

SINGLE SLOPE Structural Skylight Installation Manual Rev 05-28-24





INTRODUCTION

Thank you for purchasing a DÄLYTE Skylight. To ensure that it gives you many years of high-performance service, it is important that before commencing any work, you read these instructions fully and ensure that they are strictly followed for a successful and trouble-free installation.

We recommend that the installation should be undertaken by DÄLYTE's Installation Team or an approved glazing professional with proper safety and glass handling equipment. This will ensure a reliable product and enable the property owner to benefit from the full warranty on the product.

If you require assistance beyond the scope of this manual, please do not hesitate to contact DÄLYTE at (800) 748.2036 or info@dalyteusa.com

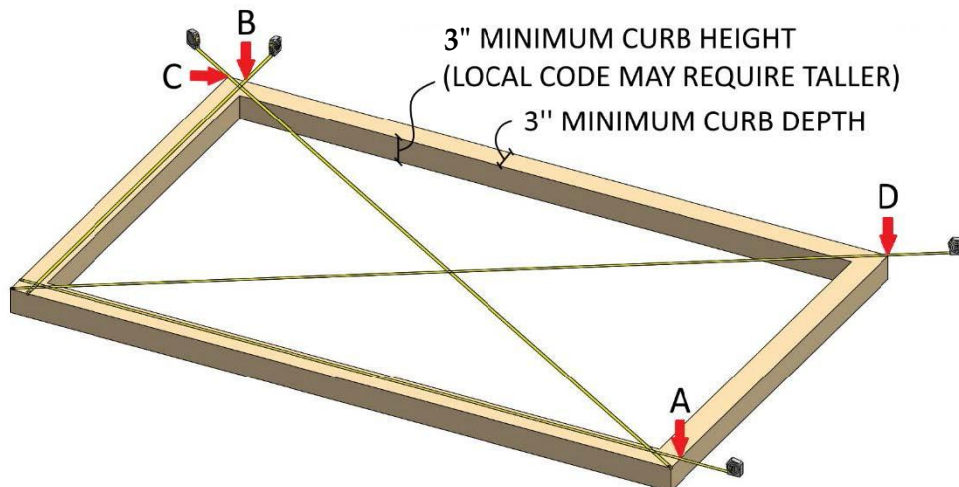
BEFORE YOU START

1) SAFETY CONSIDERATIONS

Installation of your skylight may involve working at heights, working at an unusual angle, being in unfamiliar locations or all of these. Before work is started, take a moment to consider the best way to carry out the task and what hazards you might encounter. These products can be very heavy, so consideration should be given to getting the product onto the roof safely and extreme safety precautions taken during installation.

2) Thoroughly review and understand the instructions, Submittal Shop Drawings and Safety considerations. Note: DÄLYTE follows LEAN principles of continuous improvement in its work and reserves the right to make improvements. If you have any questions do not hesitate to reach out to DÄLYTE for assistance.

3) It is particularly important to check and double-check that the curb dimensions match the Submittal Shop Drawings. Be sure to review and compare the “diagonal” dimensions of the curb to check for squareness and adjust, as necessary.

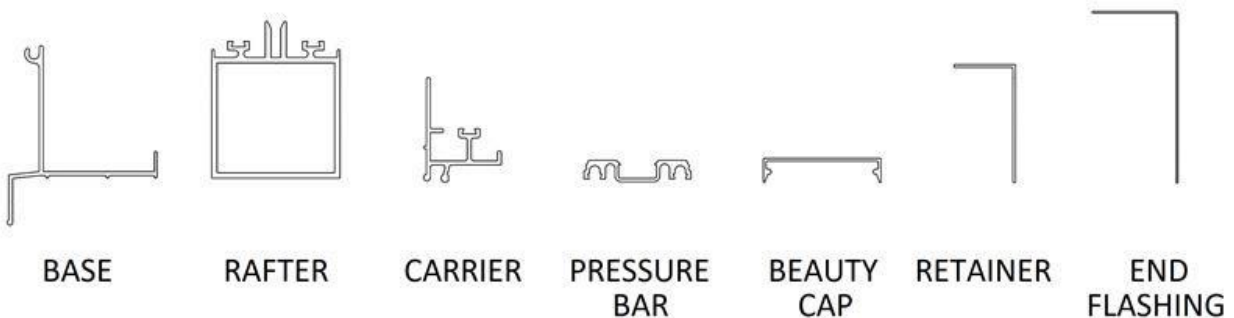


Check Dimensions and Squareness.

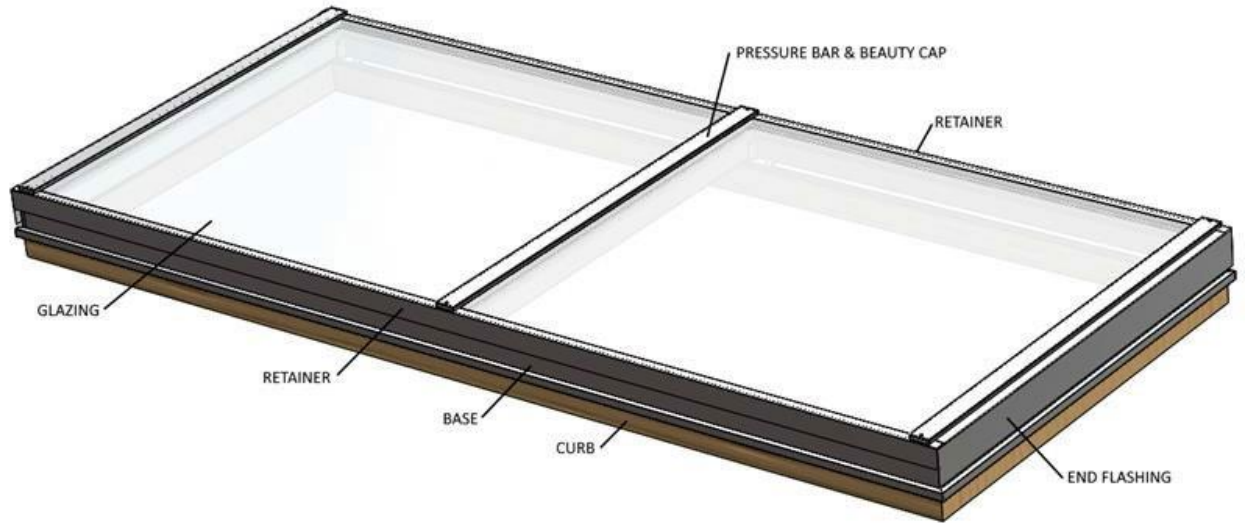
STANDARD INSTALLATION TOOLS AND MATERIALS NEEDED

- Submittal Drawings
- Safety Gear (Fall protection, hard hat, safety glasses, gloves, sturdy boots, first aid kit, etc.)
- Tape Measure, Level & Marker
- ½” Cordless Drill & Bits
- ¼” Hex Drive Impact Screwdriver & Bits
- Framing Square
- Utility Knife & Razor Blades
- Caulking Gun, Tooling Spatulas & Rags
- Metal Snips
- Rubber Mallet (16oz) & Wood Block
- Small Prybar
- Rivet Gun & Rivets
- Glass Vacuum Cups (for glass glazing)
- And other Assorted Tools
- **General Note** on Silicone color selection: Clear Silicone is always used between the top of the wood curb & the bottom of the BASE frame and the Anchor screws. A frame finish “matching” silicone is used between two or more pieces of aluminum (gray silicone for Clear Anodized Frame and Black Silicone for Dark Bronze Anodized frame). Black Silicone is used to seal anywhere the silicone touches the black EPDM gaskets.

