

Before You Begin

IMPORTANT

Always wear safety glasses when cutting and drilling railing or decking products.

HELPFUL HINTS

- Use carbide-tipped, multi-purpose blade for cutting.
- Do not lay components on abrasive surfaces.
- Do not use excessive force while assembling components.
- If any components are missing or defective, please call us at 800-233-8990.

TIPS

- Make sure you have all the pieces you need to complete the job.
- Separate your flat and stair pieces to avoid using the wrong ones.

IMPORTANT FIRE INFORMATION

Rigid vinyl decking and railing are made from organic materials that will not burn on their own but melt or burn when exposed to a significant source of flame or heat. Consequently, owners and installers should take a few simple steps to protect vinyl building materials from fire. Building owners, occupants and outside maintenance personnel should always take normal precautions to keep sources of fire, such as barbecues, and combustible materials like dry leaves, mulch and trash, away from vinyl decking and railing.

TOOLS REQUIRED FOR ALL INSTALLATIONS

- Chop/mitre saw (with carbide-tipped, multi-purpose blade or non-ferrous blade)
- Power drill and bits
- Tape measure
- Pencil
- Level
- Safety glasses and equipment (as identified by tool manufacturers)
- #2 square drive
- Phillips screwdriver or bit

ADDITIONAL TOOLS REQUIRED FOR SPECIFIC JOBS

- **Certa-Snap® Post Wrap**
 - Hammer
 - Siding snips
- **Gates**
 - 1/8" drill bit
 - 3/16" drill bit
 - 1/4" drill bit
 - 5/32" drill bit
 - 11/64" drill bit
 - 7/16" wrench
 - #3 square drive bit
- **Handrail Component System**
 - 3/8" masonry drill bit (for concrete installation)
 - 3/4" drill bit
 - Angle finder
 - Quick-clamps
 - Adhesive
 - Recommended adhesives:
 - Aluminum bonding-
 - Loctite® Metal/Concrete Epoxy™
 - Gorilla™ Epoxy-Impact Tough®
 - J-B Weld®-2-Part Epoxy
 - Loctite® Extra Time Epoxy
- **Mount Post Support Wood Surface**
 - 2" x 6" or 2" x 8" blocking
 - Wood screws to attach blocking to deck
 - 3/8" drill bit
 - 1/8" drill bit
 - 1/2" wrench or socket
- **Panorama®**
 - 1/4" drive socket, extension and 7/16" socket
 - Jigsaw/coping saw (optional)
 - Utility knife (optional)
 - File (optional)
 - Box-end wrenches (optional)
 - Chalk line (optional)
 - Silicone caulk and caulk gun (optional)
 - Angle finder (optional)
 - Extension bit for crush block (optional)
- **Porch Columns**
 - Saber saw with a fine-tooth blade
 - Hammer drill with 1/4" and 1/2" drill bits
 - T-square
- **UnderShield® Water Diversion**
 - Gloves
 - Step ladder
 - Snips
 - Utility knife
 - Chalk line
 - 12" speed square
 - Vinyl snap lock punch
 - Cordless drill/driver
 - 1-inch "J" channel
 - Flashing
 - Gutter and Downspout
 - Fascia boards
- **Vinyl Decking and Oxford T-Rail**
 - 2" hole saw
 - Circular saw
 - Drop cloth
 - Screwdrivers
 - Phillips and flat-bladed
 - Wood clamps
 - Wrenches (sockets)
 - 3/4" (post support)
 - 7/16" (EZ Set bracket)
 - 3/8" (rail plate)
 - Bevel guide (optional)
 - Chalk line (optional)
 - File (optional)
 - Jigsaw/hacksaw (optional)
 - Rotary hammer drill (optional)
 - Utility knife (optional)

TIP: Stainless steel fasteners are recommended to prevent future rust streaking.

STEP-BY-STEP INSTALLATION INSTRUCTIONS FOR UNDERSHIELD® WATER DIVERSION SYSTEM

BEFORE YOU BEGIN

Before installing UnderShield®, be sure to inspect the underside of the deck to ensure that all joists are structurally sound. Minor irregularities can be compensated using shims. Check the pitch of the deck to ensure you will get the proper pitch for UnderShield. Checking the pitch is especially important when pitching UnderShield towards the house. Your deck may be installed with some pitch running away from the house which could negate the standard pitch created by the system. Improper pitch will affect the performance of Undershield.

