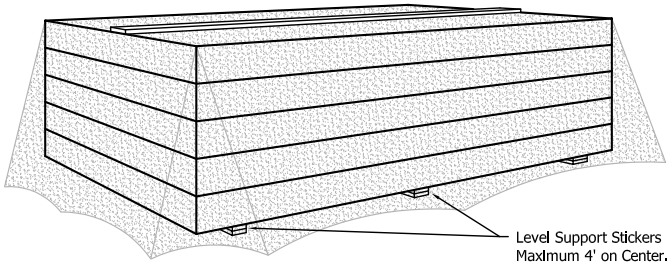
DETAILED INSTALLATION RECOMMENDATIONS

STORAGE OF SIPS & PROTECTION FROM WEATHER



Your Premier SIPS will usually arrive on a flatbed truck and should be off-loaded to a clean flat area with a forklift, or equivalent equipment that fully support your SIPs. Do not handle SIPs by top facing only.

SIPs should be stored a minimum of 3" above ground/surface. Support SIPs flat on minimum of 3" wide stickers with length equal to width of the SIPs, with stickers placed no further than 4' on center, or equivalent.

SIPs are a wood product that may swell after prolonged exposure to moisture. Keep all panels and accessories protected from the elements prior to, and during installation.

Keep SIPs tarped or covered to protect from weather. Important! Do not use clear plastic covering film on SIPs with Premier Max cores (Gray foam) and avoid using very dark colored coverings. Opaque, white, and light-colored coverings are recommended.

Refer to Tech Bulletin I-3 for moisture content information.

Protect SIPs from weather as soon as possible after installation.

FASTENERS

Typically, an 8d nail 6" (o.c.) is used to connect panels to top and bottom plates at spline connections and for dimensional plating. SIP Screws are used at corners and SIP Wall to SIP Roof connections. Reference the SIP Layout Drawings for fastener requirements specific to your structure.

FIELD FABRICATION

Field fabrication will be necessary on the site if you ordered blank SIPs. Even on factory fabricated SIPs, slight field modifications may be necessary to allow for SIP growth or variations in the actual field dimensions. Modifications are not difficult. Common construction tools will suffice for most projects with the only additional recommended tool being a recess cutter (available for purchase) for quick and easy recessing of the foam core.

When performing field modifications to SIPs, wait to make measurements and modifications until the previous SIP has been placed into its final position. When cutting wall SIPs, make sure you have the correct SIP, and that it is PROPERLY ORIENTED (horizontal electrical chases are at the bottom of the SIP).

SIPs can be field cut using a chainsaw bar attached to a compatible circular saw, a chainsaw with a guide, or double cut on both sides of the SIP with a standard circular saw. Because SIPs are a structural assembly consult with our Premier Representative before initiating cuts to facings.

Scrape off any excess foam between the facings with a metal straight edge. Adjust your foam cutter to the depth of the installed member. (Foam cutters will melt foam back further than the setting.) After your foam is "scooped" out, clean the leftover foam along the sides by