STANDARD SKYLIGHT PARTS



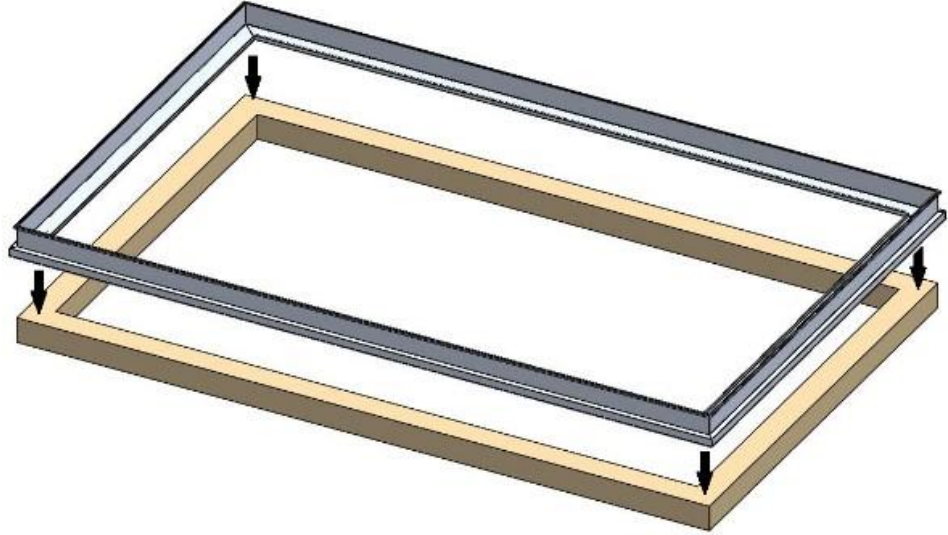
EXTERIOR PART NAMES



1) FRAME Assembly and Installation

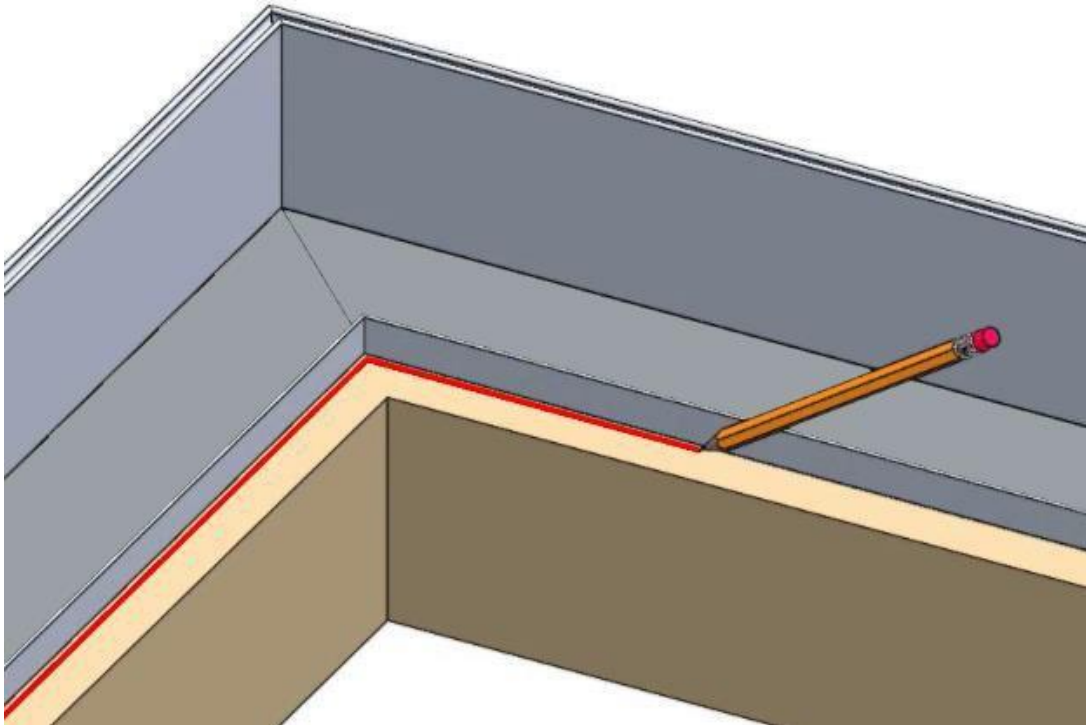
BASE INSTALLATION

- Unpack and familiarize yourself with the Skylight parts, Packing List and Submittal Drawings. This can be done on the roof or spread out on the ground.
- **BASE:** Dry-fit the BASE on the curb to confirm where it will sit (*Note: The BASE can come in one or two welded assemblies for smaller to medium size skylights or in several pieces with splice plates for larger skylights*). On larger skylight BASES, we recommend adding “temporary” screws to hold them in place after you silicone them in place.



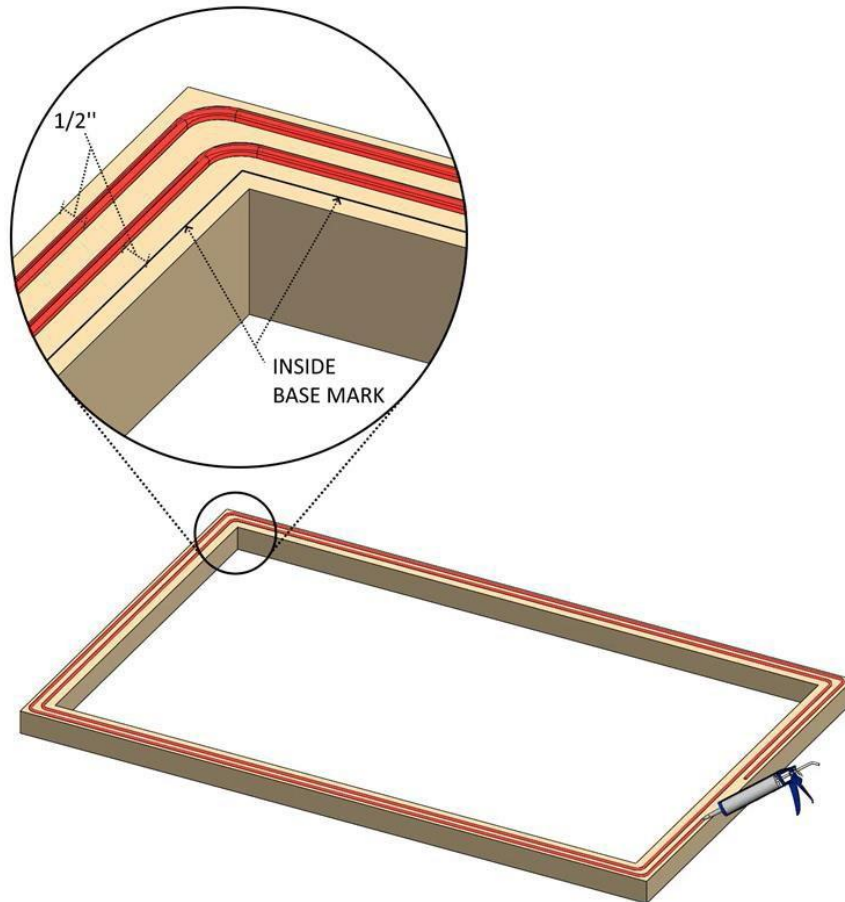
Dry-fit the BASE
(it should overhang ½" all-around)

- Dry-fit the BASE to confirm proper fit as detailed in the Submittal Drawings. Then, mark the interior edges to use as reference points. This will provide a guide for silicone application later in the process. Next, remove the BASE.



