically (**FIGURE 1**).
- **Mulling and Stacking:** Joining mullied units with stacked units to form a multi-wide multi-high unit.

⚠ IMPORTANT: When placing units to be mullied or stacked, make sure the sills or water weeps on each unit will face towards the sill (bottom) of the rough opening when the combined unit is installed.

⚠ IMPORTANT: High-quality, exterior, neutral-cure, clear, silicone sealant (compatible with wood, aluminum and exterior face of the wall) is to be used for all procedures in the following instructions which call for caulking or sealant.

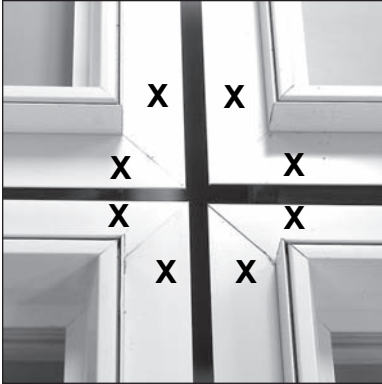
FIGURE 1



Place units to be mullied and/or stacked on a clean flat surface (exterior side up) in the position that they will be assembled (**FIGURE 1**).

Nailing Fin Removal

FIGURE 1



1. Nailing fins must be removed from jambs that will be attached together (X's in **FIGURE 1**).
 2. Use a hacksaw or tin snips to make an initial cut into a fin at a corner (**FIGURE 2**). Cut straight inward to the jamb.
 3. Score each fin that needs to be removed, next to the jamb, with a utility knife (**FIGURE 3**). Score along the nailing fin's entire length.
 4. Use a dead-blow hammer to create an initial bend in the scored nailing fin (**FIGURE 4**).
 5. Continue bending the scored fin up and down with pliers until it breaks off (**FIGURE 5**).
- Follow the above steps until all identified fins are removed.

FIGURE 2



FIGURE 4



FIGURE 3



FIGURE 5



Open Exterior Accessory Grooves

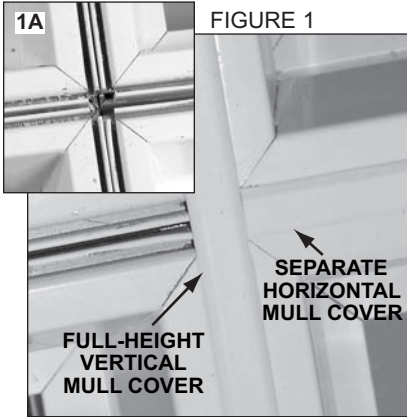


FIGURE 1

For mulling and stacking, the exterior accessory groove inside corners must be opened (**FIGURE 1A**) to allow mull covers (**FIGURE 1**) to go the full height or width of the assembly.

Four-way corners, as shown in (**FIGURES 1 & 1A**), must be opened in all directions.

For either a mull only or stack only, the accessory grooves need to be opened at the outside ends on both sides of each unit.

1. To open a corner in both directions, use a hacksaw and start with a vertical cut (**FIGURE 2**). Cut across the corner and only as deep as the bottom of the accessory groove.

2. Make horizontal cuts (**FIGURES 3 & 4**) to complete the opening. When the cut is finished, clean out burrs and shavings with a stiff bristle brush.

3. To open an accessory groove for a mull or stack only, make the first cut vertically and in the same direction as the mull cover will be applied (**FIGURE 5**). Cut only as deep as the bottom of the accessory groove.

4. Finish cutting across the vertical cut (**FIGURE 6**). When the cut is finished, clean out burrs and shavings with a stiff bristle brush.

5. After the nailing fins are removed and the exterior accessory grooves are opened and cleaned, turn the window units over so the interior side is up.

⚠ IMPORTANT: Ensure the the head and sill orientation is maintained when the units are turned over.