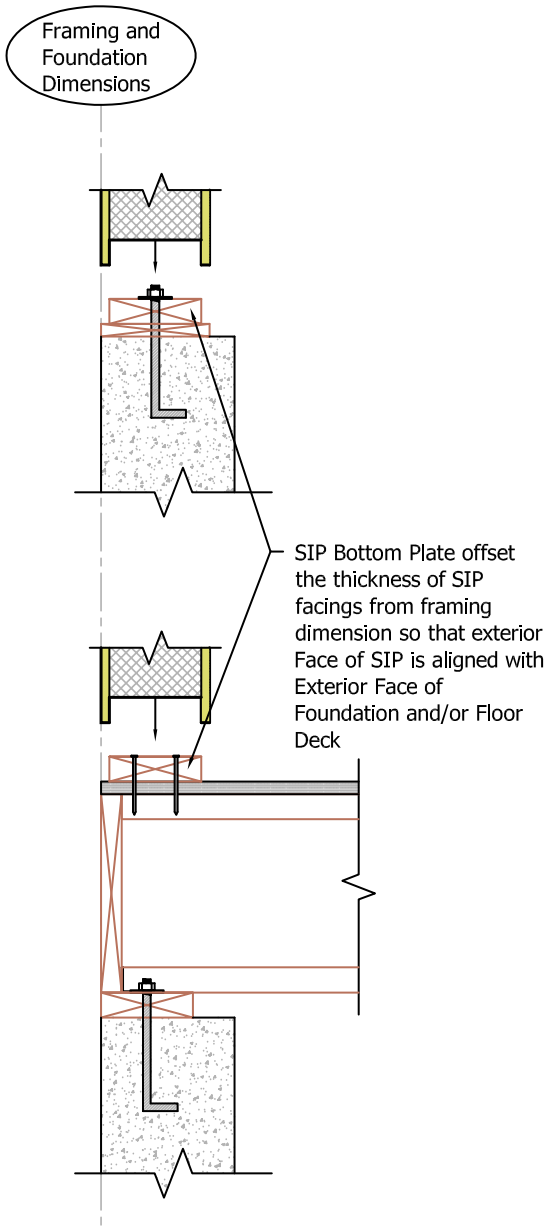
placing the foam cutter parallel with the facing. (The depth gauge can rest on the SIP edge.) Use a paint scraper or speed square to take off any excess foam that may inhibit lumber placement. Use Premier SIPS Sealant as required and follow the appropriate details outlined in the Premier SIPS details or our website at: www.premiersips.com.

SILL AND BOTTOM PLATES

Check your bottom plates to see if they are all the same dimension in width. Install all of the sill plates level (± 1/8”), square (within a 1/4” of being square on the longest diagonal), and to the exact dimensions of the layouts on the Layout Drawings. When placement of the wall SIPs is directly on top of a concrete foundation, remember that because the SIP facings cannot bear directly on the concrete, a capillary break and solid bearing is required for both SIP facings.

One of the best methods to provide a capillary break is to use a treated sill plate that is either equal to the total thickness of the SIP or slightly wider.

Take your time and make sure to be precise and accurate. Time spent now will save you time throughout the rest of your project. When you lay out the sill and bottom plates, always use the longest building line to establish the base line. Use this base line to establish the largest perpendicular building line available and make it square to the base line. Be exact. Measure parallel to either of these reference lines for all other smaller dimensions that are within the structure. Adjust or shift sill plates as required on the foundation system to match all the desired dimensions on the SIP layout drawings.