Mark the interior edge of the BASE
(this will help when applying silicone later)

- Apply two beads of clear silicone caulk to the curb in the area where the BASE will be placed. Each of these beads should be approximately $\frac{1}{4}$ " diameter. The first bead should be placed $\frac{1}{2}$ " under the BASE from the marked reference point inside the edge of the BASE. The second bead should be placed $\frac{1}{2}$ " from the exterior edge of the curb.



Apply two BEADS $\frac{1}{4}$ " Clear Silicone on Curb to seal Base.

- Place the BASE on the curb with two beads of silicone and center the BASE to the curb. If the BASE has several pieces, take care to place the splice plates under any joints on the BASE and to generously "butter" them with Clear silicone to seal. Firmly press the base into the curb to spread the silicone.
- Screw Base down with wood glazier screws approx. every 18". Make sure, the BASE is square and overhanging the curb equally all around.



Install the BASE on the curb with screws and two beads of Clear Silicone.

PRO TIPS:

Two layers of gasket-like protection will form to keep the weather out. It is important to pay close attention to this step, as it can be a common trouble area.

RAFTER and CARRIER ASSEMBLY

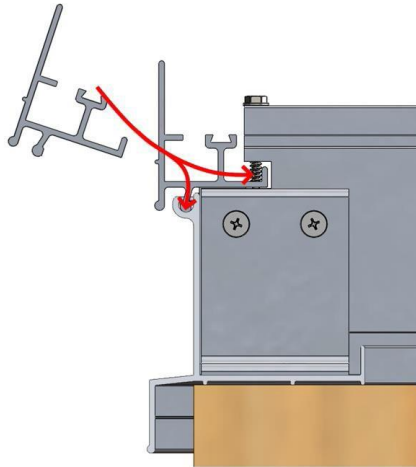


Assemble Rafters & Carriers

- Place Rafters into approximate positions (END RAFTERS have only one “L” clip on the ends and Mid-Rafters have two “L” clips at each end) Note you might have to loosen the screws attaching the Base to the curb to get the Rafters into position.

CARRIER POSITION

- Then run a bead of clear silicone in the groove of the Base extrusion where the Carrier will sit on and place the CARRIER on the lower end (Sill side) of the RAFTERS in the slot provided and then do the same for the upper side (Head) of the skylight. (Note: These often need to be twisted and prodded together due to tight fit.)



Insert Carrier into the Rafter slot also inserting the tongue into the groove on the Base.

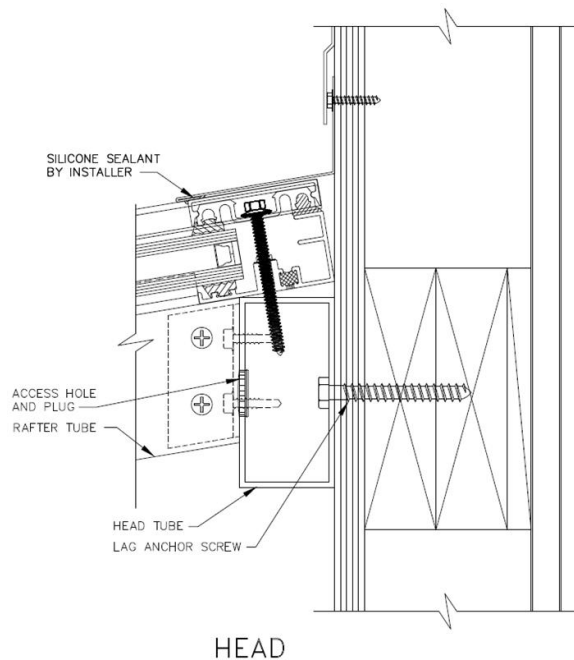
NOTE: check that the Carrier's lower tongue fits tightly in the groove of the base and that the carrier inner condensate gutter goes all the way into the slot in the rafter. *See red arrows above.*

ALTERNATE HEAD CONDITION into WALL



ALTERNATE HEAD CONDITION TO WALL- Is similar but has several differences (see drawing)

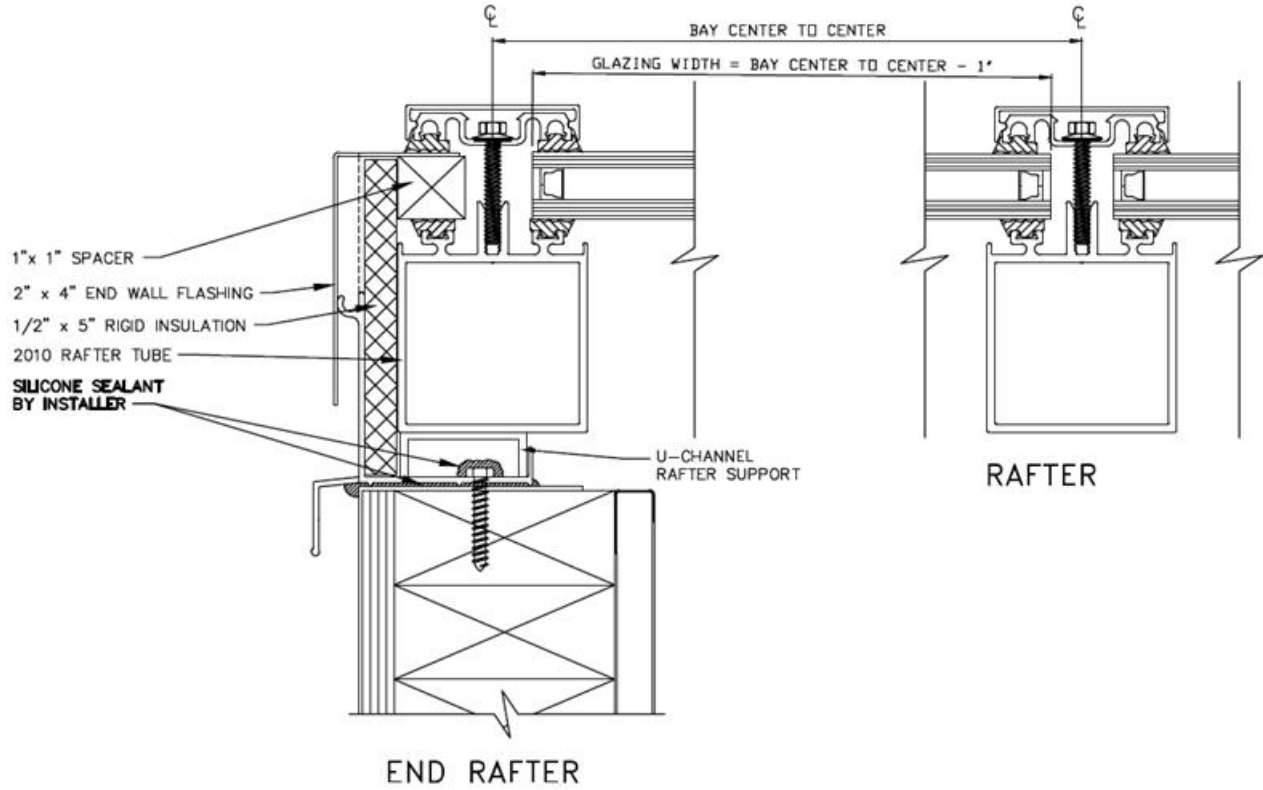
- Head Anchoring is into the wall with Lag Bolts at each Rafter location and along the Ledger Tube (plugs are placed over the holes).
- Note: make sure existing wall is properly structurally blocked.
- Pressure Bar and Beauty Cap are located on top at the Head in lieu of Retainer.
- Wall Flashing is provided to protect the Head Assembly (Siding Sub or Roofing Sub typically provide Counter-Flashing).