The UnderShield product is designed as a water diversion system under normal weather and rain conditions; however, it is not a waterproof roof system. Proper cleaning and flushing of debris by the property owner is important to allow the rain water to flow unobstructed to the exit point and to not create excess weight buildup on the surface of UnderShield. The system can temporarily experience minor drips. Occasional droplets on the underside also could result from normal condensation. Having a qualified professional install and follow the installation instructions carefully is necessary for best performance.

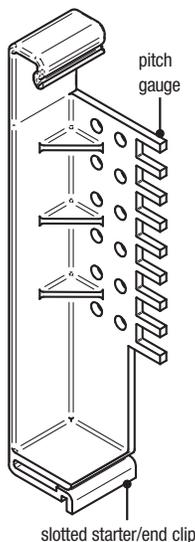
GLOSSARY

Grid bar – 1-1/2" x 1-1/2" x 97-1/2" PVC profile which is attached to underside of deck joist.

UnderShield® clip – PVC clip attached to grid bar. Clips are used for the installation of UnderShield panels and to achieve pitch.

UnderShield® starter/end clip – When clip is installed with slotted end of clip facing down.

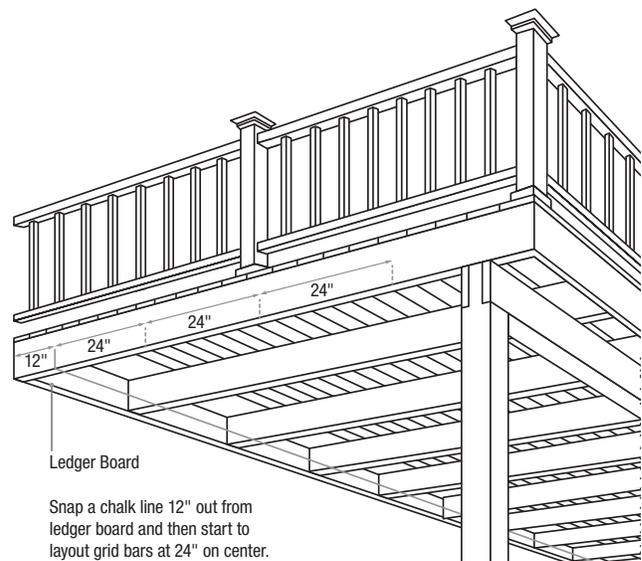
UnderShield® clip pitch gauge – Notched side of the grid clip.



NOTE: Locking the panels together creates a tight lock. Panels will not easily slide on each other. Be sure to line up panel ends before zipping over the hooks of the previous panel.

Ledger board – A ledger board is a horizontal lumber beam attached to an existing wall and used to tie in construction elements such as porch roofs and decks. A deck ledger is installed as part of the deck frame construction. The frame is then attached at either end, with the deck joists butting up to it. The last deck board against the house wall will be attached to the ledger's top edge in the case of a deck where it is parallel to the joists.

Divider board – 2" x 8" pressure treated board used to divide a deck into two smaller areas that will accommodate UnderShield.

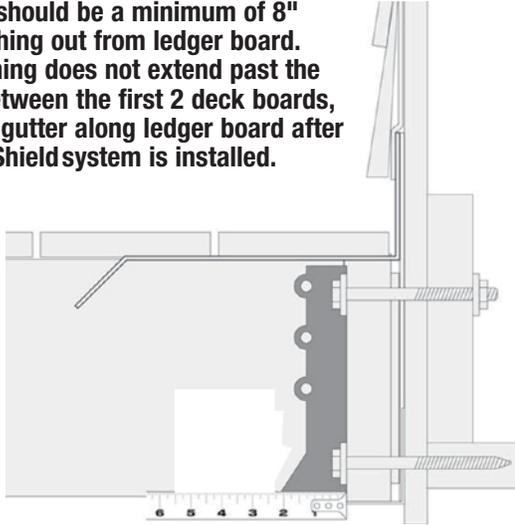


INSTALLATION

LAYOUT GRID BARS AND CLIPS

Step 1: Make sure your ledger board is properly secured and flashed. Install flashing along ledger board extending out a minimum of 8". Flashing should extend beyond the gap between the first and second deck boards.

NOTE: There should be a minimum of 8" of flashing out from ledger board. If flashing does not extend past the gap between the first 2 deck boards, install gutter along ledger board after UnderShield system is installed.