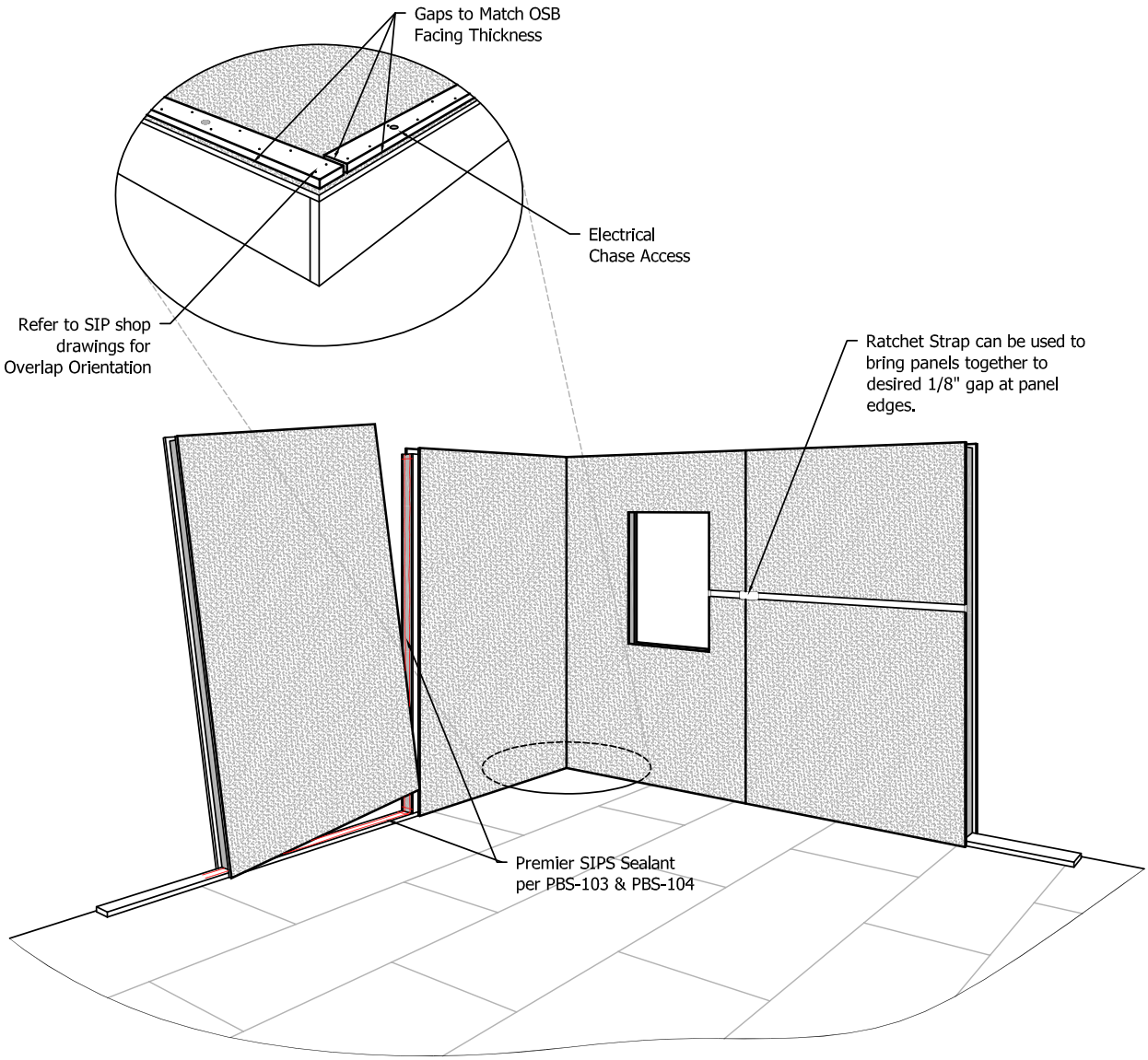


Snap a chalk line on the foundation wall for the inside of the sill plate and begin setting your plates. Use an appropriate sill sealer (Premier SIP Sealant) under the sill plates.

If the plates are not laid out to the exact desired dimensions and within 1/8” of level, extensive SIP modifications may be required later.

Dimensions to the exterior face of foundation and full width treated sill plate will be equivalent to the exterior face of the SIP—not the lumber plate that is inside them. Similarly, framing dimensions are to the exterior face of the SIP—not the lumber plate that is inside them. This is different from stick framing where the framing dimensions usually refer to the outside edge of the framing member.

Reference detail PBS-305 (located in the Premier Resource Manual or at www.premiersips.com) for additional information.



WALL ASSEMBLY

Set out the SIPS in the order you are going to install them. Get all your tools onto the floor deck, including:

- Foam scoop
- Marker
- Flat dolly—for moving SIPS around the deck
- Come-along

STEP 1. BOTTOM PLATE

Wall SIPs are placed over a dimensional bottom plate that fits in the recess in the wall SIP. Refer to your SIP layout drawings for the location of the bottom plate. The plate will be measured 1/2" in from the outside edge of your floor. Snap a chalk line on the floor, equal to the plate width + 1/2"

to represent the inside edge of the bottom plate. SIP facings should run flush to the floor edge. Apply Premier SIPS Sealant per details and nail per schedule or engineering.