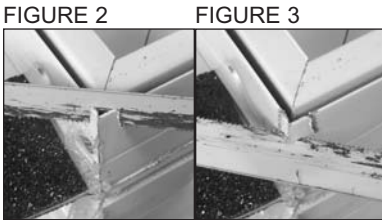


FIGURE 2

FIGURE 3

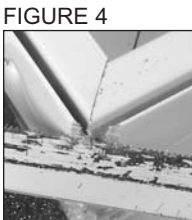


FIGURE 4

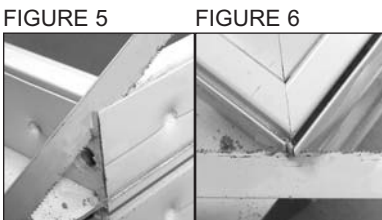
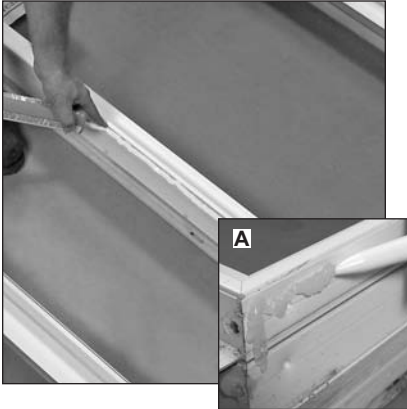


FIGURE 5

FIGURE 6

Assemble And Fasten Units – Interior Side Up

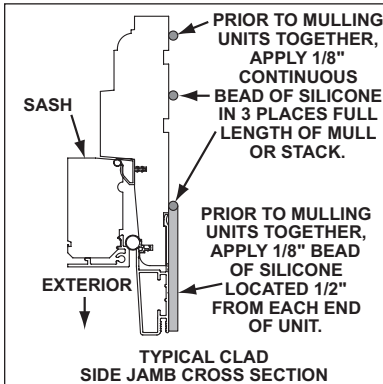
FIGURE 1



1. Move units apart to gain working room. Apply three continuous beads of sealant along the entire length of the side of each unit being mullled and/or stacked. Place one bead where the nailing fins were located. Place others as shown in (FIGURES 1, 1A & 2).

Continued on next page.

FIGURE 2



Assemble And Fasten Units – Interior Side Up (cont.)

FIGURE 3



2. Slide units together. Make sure units are level, even with each other, and flat across the interior surface (FIGURES 3 & 4).

3. Clamp units to pull interior edges tight (FIGURES 3 & 4).

4. Fasten jambs together with 1" wide x 3/8" deep corrugated staples (FIGURE 5). Place the staples 3" from each end, then every 5" on center.

5. Attach a 2" high x 12" long 24 gauge steel mull plate to the exterior sides of the jambs where the two units meet. Attach the mull plate with ten 7/16" x 1/2" long staples or six #8 x 1/2" Phillips pan head sheet metal screws. Place fasteners on each side of the mull/stack joint (FIGURES 6 & 7).