Alternate Head into a wall condition

RAFTER SPACING (for Single Slopes without Gables)

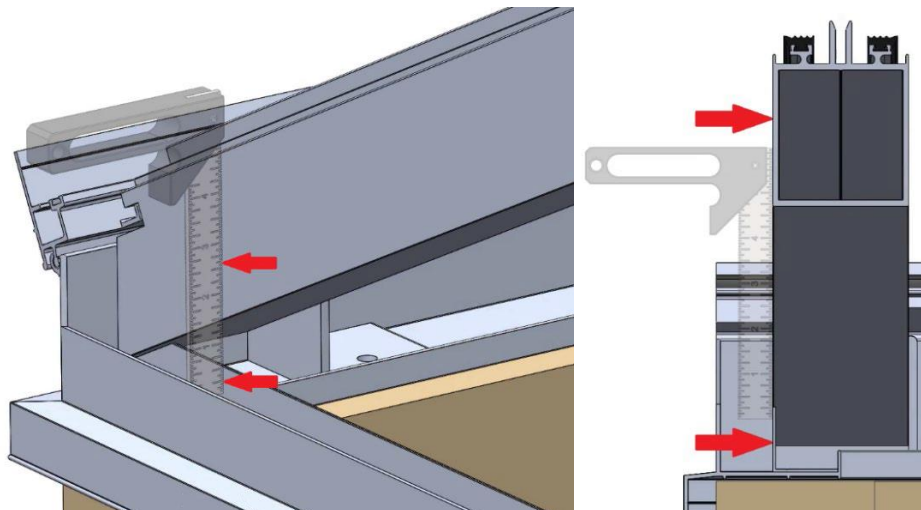
- Then you will need to adjust the rafters into position to fit the size of your glazing starting at the end Rafter (also see submittal drawing)



Rafter spacing for End Insulation and Glazing

ALTERNATE RAFTER SPACING for Single Slope with Glass Gables

- Align END RAFTERS with GABLE BASE Glazing Slot- See Submittal Drawing

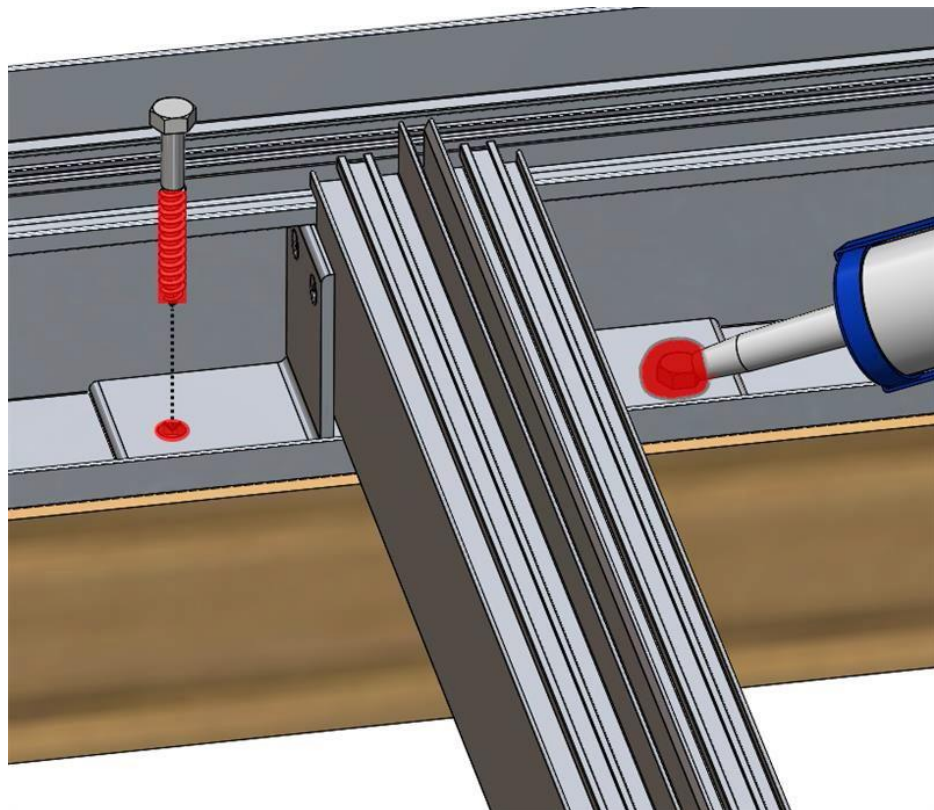


Gable Base Glazing Slot aligned with outside of End Rafter

Note on ANCHOR TYPES (not provided)

There are many anchor types with the appropriate type and size is left to the installer so they can review the conditions and pick the appropriate anchor for the substrate but for fastening the skylight to a wood curb, 3/8" x 3" Lag Bolts are typical.

Typically, once proper spacing is located, you will drill the holes to attach the Rafters to the curb through the Base by drilling clearance 3/8" holes x 3/8" deep at each Rafter "L" clip and then drill 1/4" tap hole x 3 1/2" deep, all the while checking for the Base and Rafters to be square and that the provided glazing fit properly. Then inject two pumps of the provided clear silicone into the hole and then screw in LAG BOLTS snug (Installer provided).

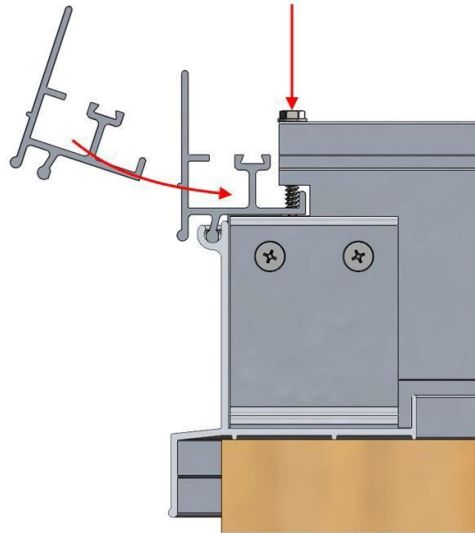


Place clear silicone on the heads to seal the LAG BOLTS.
Anchor RAFTER Clips and silicone seal the heads.

PRO TIP: Before unit is lagged into place, this is your last chance to make any adjustment for squareness. Make sure to use framing square to ensure that corners are "square at 90 degrees) and pull diagonals. And to check that the provided glazing fits properly.

FASTENING the CARRIER

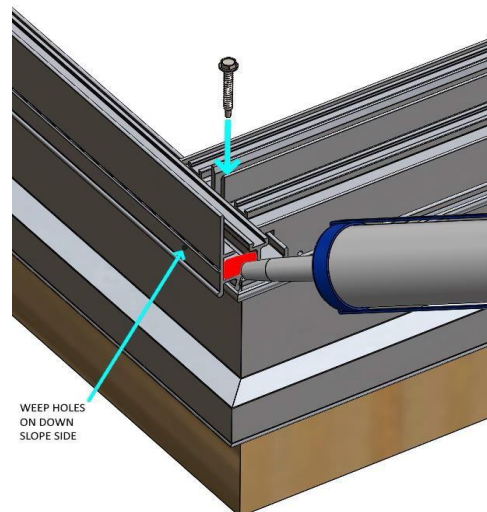
- Then fasten the Carriers by screwing a #10 x 1 ½” screws through the centerline of the top of the Rafter into the Carrier. Do this at each Rafter. Next unscrew each of these screws one at a time and coat the threads with clear silicone then run them back down- this will seal the Carrier’s condensate gutter.