Step 2: Measure width of deck to determine number of panels required (convert width to inches). Divide width by six. Reduce number of panels by one. Multiply that number by six. Subtract from total width and divide by two. This

will give you the size for the first and last panel. The first and last panel can not be less than 2-1/4" (measurement does not include panel hook). Adjust if necessary. When using beaded panels you must have a minimum of 3/4" of material next to the bead of the panel.

Example: If deck width = 17'

$$17' = 204''$$

$$204'' \div 6'' = 34 \text{ panels}$$

$$34 - 1 = 33 \text{ panels}$$

$$33 \times 6'' = 198''$$

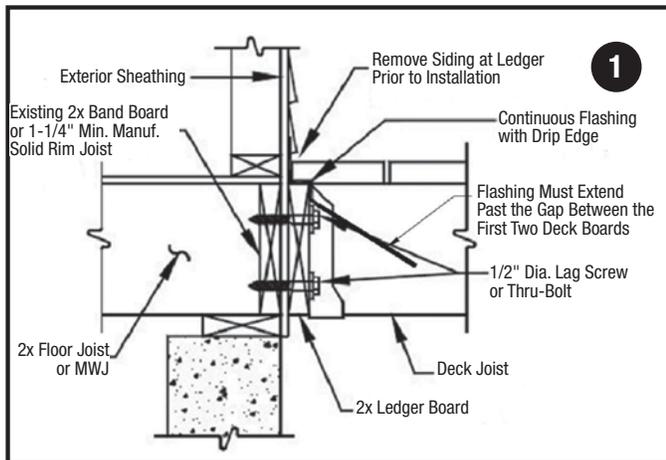
$$204'' - 198'' = 6''$$

$$6'' \div 2 = 3''$$

The first and last panel would be 3".

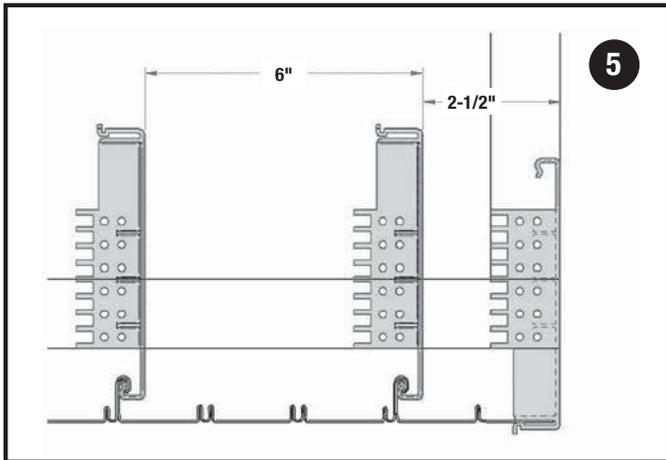
Step 3: Measure length of deck to determine number of grid bars required. UnderShield is designed for a maximum length of 16'. For runs longer than 16' a divider board will be required. The divider board will run across the deck, dividing the deck into two sections. Divider board will need to be strong enough to support the attachment of one or possibly two gutters.

Step 4: Determine number of grid bars. First grid will be installed 12" from ledger board. Last grid bar must be installed a maximum of 12" from outside edge (beam/gutter board). Intermediate grid bars are installed on 24" centers.



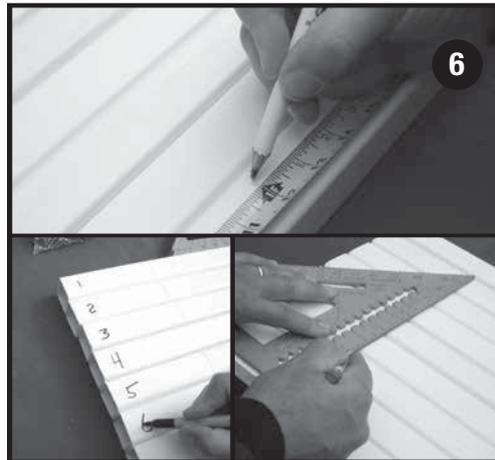
LAYOUT GRID BARS AND CLIPS CONTINUED

Step 5: Layout clip placement on grid bars. Starter/end clip will be installed at the end of grid bar. Placement of next clip will be determined by the size of your first panel. Subtract 1/2" from panel size. Now measure from the end of the grid bar for this clip location (based on our example it would be 2-1/2" from the end). All other clips will be spaced at 6" between clips.