FIGURE 4

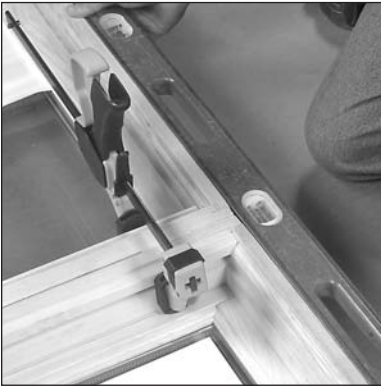


FIGURE 5

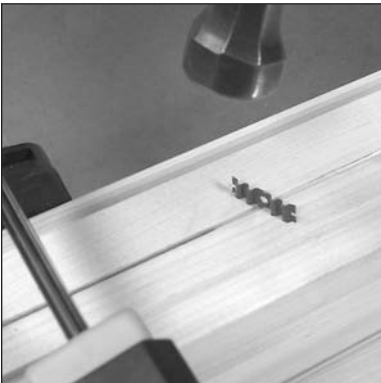


FIGURE 6

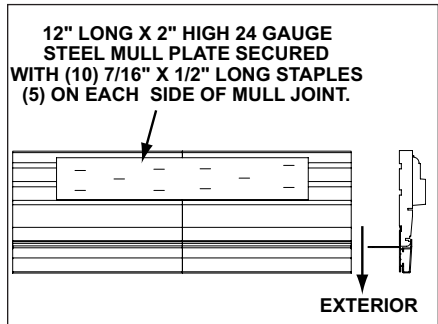


FIGURE 7



Interior Mull Cover Application

FIGURE 1



FIGURE 2

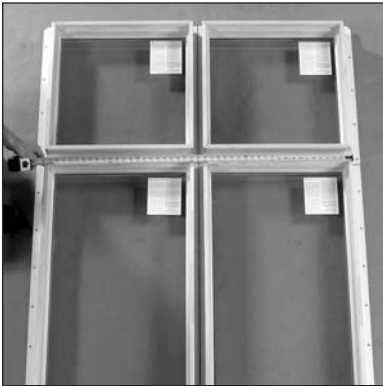


FIGURE 3



WARNING

Improper use of hand or power tools could result in personal injury and/or product damage. Follow equipment manufacturers' instructions for safe operation. Always wear safety glasses.

NOTE: If mulling and stacking, install the vertical mull cover first. Then install the horizontal covers.

NOTE: To prevent handling damage, interior mull covers can be applied after window is installed in the structure.

NOTE: Length of interior mull cover pieces is dependent on reveal between casing moulding and jambs.

1. To determine the length of the vertical mull cover, measure the unit assembly height, jamb to jamb (**FIGURE 1**) and subtract reveal x2. Cut the mull cover to length with a saw.

 IMPORTANT: To prevent splitting or cracking, drill pilot holes in cover before nailing.

2. Install vertical cover by centering cover on jambs; center side-to-side and end-to-end. Drill pilot holes and nail to jambs with 1-1/2" long 4D finishing nails (**FIGURE 3**). Set nails below wood surface with a nail set.

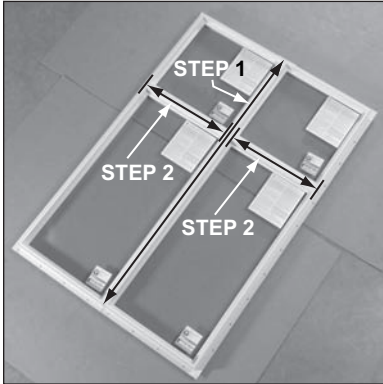
3. Measure for both horizontal covers along jambs, going from edge of vertical cover to edge of jamb, and subtract reveal X1 (**FIGURE 2**). Cut pieces to length with a saw.

4. Butt horizontal covers to vertical piece, center top to bottom on adjacent units, drill pilot holes, and nail in place with 1-1/2" long 4D finishing nails. Set nails below wood surface with a nail set.

5. Remove clamps.


Exterior Mull Cover Application

FIGURE 1



WARNING

Mulled, stacked or mulled and stacked units may require more than one person to lift and turn over without causing personal injury or causing damage to the windows. Use appropriate number of people and safe lifting techniques.

 CAUTION Prevent damage. Remove clamps before turning unit.

Turn unit over so the exterior side is facing up on a flat, clean surface. (FIGURE 1).

Configuration

Mull Only or Stack Only

The exterior mull cover runs the full height or width of the unit (FIGURES 2 & 3).

FIGURE 2 – Mull



FIGURE 3 – Stack



Continued on next page.

Exterior Mull Cover Application (cont.)

FIGURE 4 – 3-Way Mull/Stack



Configuration (cont.)

3-Way Mull/Stack Combinations

The horizontal mull cover installs first and runs the full width of the unit (FIGURE 4). The vertical mull cover is applied tight against the horizontal mull cover (FIGURE 5).

4-Way Mull

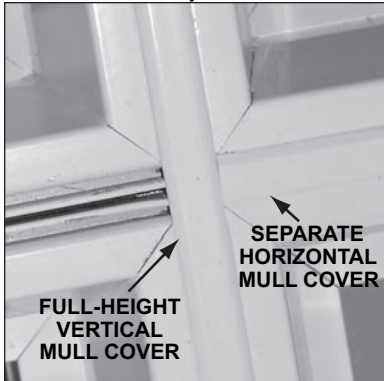
The vertical mull cover is installed first (FIGURE 6). The vertical cover must run the full height of the units and the horizontal covers are cut to the width of each individual window unit.