Fasten Carrier at Rafter center lines.

Create END DAM in CARRIER(S)

- Create the END DAMS on the CARRIERS to control water with Clear Silicone pump/form and tool an “end dam” on the ends of the CARRIERS (this ensures that water will be properly wept to the exterior if it gets into the CARRIER).

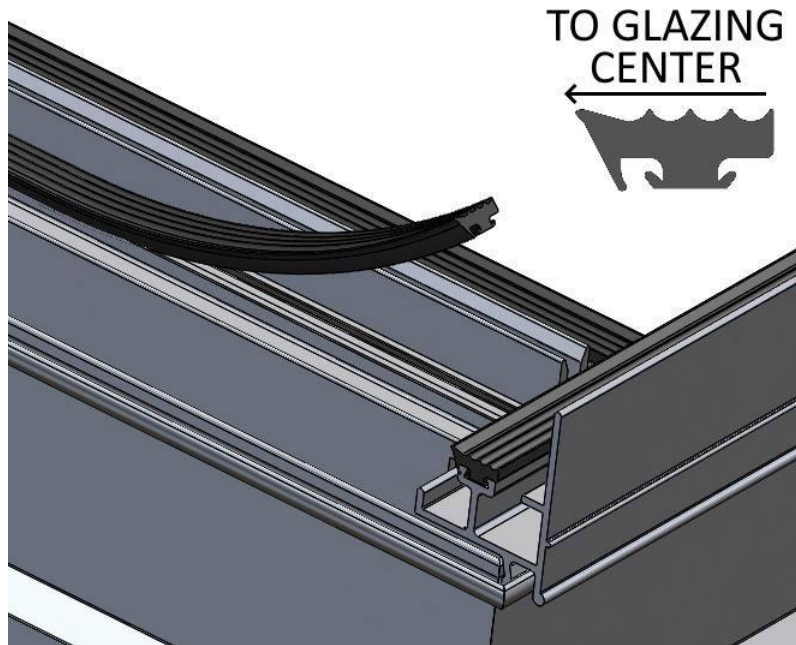


Clear Silicone any splices on the interior and create End Dams on both sides of each Carrier.

2) Prepare installed FRAME for GLAZING (Glass or Polycarbonate Multi-Wall)

GASKETS

- Install the GASKETS that rest under and on top of the glazing.
- Review Submittal Drawing and Note the gasket profile and how there is a side with a larger lip that faces the center of the GLAZING.



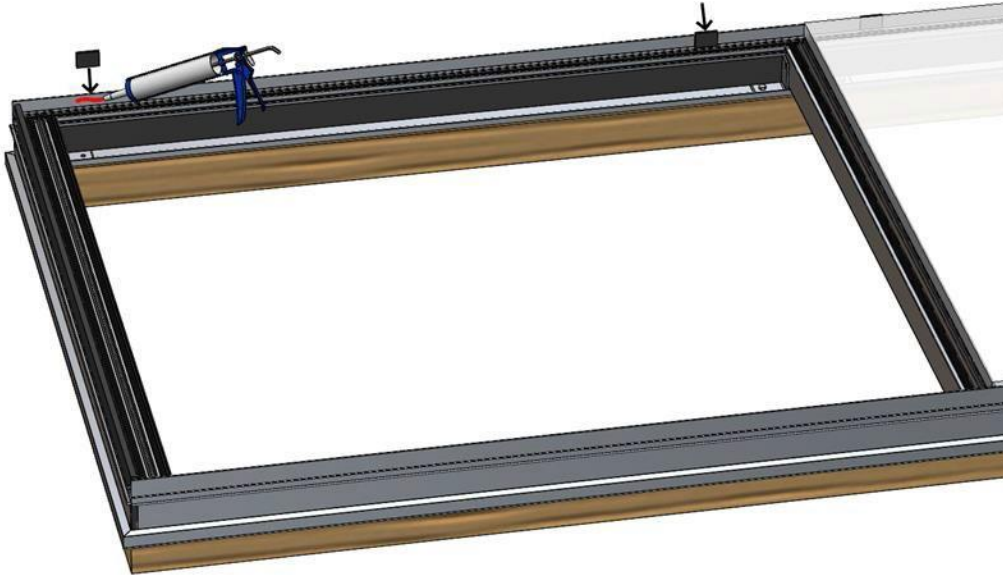
Install GASKETS on Rafters, Pressure Bars, Carriers

PRO TIPS:

- Do NOT stretch the EPDM rubber gasket while installing it. In doing such, it can shrink and pull away from the corners, causing weather to get in. It is recommended that the gasket be “compressed” into place (Example: The rafter is 34” long, cut your gasket at 35” and “compress” to fit the 34” space).
- When cutting the gaskets, make sure to achieve clean, 90-degree cuts to seal well (Later, before setting the GLAZING, put a dab of black silicone on each of the four gasket corners to seal these joints).

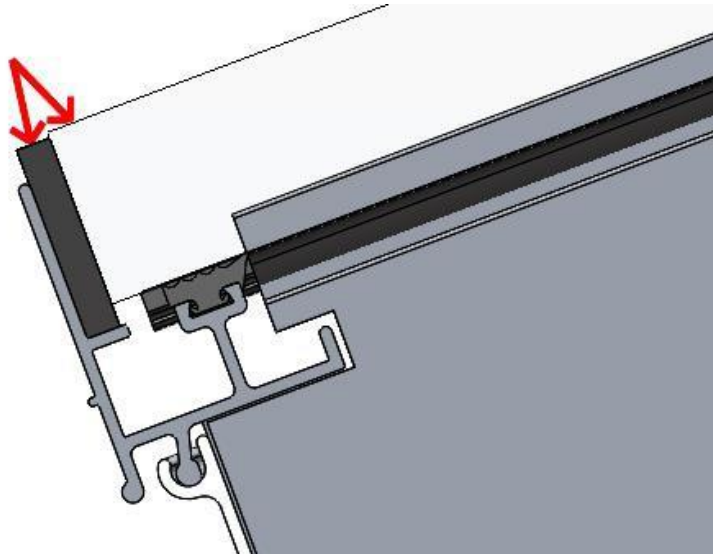
SETTING BLOCKS

- Install the SETTING BLOCKS that the lower edge of the Glazing rests on
- For each GLAZING LITE, on both sides, place a 3" long bead of black DC 791 Silicone 6" from each end on the Lower Sill CARRIER, then place the ¼" thick SETTING BLOCK on it (*lower edge of GLAZING will rest on these*).