STEP 2. LAYOUT TRANSFER

Using a black marker, transfer the SIP layouts to the bottom plate. Include all window and door openings as well as the vertical electrical chases in each wall SIP. If electrical chases are being utilized, drill the chase holes as you set each SIP using a minimum 1 1/2" bit. (Do not drill all the chase holes down the entire wall, because as SIP joints grow you will be off center as you get to the end of the wall.)

STEP 3. SIP TILT

Determine the best place to start the installation and get your SIPs to that area. Most of the time it is best to start in a building corner. The corners are locked together using Premier SIPS Screws secured through the SIP spaced 2' o.c. maximum. (Normally you will use a screw two inches longer than the wall thickness.) Use a drill to finish tightening and the SIPs will cinch together. Set the underside of the screw heads flush with the OSB, do not break the OSB facing of the SIP. Always check the fastening or engineering schedule on your Layout Drawings. Check the SIP dimensions against the floor layout. Apply Premier SIPS Sealant per Premier details specific to each connection. A come-along or ratchet strap can also be used to pull the SIPs together. After the SIP is standing, check for proper placement. Next, plumb the wall section in both directions and fasten it to the plate and the adjacent SIP with the specified fasteners. If necessary, brace the wall before moving to the next SIP.

STEP 4. ADJACENT SIP

Move the next SIP into position and apply Premier SIPS Sealant in the same manner as with the first SIP. Place splines on the floor and run the sealant down one side and up the other per Premier SIPS details. Set the splines into the grooves of the fixed (standing) SIP. Bring your connecting SIP into position over the bottom plate, tilted slightly away from the fixed SIP. Butt the facings together at the bottom and scissor the walls together using a sharp motion.

Reference detail PBS-103 (located in the Premier Resource Manual or at www.premiersips.com) for additional information.

STEP 5. FASTENING

Plumb the SIP in both directions. Once the SIP is plumb in both directions, nail both sides of the spline seam and the sill plate with 8d nails per plan. (You may have to brace the wall.)

STEP 6. TOP PLATE

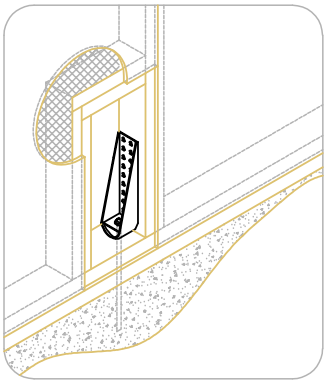
Repeat the procedures for the remaining wall SIPs. When you get to a corner or opening make sure to check the SIP dimensions before standing the SIP. (This SIP may need to be trimmed to fit the location properly.)

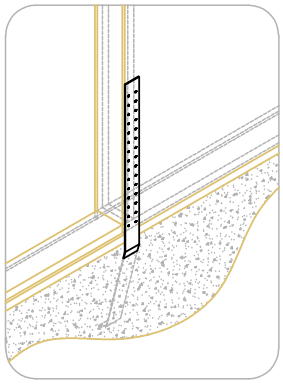
After all of the walls are up, prior to setting your top plate, check and plumb the alignment of each wall, getting as close to square and plumb as possible. If electrical chases are being utilized, mark the vertical chases onto your dimensional lumber top plate. Cut the top plate so that the ends of the top plate have a minimum 2' overlap with the wall SIP seams. Apply Premier SIPS Sealant per provided construction details. Set the top plate and nail it off per schedule or engineering. Finish by drilling the electrical chase access with a minimum 1 1/2" auger bit.

VIEW VIDEO: Premier SIPS Sealant Application

SHEARWALLS

A shearwall is a vertical bracing element that transfers the in-plane forces imposed on a floor or roof diaphragm to the foundation. Wood framed buildings use shearwalls as the vertical bracing element or lateral load resisting element almost exclusively. The most common way to anchor SIPs is to measure and cut out an access plate in the SIP wall adjacent to the tension post. Allow enough room to maneuver the holdown and 2x blocking.