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FIGURE 5 – 3-Way Mull/Stack



FIGURE 6 – 4-Way Mull or Mull/Stack



Exterior Mull Cover Application (cont.)

FIGURE 7

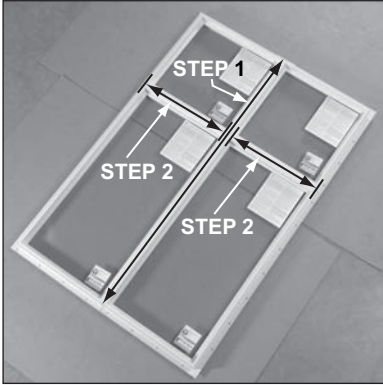
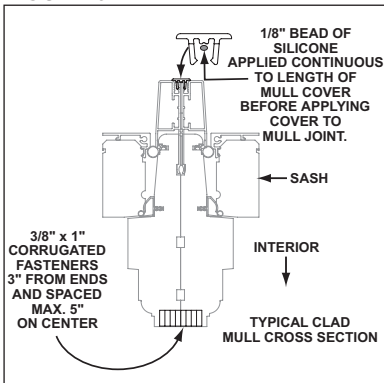


FIGURE 8



FIGURE 9



Measuring & Cutting Exterior Covers

Mull Only or Stack Only

1. Measure the unit assembly height (mull) or width (stack) from jamb to jamb. Record measurements and cut each mull cover to length with a hacksaw.

3-Way Mull/Stack Combinations

1. Determine length of the **horizontal** mull cover by measuring the unit assembly width, jamb to jamb. Cut the mull cover to length with a hacksaw.
2. For the **vertical** mull cover, measure from the inside of one sill accessory groove to the head accessory groove of the same window. Measure the same way for each window. Record measurements and cut each mull cover to length with a hacksaw.

4-Way Mull

1. Determine length of the **vertical** mull cover by measuring the unit assembly height, jamb to jamb (**FIGURE 7**). Cut the mull cover to length with a hacksaw.

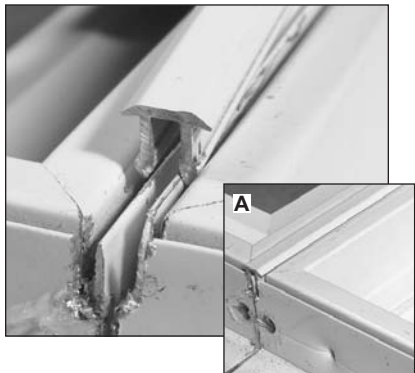
2. For the **horizontal** mull covers, measure from the inside of one side accessory groove to the opposite side accessory groove of the same window (**FIGURE 7 STEP 2**). Measure the same way for each window. Record measurements and cut each mull cover to length with a hacksaw.

For All Mull or Mull/Stack Configurations

1. Apply a bead of sealant the full length of each horizontal and vertical joint (**FIGURE 8**). Tool sealant into joint so it does not build up under the mull cover.
2. Apply a continuous, 1/8" diameter bead of sealant to the underside of the exterior mull covers (**FIGURE 9**).

Exterior Mull Cover Application (cont.)

FIGURE 10



For 4-Way Mull

3. Apply **vertical** mull cover first. Align cover's legs with exterior accessory grooves (FIGURE 10). Slide cover flush with jamb (FIGURE 10A).

4. When exterior mull cover is properly aligned, tap along the cover's full length with a dead-blow hammer to fully seat mull cover into window exterior accessory grooves (FIGURE 10A). A padded block can be used between the hammer and mull cover (FIGURE 11).

Apply horizontal exterior mull covers next. They go on like the vertical covers.

At the 4-way intersection, fit the horizontal mull covers flush with the vertical cover (FIGURE 12).

For 3-Way Mull/Stack Combinations

Apply **horizontal** cover first, going from jamb to jamb. **Vertical** mull cover is applied flush to horizontal piece (FIGURE 13). For application, follow Steps 3 and 4 above.

Mull Only or Stack Only

Apply full-length mull covers as described in Steps 3 and 4 above.