Step 6: Mark location of joist for clip interference. Number and transfer marks to other grid bars.

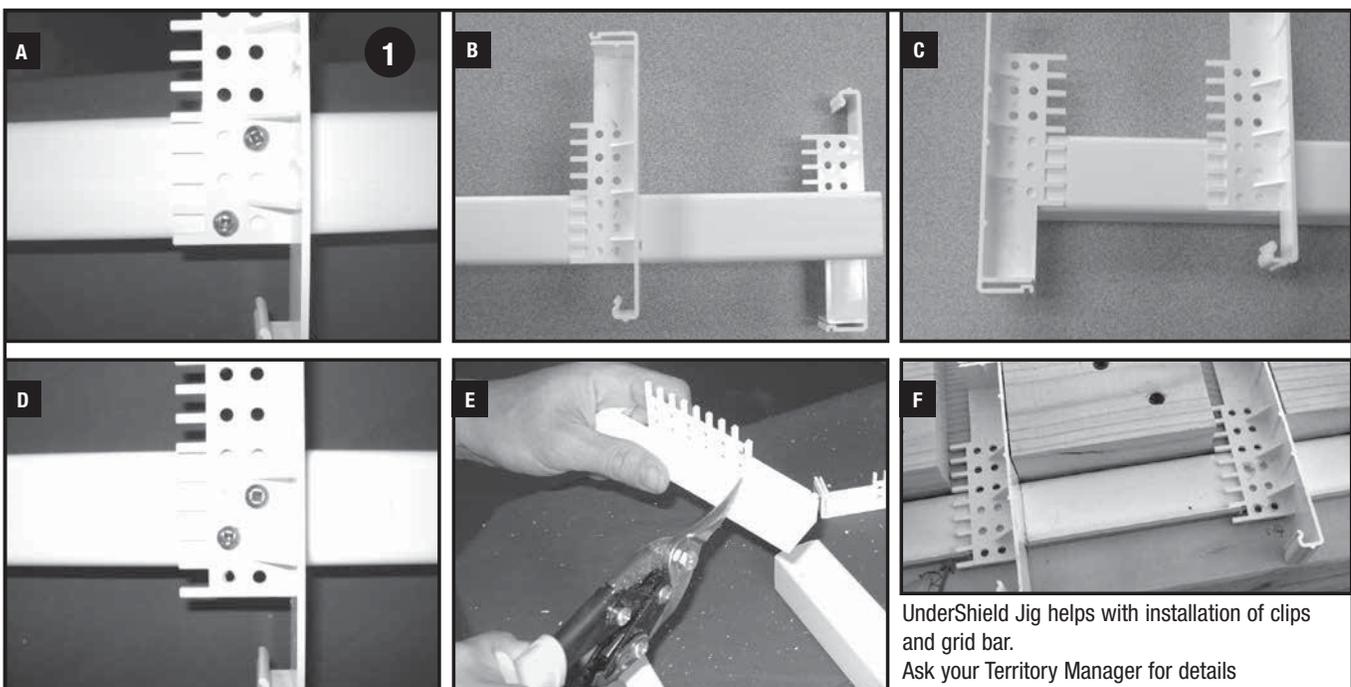
NOTE: Easier installation of clips use available template (Fig. F)



INSTALL CLIPS

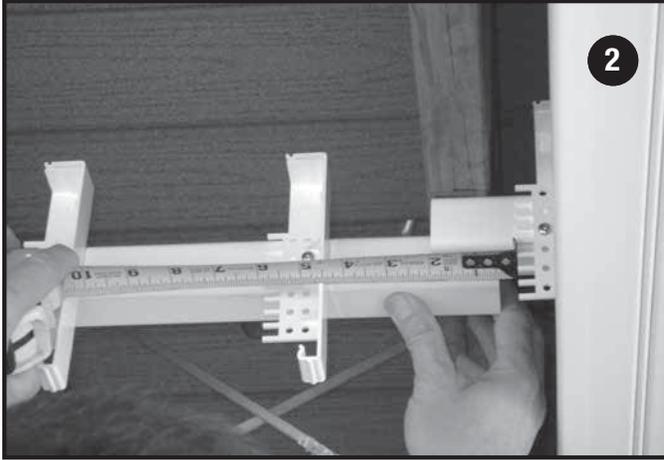
Step 1: Install clips using two 3/4" stainless steel screws (Fig. A), on first grid bar pitch gauge is even with grid bar. Starter/end clip installs on the back side of the grid bar (Fig. B). All other clips will install on the front. When you reach the other side of the deck the starter/end clip

is installed facing the last clip (Fig. C). Install clips on each additional grid bar moving down one step on the pitch gauge (Fig. D) as you move towards the outer edge of the deck. Any clips that will interfere with joist can be trimmed down using snips (Fig. E).