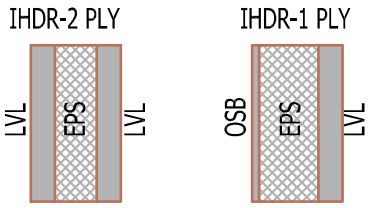




HEADERS

LVL MEMBER INSTALLED FACING BEARING REQUIREMENT. AT SIP ROOF EAVE THIS WOULD BE BELOW BEVELED BLOCK. FOR TRUSS ROOF THIS WOULD BE FACING INTERIOR.

Reference detail PBS-411 (located in the Premier Resource Manual or at www.premiersips.com) for additional information.

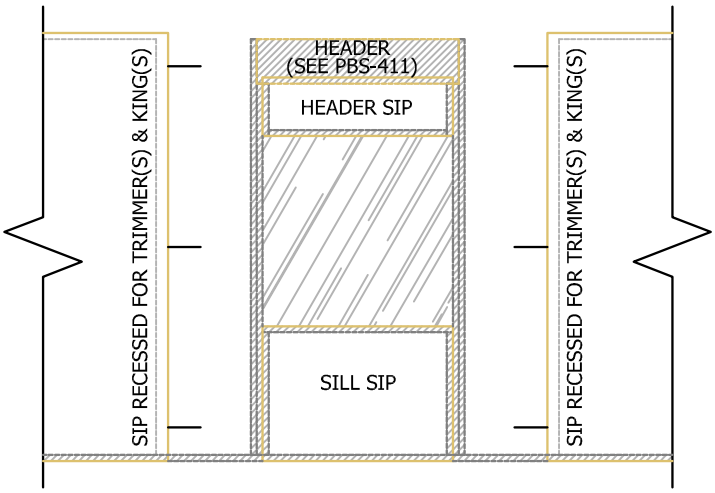


Determine trimmer height: depth of the header + the top plate + bottom plate - height of SIP = height of trimmer (11 1/4" + 1 1/2" + 1 1/2" - 96" = 81 3/4"). Cut your trimmer and cripple, apply Premier SIPS Sealant and nail them together. Next, install the SIP that sits below the window (sill SIP) to the assembled trimmer and cripple using 8d nails per SIP Layout Drawings. Install the SIP between the top of the opening and the bottom of the IHDR (header SIP) similar to the sill SIP assembly process so that the distance between the top of the sill and bottom of the header SIP equal the window rough opening height. Measure the distance between the king studs and cut the header 1/8" short of this. Apply Premier SIPS Sealant to the cripples and top edge of the Header SIP then install IHDR between the king studs so that the IHDR is in contact with the top of the trimmers. Nail through the kings into the IHDR. Next tilt the header/header SIP/sill SIP assembly into a vertical position and install into adjacent SIP per standard wall assembly techniques.

VIEW VIDEO: Premier SIPS Sealant Application

Cut your SIP top plate to be continuous over the opening and at least 2' past each end of the opening and 2' from any SIP joint. Apply Premier SIPS Sealant and install the top plate into the SIP recess and over the header. Nail the top plate to the IHDR first with (2) 16d nails 12" o.c. Nail the SIP facings on either side of the header to the top plate next, then nail down the sides of the header assembly SIPS.

Fur out both sides of the IHDR with 7/16" sheathing to match the thickness of the SIPS, keeping the sheathing flush with the top of the top plate.



INTERMEDIATE FLOORS

PLATFORM FRAMING

In typical platform framing, the rim is placed on top of the SIP, flush to the exterior, and the joists are placed on top of the SIP.