Install the SETTING BLOCKS only on Sill side (bottom – shown on top for clarity)

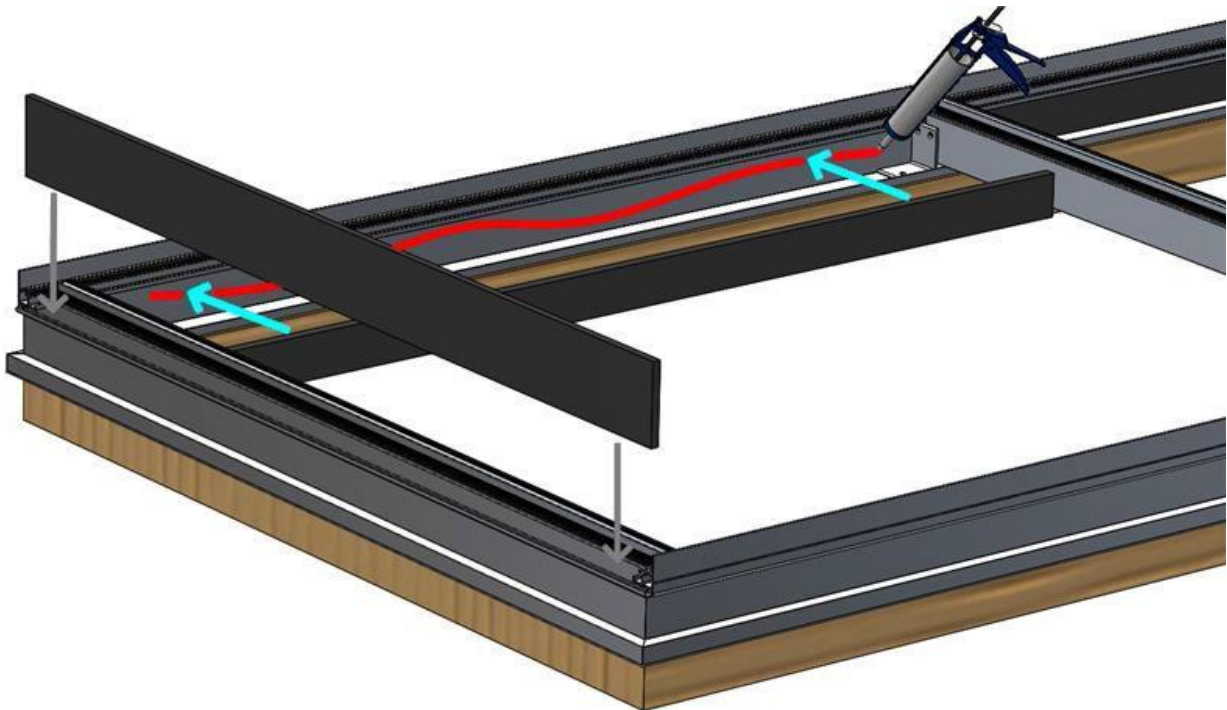
- Adjust or cut the rubber SETTING BLOCKS so that they are just below the exterior plane of the GLAZING.



Note: SETTING BLOCK is 1/16" below the exterior plane of the Glazing.

INSULATION

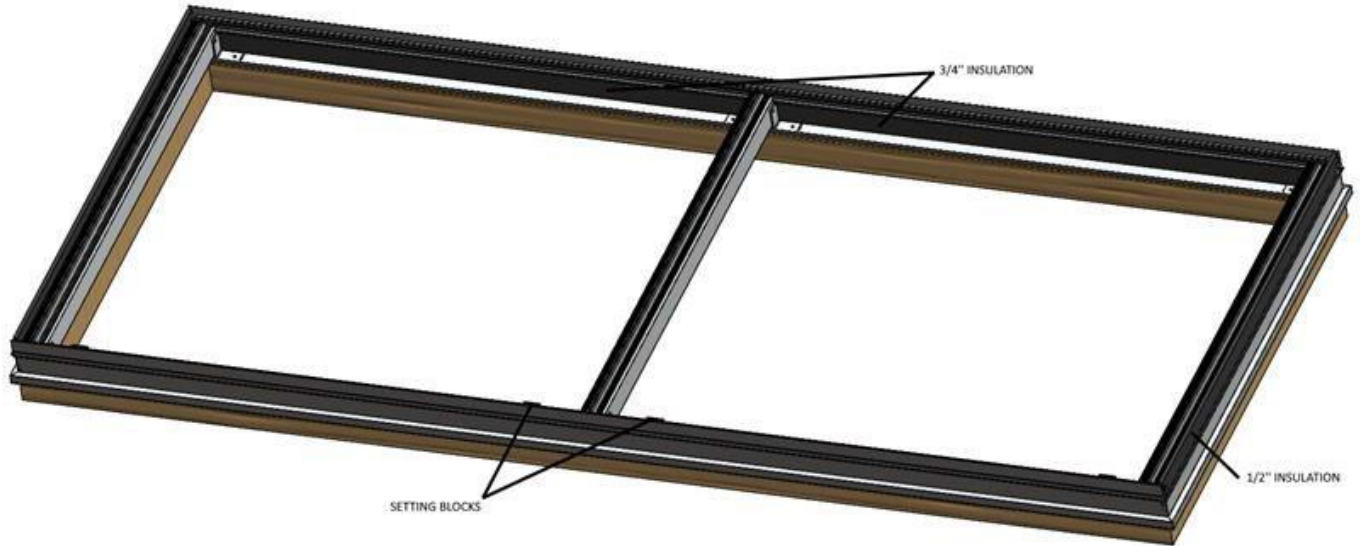
- Install Insulation Foam
- Note: there are two types; plain white EPS foam ½" x 5" for the sides and Faced Poly-Iso ¾" thick insulation for the Head and Sill areas.
- Test fit and cut as needed.
- Use the clear silicone provided to run a 3/16" bead to bed the insulation foam per Submittal Drawing on Head and Sill (pressure fit on sides).
- Take extra care to fully silicone the foam insulation on the sides (rakes)



Install INSULATION on Base

PRO TIP: Make sure your hands are clean when managing the Insulation.

3) REVIEW FRAME to check if it is ready for GLAZING:



Completed FRAME ready for GLAZING.

- Check the LAG BOLTS to make sure there is a clear silicone sealing the screw head to the angle clip and along the BASE.
- Check Carrier End Dams for any gaps and properly seal.
- If there are any splices in Base, Carriers, etc., make sure they are sealed with a frame matching silicone.
- Check for Insulation to be in place.
- Check for squareness.
- Check GASKETS & SETTING BLOCKS are still in place.
- Check that the provided Glazing fits in the openings.
- Check Silicone seals at all splices.
- Review Condensate getters/passageways; use a small bottle to pour water in the condensate gutters to see if water is handled properly.
- Wipe down frame with a clean rag to remove any fingerprints, etc.

4) Set the slope GLAZING.

TYPES of GLAZING

- Insulated Laminated Glass under 100lbs: Usually can be installed by two people, if roof access is reasonable (*For Insulated Laminated Glass over 100lbs, we recommend using a certified DĀLYTE installer or a local glazing professional with proper glass equipment*).
- Polycarbonate Multiwall is lightweight and easier to handle and install (watch for windy conditions).



Edge View of Glazing- note which side goes to exterior.

- Get the GLAZING up to where the skylight is located (for glass use Vacuum Cups).
- Identify the exterior of the glass and place your Vacuum Cups on that side. The exterior is the side with the single tempered lite (Interior is the laminated lite side).
- Identify the bottom edge of the glass and top of the glass. The bottom is where you will find the “tempering & Laminated Seals,” the top edge is where you typically find the Breather Tubes if included.
- If included- Locate the Breather Tubes (also called Capillary Tubes) and seal them now in accordance with the separate manufacturer’s instructions included for this.
- Clean the interior of the glass and remove any labels.