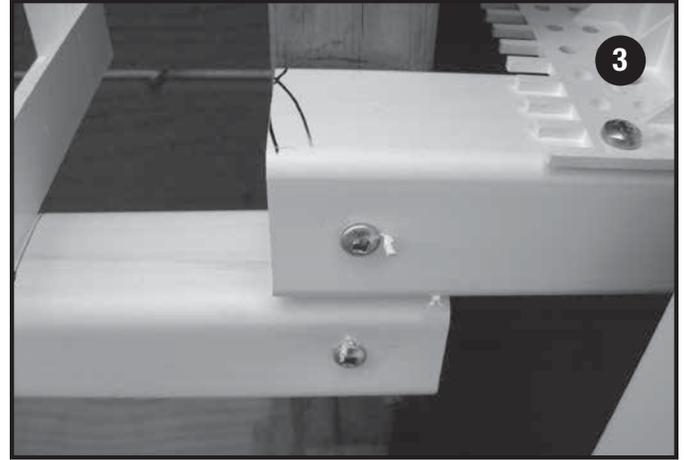


INSTALL CLIPS CONTINUED

Step 2: For decks wider than 8' additional grid bars will be required. Ensure that distance between last clip on previous grid bar and first clip on next grid bar is 6". Layout remaining clips spaced at 6".

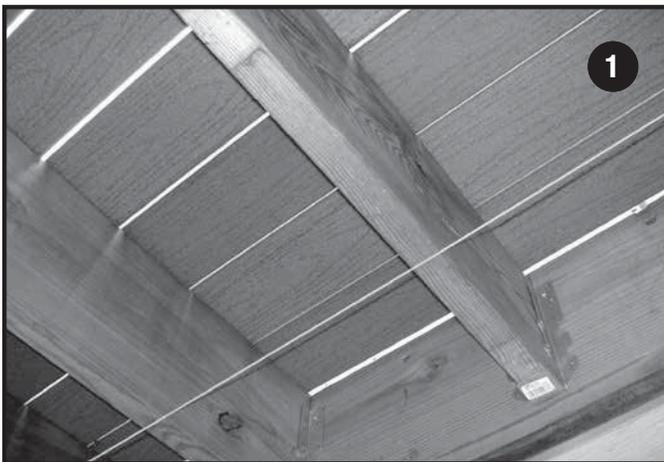


Step 3: Grid bars ends can be overlapped. Grid bars are installed even with the outside edges.



ATTACH GRID BARS

Step 1: Layout grid bars on underside of deck. Measure 12" out from ledger board in two spots and snap a line using a chalk line.



Step 2: Layout additional grid bars at 24" on center. Last grid bar is installed a maximum of 12" from outer edge (beam/gutter board).

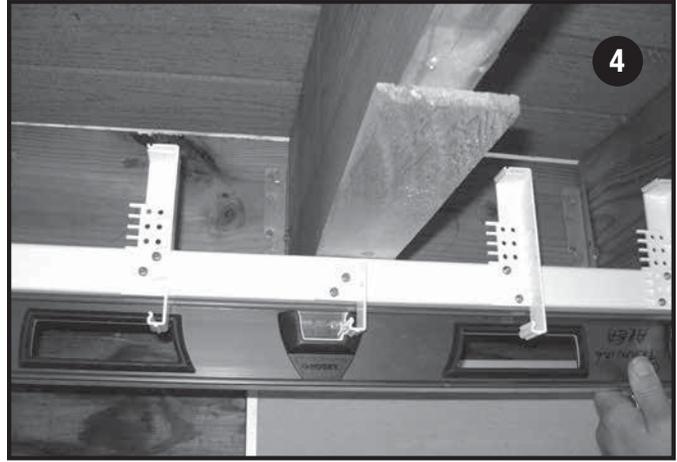


ATTACH GRID BARS CONTINUED

Step 3: Attach grid bars to underside of deck using 2-1/2" stainless steel screws. Use one screw per joist. End of grid bars will be even with outside joist.