NOTE: After all mull covers are firmly seated along their entire length, wipe off excess sealant with a soft shop towel dampened with denatured alcohol.

FIGURE 11



FIGURE 12

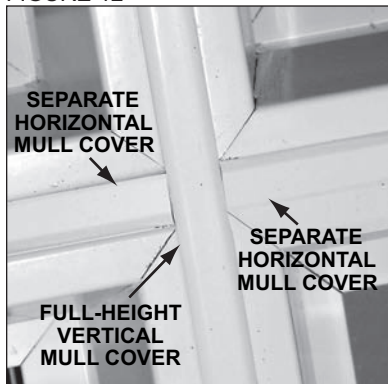


FIGURE 13



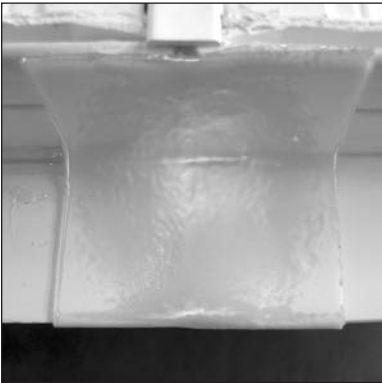
Caulk Joints & Apply Sill Gasket

FIGURE 1



1. Apply a generous sealant bead in the seams at nailing fins where exterior mull covers meet in either a mull or stack arrangement (**FIGURE 1**).
2. Each sill mull joint requires a sill fin gasket. Remove backing from gasket and place adhesive side against face of sill jamb and over nailing fin at joint (**FIGURE 2**). Apply pressure to seal gasket against window frame and nailing fin. Excess gasket should be wrapped around backside of fin.

FIGURE 2



Install Drip Cap

FIGURE 1



FIGURE 2

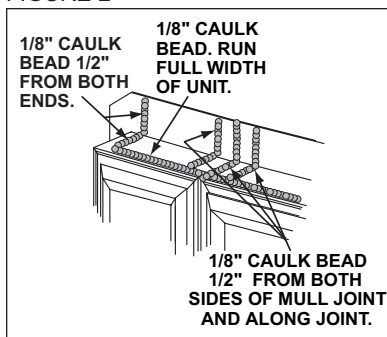
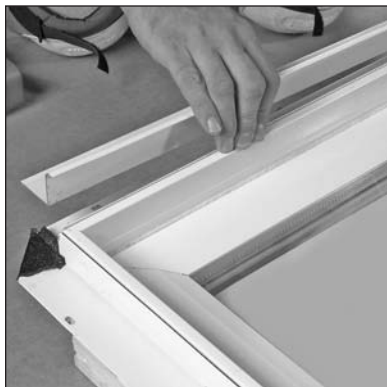


FIGURE 3



1. Measure width of assembled units, jamb to jamb (**FIGURE 1**). Mark drip cap at this length and cut with a hacksaw.
2. Apply a continuous 1/8" diameter bead of sealant to head. Start 1/2" from side jamb. Caulk vertical face of nailing fin and continue along top of head to other end of unit and up the opposite nailing fin vertical face. Also apply sealant to the mull joints laying a 1/8" diameter bead 1/2" from both sides of the joint. Add a third bead directly on top of the joint (**FIGURE 2**).
3. Center drip cap, from side to side, over head of combined unit and press firmly down into sealant (**FIGURE 3**).
4. Secure drip cap to head with #8 x 1/2" stainless steel TEK tip screws or #8 x 1/2" Phillips pan head stainless steel self tapping screws.
Place screws 1" to 2" from each end of unit and every 24" to 30" along length of drip cap (**FIGURE 4**).
5. Examine entire exterior and remove excess sealant using a clean soft shop towel dampened with denatured alcohol.
6. Allow sealant to dry before installing unit.

FIGURE 4



When sealant is completely dry unit is ready for installation. Follow the installation instructions packed with the individual windows.

Installation instructions are specific to window types (casement, tilt, slider, etc.). Besides pro-

viding install data, the individual instruction booklets cover details like design pressure rating, screen & sash handling and other installation details that vary between window types.