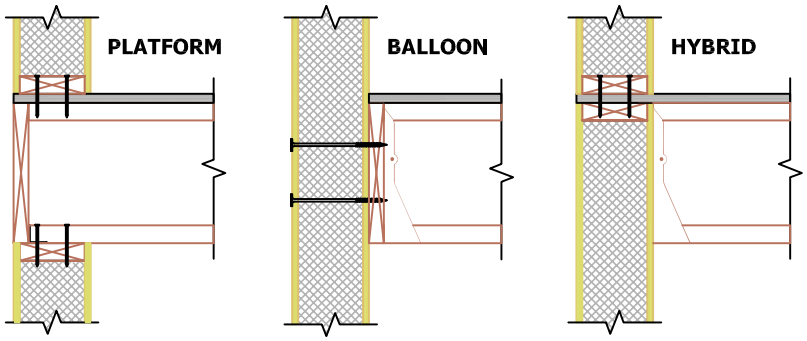
(Floor joists can be either engineered wood or dimensional lumber. For more information, refer to the Premier SIPS resource manual or our website at www.premiersips.com)

BALLOON FRAMING

Once the top plate is in, you may now also hang joists directly from the wall SIP via a ledger attached to the face of the SIP with SIP screws at a spacing specified by an engineer.

HYBRID PLATFORM-BALLOON

The lower SIP wall can be used to insulate the floor rim when using a joist hanger with a nailable top flange. The flange should bear at least 1.5" (2" is best) on to the top plate. Nail the top flange following the fastening schedule specified by the engineer. As always, consult with your engineer of record concerning your specific design requirements.

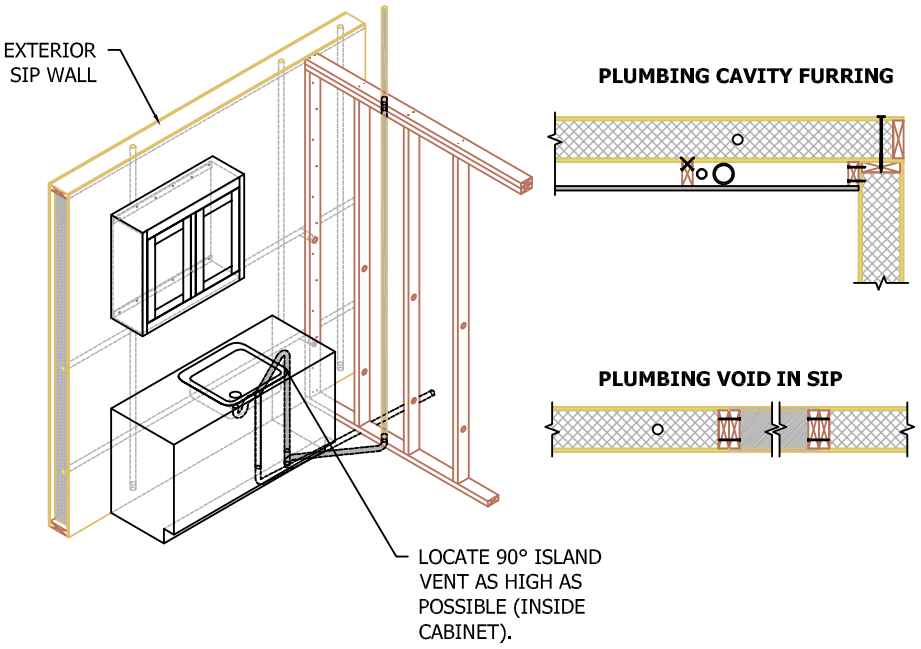


PLUMBING

Whether you are building a standard stick frame house or a SIP home, Premier does not recommend placing plumbing chases in the exterior walls.

Situations do arise in which it becomes necessary for a builder to consider options for chases in the exterior walls such as a kitchen sink next to a window or washer and dryer unit next to an exterior wall. This situation can be answered through the use of an “island vent” through the floor to the nearest interior wall.