Step 4: Level and shim grid bars as needed. If using a gutter system you may want to install gutter before installing last grid bar.



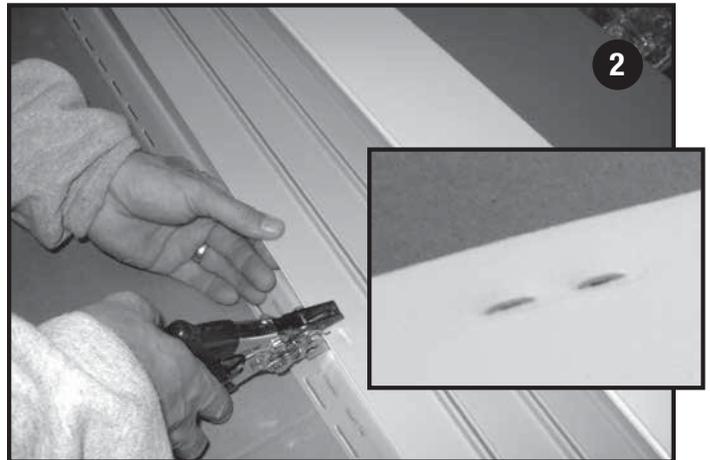
INSTALL PANELS

Step 1: To determine panel length, measure from ledger board to outer edge (beam/gutter board) (note-panels will be cut 2-1/2" shorter than this). Cut first panel to width using a utility knife (based on our example it would be 3"). Be sure to cut off from the panel side with the hook facing out. Remember when using beaded panels you must have a minimum of 3/4" of material next to the bead of the panel.



Step 2: Once cut to size, create tabs in panel at clip locations using snap lock punch. Be sure notches face down so they will lock into starter/end clip.

Optional gutter: If finishing end with a gutter system it is easier to install before installing panels. Be sure the panels will clear the gutter and any hardware used to install it.

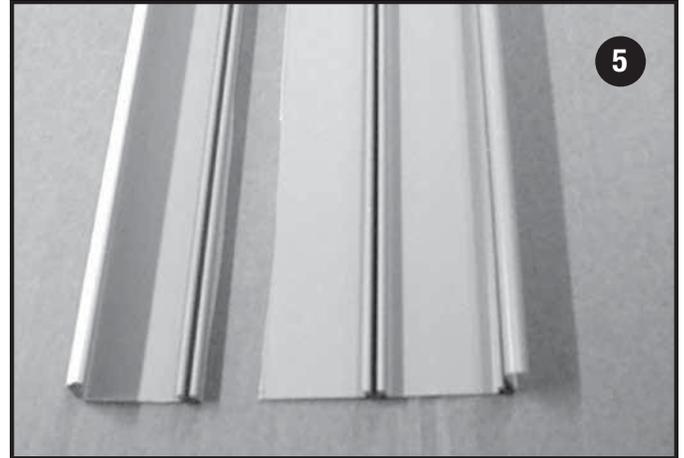
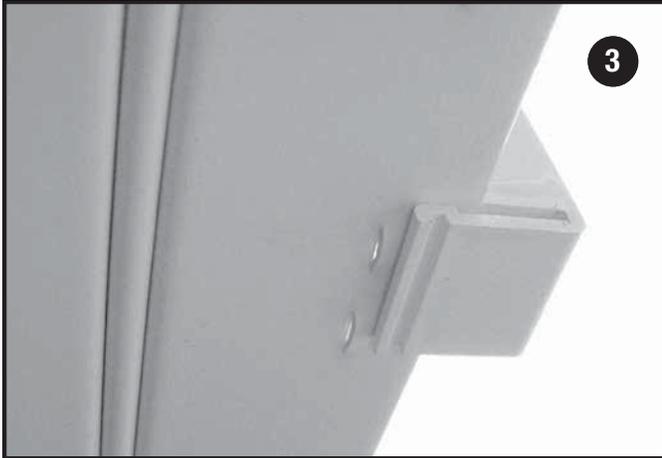


INSTALL PANELS CONTINUED

Step 3: Insert first panel into starter/end clips then hook over next clip.