SETTING the GLAZING



Setting Glass (Glazing)

- Place a dab of black DC 791 silicone on the gaskets at each of the four corners to seal the gasket joints.
- Arrange the glass so that the glass bottom edge is down. Carefully and slowly lift the glass while moving above to its final position on the skylight.
- Next, set the glass: Take the bottom edge and VERY carefully and slowly lower this edge onto the GASKET on the carrier, while pushing slightly again on the SETTING BLOCKS. Take extreme care that the corners do not touch metal. Once the glass is resting on the carrier, start laying the top down while holding your Vacuum Cups, also being cautious not to let the glass touch the metal frame (Be careful not to pinch your fingers under the glass).
- *Note: The above sequence is for insulated/laminated glass. For Polycarbonate Multiwall, the process is similar and easier with two basic rules: First, the interior cell always runs up and down. Second, the panels have a protective film with one side including writing that indicates the side with the UV coating that must go on the exterior of the skylight.*

PRO TIPS:

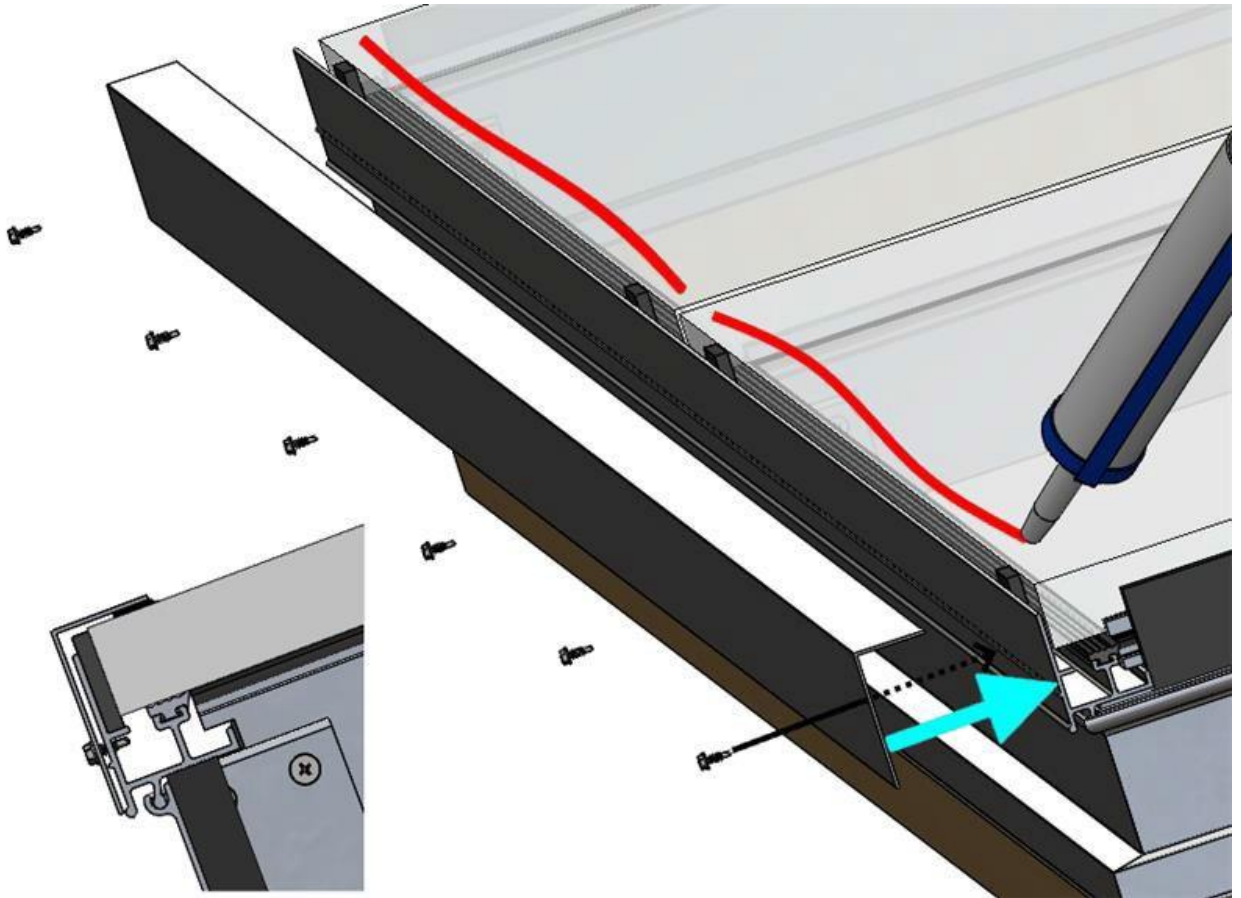
- Clean the interior of the glass very well because it is hard to reach later.
- You can add more setting blocks to adjust the position of the glass so that it is centered in the opening.
- Take extreme caution to protect the glass edges, as they are the most susceptible to damage.
- Temporarily install the PRESSURE BARS to hold the newly set glass and protect against wind gusts, etc.

5) COMPLETE RETAINER and FLASHING

Note: RETAINER & FLASHING SEQUENCE: Generally, you install from the bottom to the top (like roof shingles).

SILL RETAINER

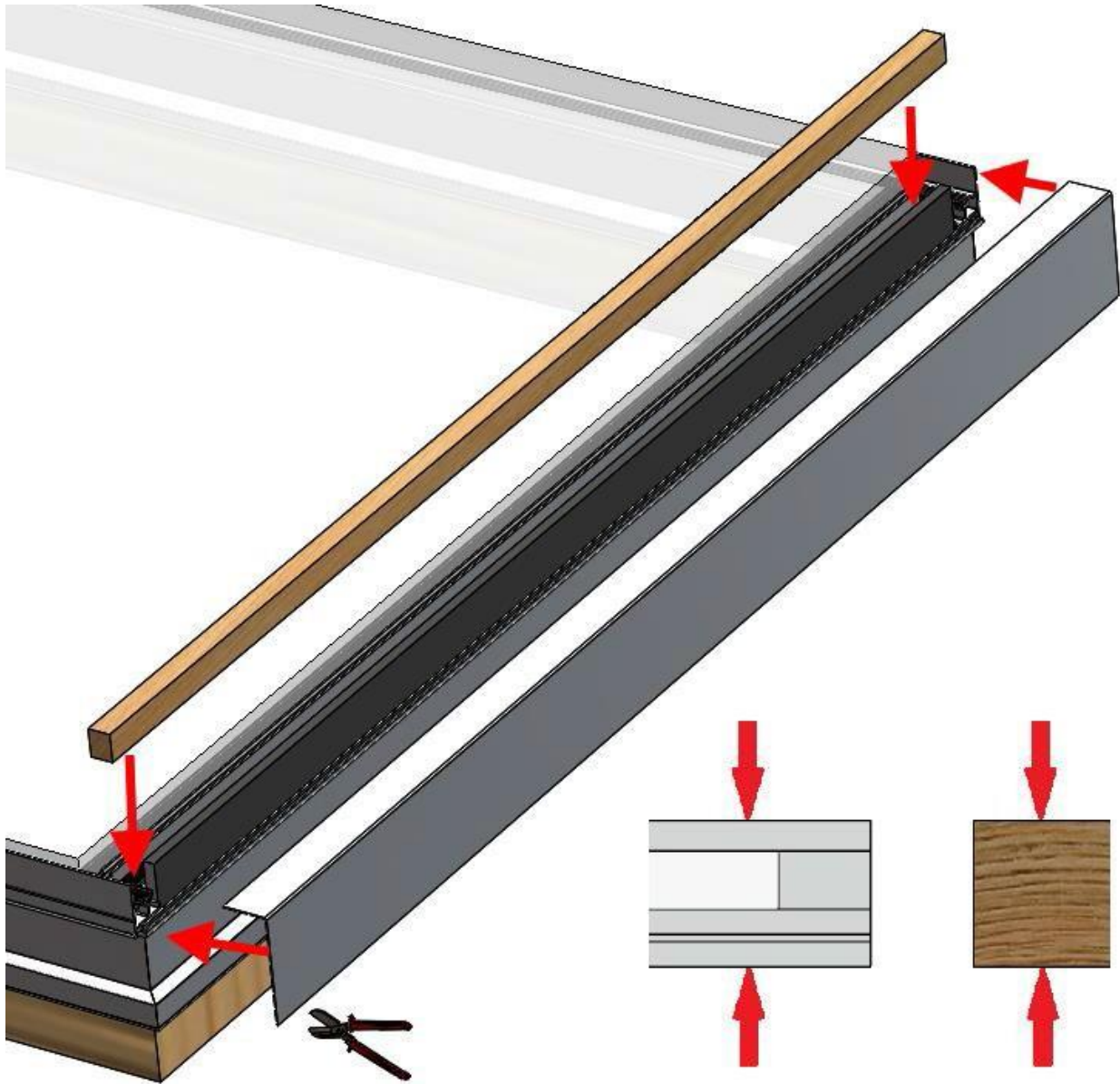
- SILL RETAINER: Dry-fit the RETAINER and trim as needed and clean glass. Add a bead of Black Silicone on the lower top edge where the flashing will sit. Once it is in the correct position, press firmly with your hands to ensure a good seal.
- Temp in place with tape if needed.
- Use the #8 x 1/2" TEKS screw to attach the RETAINER to the CARRIER at centerline of RAFTER.
Note: do NOT over tighten these screws as it might deform the aluminum causing it to pull away from the glass, breaking the silicone seal on top.