Recommended Finishing Instructions



WARNING

Always follow chemical manufacturers' safety instructions when using chemicals to avoid injury or illness.

For Vinyl and Aluminum Surfaces

Vinyl and aluminum surfaces may be cleaned with mild soap and water. Hard to remove stains and mineral deposits may be removed with mineral spirits.

- **Do NOT** clean with gasoline, diesel fuel, solvent based, or petroleum based products.
- **Do NOT** use abrasive materials against vinyl, aluminum, or glass surfaces.
- **Do NOT** scrape or use tools that might damage the surface.
- **Do NOT** paint vinyl or aluminum surfaces.

For Wood Surfaces

For best results, the interior wood should be sealed immediately upon installation or upon receipt especially if unit is being stored for ANY length of time. Remove all construction residue before finishing.

1. Lightly sand surfaces being finished with 180 grit or finer sandpaper. Be careful not to scratch the glass.
2. After sanding, clean-off sanding dust from the surface using lacquer thinner applied to a cloth so the cloth is slightly damp. Let surface dry.

For Exterior and Interior Wood Surfaces

-If painted surface is desired:

NOTE: If a "primed" unit is delivered with factory-applied primer paint, it may be painted without repriming, providing the finish paint coat is applied within six (6) months of unit installation. *Factory-applied finish in either standard, optional or Accentials® colors do not require additional painting.*

1. If unit requires priming or repriming, use only oil-based primer coats. Use compatible oil or water-based finish coats. Refer to the paint manufacturers' instructions.
2. Prime all exposed wood surfaces. Priming all surfaces helps prevent end splitting, warping and/or checking.
3. Once primed, apply two (2) coats of paint (again on all exposed sides) to each item.

-If a stained surface is desired:

1. Use only oil-based stain and sealer for the first coat. A gel stain is easier to apply as it does not easily run or drip. The clear top coat may be oil or water-based. A pre-stain wood conditioner, applied before staining, will help softer woods like pine absorb stain more evenly. Apply both wood conditioner and desired stain according to the manufacturers' instructions.
2. Apply one (1) coat of sealer to the surface and let dry. Using a spar (marine) varnish as a sealer provides extra protection against sunlight and moisture. Let sealer dry completely.



CAUTION If no sealer is applied over stain, the wood will weather very rapidly and defects will occur. Apply at least two (2) coats of sealer.

3. Before applying the next finish coat, make sure the previous coat is completely dry. Then lightly sand previous finish coat with 180 grit or finer sandpaper. Clean off all sanding dust and wipe surfaces with a tack cloth.
4. Apply next coat of desired finish to surface and let dry. Apply only one coat at a time.
5. For any next additional coats of finish, repeat steps 3 and 4.

Products With Synthetic Stucco

Serious concerns have been raised about excessive moisture problems in homes and other buildings that have Exterior Insulation Finish Systems, commonly referred to as EIFS or Synthetic Stucco.

Many experts agree that a certain amount of water or moisture can be expected to enter almost any building exterior system. The building system should allow such water and moisture to escape or “weep” to the exterior, so no damage occurs. However, some EIFS systems may not allow water or moisture that penetrates the wall system to “weep” to the exterior. This can cause excessive moisture to accumulate within the wall system, which can cause serious damage to wall and other building components. It has been reported that so-called “barrier” EIFS systems are particularly prone to this problem.

Moisture problems in any type of building structure can be reduced by proper design and construction with appropriate moisture control considerations, taking into account prevailing climate conditions. Examples of moisture control considerations include flashing and/or sealing of all building exterior penetration points, use of appropriate materials and construction techniques, adherence to applicable building codes, and general attention to proper design and workmanship of the entire building system, including allowances for management of moisture within the wall system.

Determination of proper building design, components and construction, including moisture management, are the responsibility of the design architect, the contractors, and the manufacturer of the exterior wall finish products. Questions and concerns about moisture management issues should be taken up with these professionals. Weather Shield Mfg., Inc. is not responsible for problems or damages caused by deficiencies in building design, construction or maintenance, failure to install our products properly, or use of our products in systems that do not allow for proper management of moisture within the wall system.

Notes