Step 4: Install panels leaving a 1/2" gap between the panel and ledger board. Next panel will install by starting at one end and then zipping over the hook of the previous panel. Be sure that you are connected for the entire length of the panel and that you are locked into the clip. Repeat this for each additional panel until you reach the other side of the deck.

Step 5: Cut last panel to size using a utility knife. Be sure to cut off side with hook facing in. Once cut to size, create tabs in panel at clip locations using a snap lock punch. Be sure notches face down so they will lock into clip. Zip panel over previous panel and then insert into starter/end clip.



FINISH EDGES

Step 1: Finish the edge along ledger board by sliding 1" "J" channel over the end of the panels. "J" channel can be slid in from the side of deck.

Step 2: Finish exposed side edges with fascia panel. Measure and cut to length. Do not cut fascia 2-1/2" shorter like you did for panel. Attach fascia to center clip with 3/4" stainless screw. Finish sides by installing fascia boards. Remove center screw when using fascia boards. Fascia boards should extend a minimum of 1" over fascia panel.



For optional light/fan installation, refer to Light/Ceiling Fan Installation on following page.

LIGHT/CEILING FAN INSTALLATION

IMPORTANT

Use only outdoor rated/approved ceiling fans, lights and accessories with the UnderShield system.

For complete installation instructions, please refer to 40-70-401.

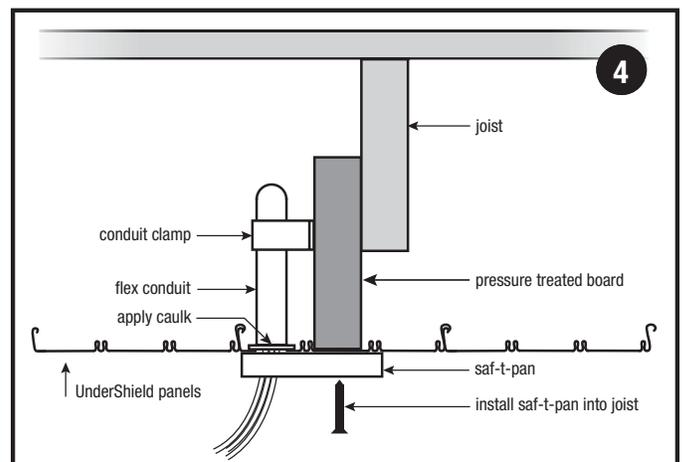
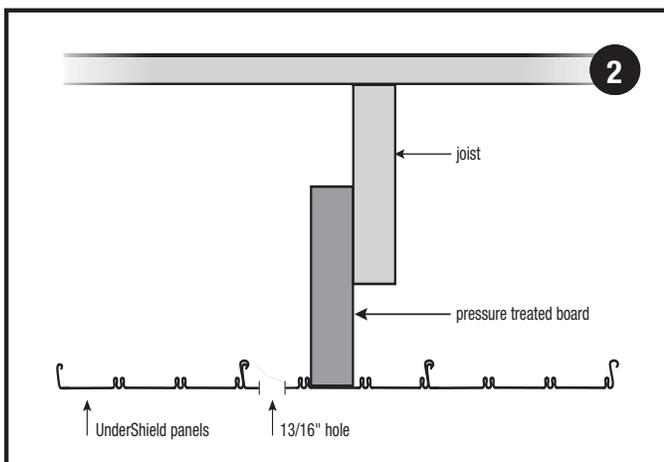
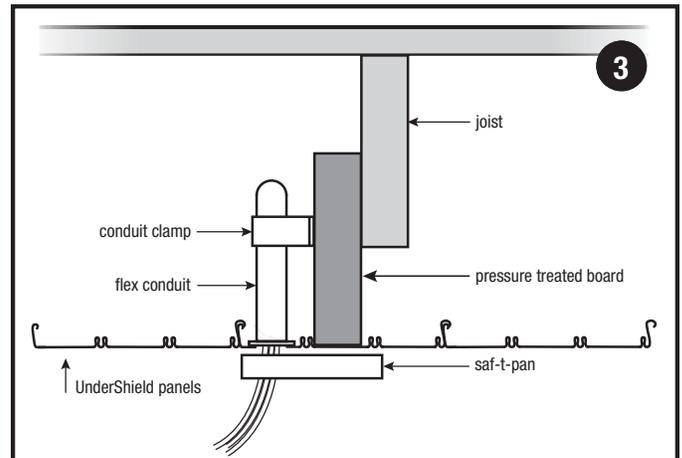
NOTE: Use approved outdoor fixtures only.