If plumbing in the exterior wall is unavoidable, consider furring out the wall, or you can add a stick frame void in the SIP wall and insulate conventionally.



ROOFS

If the SIPs aren’t being installed immediately, cover the SIPs and lumber until ready for installation. See the “Storage of SIPs & Protection from Weather” section.

ON THE GROUND

Prior to lifting, install as many of your dimensional lumber splines and I-joist splines as possible along the connecting sides of each roof SIP. Premier SIPS splines should be installed as SIPs are installed. The dimensional lumber at the ridge and eaves should be installed prior to SIP installation. (If SIPs are spanning perpendicular to the ridge.)

Cut a bevel block out of dimensional lumber to the same pitch as the roof and fasten the full length of the ridge. The roof SIP must bear at least 1 1/2” on the beveled block. Next, tack Premier SIP Tape that is 18” wide on top of the ridge beam per provided construction details.. (Be sure that the release paper is facing up towards the underside of the roof SIPS.)

VIEW VIDEO: Premier SIPS Tape Application

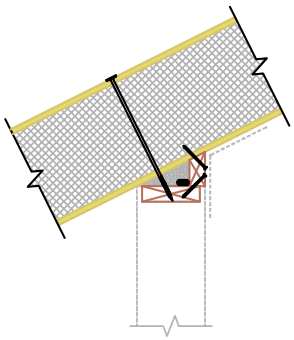
LIFTING SIPS

Use either a lifting bracket, picking eye, or strap method to lift your roof. A 12” x 12” lifting bracket can be purchased from Premier SIPS. The plate should be secured to the SIP facings with a total of (35) #10 deck screws. Star drive screws are recommended. A 12”x12” 3/4” plywood shim can be placed between the plate and the SIP to hold screws in place between picks; just back the screws out of the SIP facings, but not all the way out of the 3/4” plywood shim, and it will speed up the process on the next roof SIP to be lifted into place.

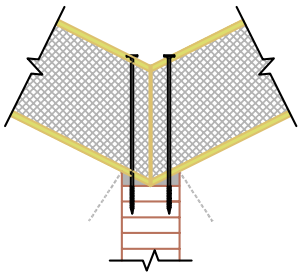
As an alternative to lifting brackets, a picking eye can be fashioned from a 4” eye made from 3/4” steel rod. The shaft should be at least 14” long. The nut should be tack welded to a minimum 4” diameter washer made of 1/2” thick steel. Drill through the roof SIP, insert the 3/4” steel rod through the full section of the SIP, apply a 12” square 3/4” Plywood “washer”, and thread on the nut welded to the 4” steel washer.

After SIPs are secured in place, remove all the lifting hardware and fill the hole in SIP with low expanding foam that is compatible with EPS. Determine the center of each SIP. Depending on the pitch of the roof, drill your hole for the picking eye, or place the center of the lifting plates, 3” from the center of the SIP toward the ridge end for every pitch change after 4:12. For example: On a 7:12 roof, the lifting hole will be 9” from the SIP center. This will allow the SIP to arrive on the ridge at almost the proper pitch, which will help the SIP installation. If you use the picking eye, be sure to fill the hole with low expanding foam prior to installing roofing felt. (If the roof SIP has installed lumber, the placement of the lifting eye or plate may need to be adjusted.) During the install care should be taken to secure the ridge beam during installation to prevent bowing.

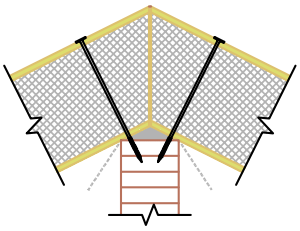
Note: It is the sole responsibility of the contractor and lift operator to select the appropriate methods and means for placing the SIPs of the structure. Further, the contractor and lift operator are responsible for the proper installation of the SIPs following product label instructions and for using all safety precautions during installation to avoid injury to anyone on the project site. The Premier SIPS manufacturer does not accept any responsibility for improper or defective installation workmanship.