Step 1: Install pressure-treated board to existing joist flush with the top side of the panel.

Step 2: Drill 13/16" hole in panel next to the pressure-treated board.

Step 3: Install 1/2" flex conduit and clamp. Conduit should be flexed over and clamped to prevent water from entering open end. Install Saf-T-Pan.

Step 4: After installing Saf-T-Pan and 3/4" nut to lock down the conduit, apply caulk to prevent leakage. Install Saf-T-Pan into joist and install fan or light fixture.



CARE AND MAINTENANCE

CARE AND MAINTENANCE

Vinyl and composite building materials require very little maintenance. Nevertheless, common sense dictates that builders and suppliers of these products store, handle, and install materials in a manner that avoids damage to the product or structure.

CertainTeed decking and railing is not difficult to work with, but there are a few precautions you should take before you begin to unload and install the product. Always place planks, posts, rails and accessories on a non-abrasive surface, such as a drop cloth or cardboard, to avoid scratches. Protect all components during transport. Finally, when assembling the deck and railing, avoid over-tightening the screws.

CLEANING VINYL DECKING AND RAILING

CertainTeed vinyl decking and railing resists most common household stains, including oil and grease. But, like any other product, it will get dirty when it is exposed to the atmosphere. Chalk may also accumulate on the surface. This is a normal condition for all pigmented materials that are constantly exposed to sunlight and the elements. Soil, grime and chalk can be removed with a garden hose and a bucket of soapy water.

Mildew

Mildew may be a problem in some areas, especially warmer climates with consistently high humidity. Mildew appears as black spots on surface dirt and is usually first detected in areas not subjected to rainfall, such as eaves and porch enclosures. You can remove mildew from vinyl decking and railing with the following solution.

Mix together:

- 1/3 cup detergent (Tide, for example)
- 2/3 cup trisodium phosphate (e.g., Soilex)
- 1 qt. 5% sodium hypochlorite (e.g., Clorox)
- 3 qt. water

CAUTION: Cleaning solution mixed at greater concentrations may harm the vinyl.

If the above solution does not readily remove the mildew spots, purchase mildew cleaner from your local hardware store. Before you use any commercial cleaner, test it on an inconspicuous area.

The chemical agents mentioned above may be hazardous to the user or to the environment. Be sure to follow all precautions and warnings on the product label, particularly those that may be necessary to prevent personal injury. Please DISCARD these chemical agents in the manner

prescribed by the manufacturer. If you are unsure how to use or dispose of these chemical agents, contact the manufacturer.

CLEANING PANORAMA® COMPOSITE RAILING

Panorama® Composite Railing resists most common household stains, but it will become dirty like any product exposed to atmospheric conditions. Periodic washing with a soft bristle brush and clean water from a garden hose may be necessary to remove surface dirt which may accumulate on the surface. For best appearance, clean your Panorama Composite Railing at least once a year, unless local conditions require additional cleaning.

CLEANING UNDERSHIELD® WATER DIVERSION SYSTEM

UnderShield® resists most common household stains, but it will become dirty like any product exposed to atmospheric conditions. Periodic washing with a soft bristle brush and clean water from a garden hose may be necessary to remove surface dirt. Chalk may also accumulate on the surface. This is a normal condition for pigmented materials exposed to the elements. For the best appearance, clean UnderShield at least once a year. To remove soil, grime and chalk from UnderShield, use a garden hose, a soft bristle brush, and a bucket of soapy water. (You can also use the solution described in the section dealing with mildew.) Thoroughly rinse UnderShield with clean water from a garden hose. Avoid prolonged or high pressure rinsing of open ventilated areas. Keep cleaning solution off surrounding fixtures and surfaces not scheduled for washing.

If debris such as leaves gets in the system, you will need to periodically flush out the system with a garden hose. This can be done from above or possibly from access to the sides by removing the fascia panel.

NOTE: We do not recommend power washing UnderShield as it can cause moisture intrusion, damage, and/or discoloration.

Stubborn Stains

If you can't remove especially stubborn stains using normal household detergents, request a cleaner from your contractor or your local building materials retailer. Always test any cleaner on an inconspicuous area before full use.

CAUTION: Greater concentration may cause damage to UnderShield.

If the above solution does not readily remove mildew spots, ask your contractor or your local building materials retailer for a mildew cleaner.