EAVE WALL



VALLEY



RIDGE / HIP

VIEW VIDEO: Premier SIPS Tape Application

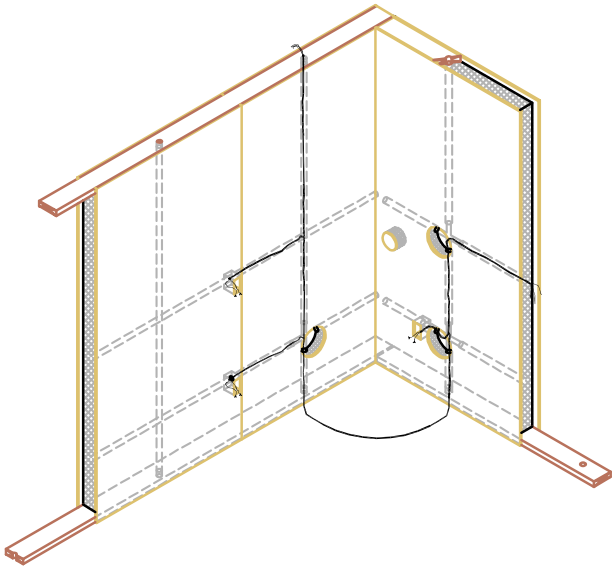
In some eave wall/roof connections the electrician can run the wires in the void created by the beveled block. Once the wires are in place, install the beveled block and spray expanding foam in the void.

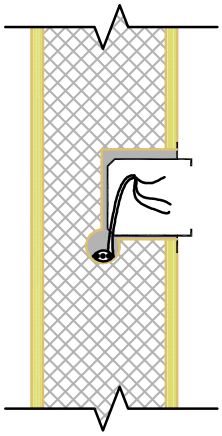
VAPOR RETARDER

An appropriate vapor retarder must be installed on the interior of the roof SIPS. Premier recommends using Premier SIP Tape on the SIP joints and at the wall to roof connections. Refer to Premier SIPS Details and Technical Bulletins at www.premiersips.com for more information on this subject.

ELECTRICAL GENERAL GUIDELINES

1. Pre-Drill Plates and Splines at electrical chase locations within each SIP wall during SIP installation.
2. Never cut long grooves in the facing of a SIP. Long grooves in the facing can seriously compromise the structural integrity of your SIPS.
3. When necessary, you may cut 4" access holes and use a long remodelers flex bit with a catch hook to run wires where a chase may not exist.
4. Use vertical chases and interior walls whenever possible for most of your wiring needs.





VIEW VIDEO: Running Electrical Wiring in SIPs

5. Use a remodeler's box that has flanges so the box can be fastened directly to the SIP facing.
6. Push or pull all wires through a chase simultaneously. With an electrician's pliers fold and crimp the longest wire back on itself about 1". Wrap electrical tape around that end. Stagger remaining wires flat side to flat side and tape these to the long wire below the crimp. Have 8"–10" of straight wire to slide into the electrical chase holes.
7. As a general rule, don't try to go horizontal between outlets or switches in the SIPs unless the distance is short and you have no other options. Use the vertical chases to run the wire back into the floor or attic if the roof is stick framed.
8. The triangular space on top of the wall SIP and under the roof SIP can be used as a chase if SIPs are used for the walls and roof. Refer to detail PBS-500. Run the wires horizontally in these areas to access the vertical chases in the SIPs.
9. To gain access to chase intersections, use a 4" to 4 1/8" hole saw. Use a flat blade screw driver and pry out the plug. Nail the plug to the wall for reinstallation. After pulling your wires, secure the plug with Premier SIPS Sealant or expanding foam.
10. Where walls terminate against a SIP you can drill (at the horizontal electrical chase height) a long diagonal hole through the face of the stud diagonally into the electrical chase. Electrical wires will stuff easily into this type of access.

VIEW VIDEO: Premier SIPS Sealant Application