Install Sill RETAINER with black silicone and fasten.

SPACERS

- Install WOOD SPACER on the ends checking the thickness matches your glazing thickness.



WOOD SPACER thickness to match Glazing thickness.

- Install Side FLASHING; dry-fit and trim as needed, apply silicone bead between the glass and Flashing – see submittal drawings.

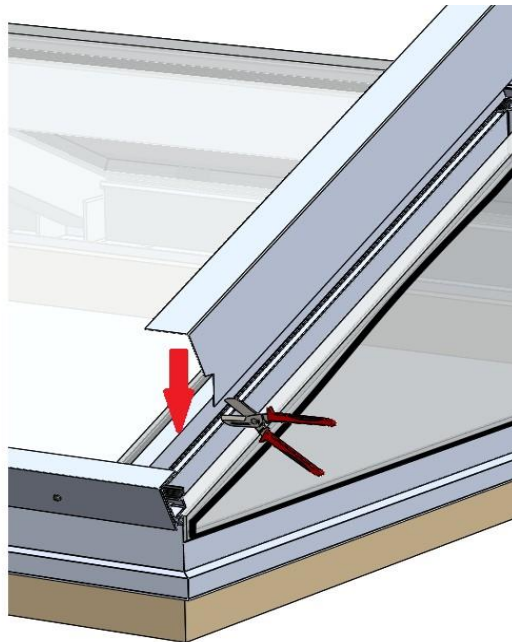
ALTERNATE GLASS GABLE

- GABLE- prepare for glazing and set Glazing.
- Place glass SETTING BLOCKS in U-Channel at gable sill.
- Apply 1/8" thick foam tape to outside end of END RAFTER 1/2" up from bottom sloped edge and also, apply 1/8" foam tape to bottom track- see drawing.
- Set GABLE GLAZING into sill U-Channel, centering as needed.
- Temporarily tape in place.



Set Glass

GABLE FLASHING



Trim as needed.

PRESSURE BARS

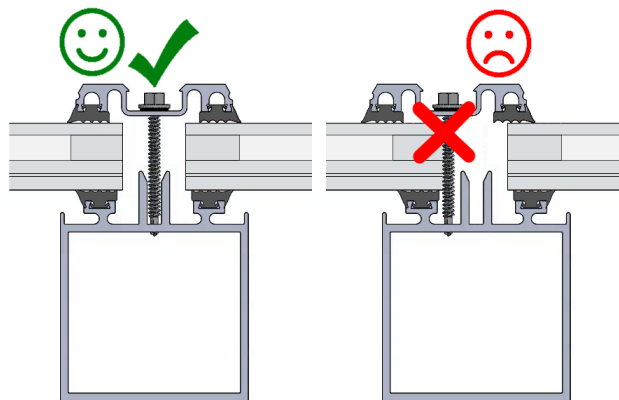


Install PRESSURE BARS

- Permanently Install PRESSURE BARS (PB) using Hex head Glazier screws w/sealing washers #14 x 1 3/4" long (for 1" to 1 1/16" glass).
- Tighten Glazier screws snug.

PRO TIP

- Use caution when placing the Glazier screws through the PRESSURE BAR into the "screw-boss," as you can accidentally put the screw on the outside of the screw-boss and catch an inside edge of the glass causing breakage. Sometimes it is best to install the upper-most screw, then the lower-most to help align the rest of the screws.

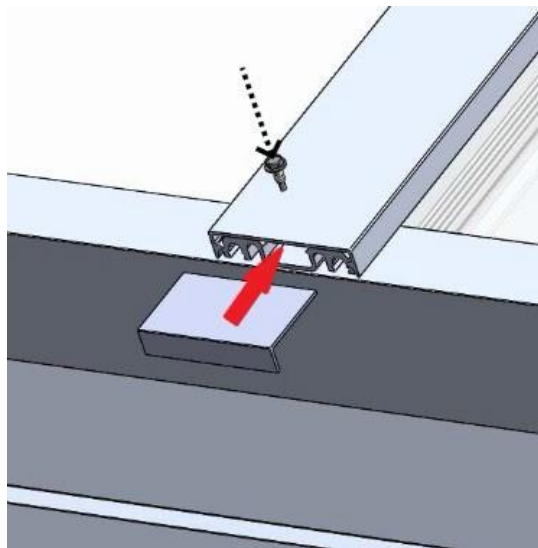


BEAUTY CAPS & END CAPS

- Install BEAUTY CAPS.
- Place a 12" long 2x4 scrap wood that is smooth against the BEAUTY CAP and use a 16oz rubber mallet to gently tap the wood on the BEAUTY CAP onto the PRESSURE BARS until it snaps in place.



Use a smooth 12" block of wood and a mallet to lightly tap BEAUTY CAPS into place meeting at apex.



Install END CAPS

- Pump silicone into the cavity to stop water infiltration and install END CAPS by sliding between Pressure Bar and Beauty Cap, then fasten by using a #6 x 1" PHP TEKS to screw together at the BC centerline 1/2" from bottom.

6) FINAL STEPS

- a. Clean if needed– see cleaning & care instructions.
- b. Check for any loose parts.
- c. Final Silicone



Always “Tool” silicone joints for proper adhesion and sealing.

- FINAL SILICONE SEAL – Note: All silicone caulk used to seal joints must be “tooled” with tooling spatulas to ensure proper adhesion. Use painter tape for neatness.
 - SILL- Silicone caulk from on top of the retainer up against the gasket up approx. 6” to seal the gap where the gasket goes from on top of retainer to glass.
 - HEAD- Similar to Sill area.
 - SIDE FLASHING- Silicone Flashing
 - Note: For extreme weather, hard to access areas or any skylight less 2:12 pitch, it is recommended that the entire skylight be “wet-sealed”. This means that in addition to the above steps, every other joint must be caulked and tooled with a small bead of silicone (100% silicone caulked).
 - Visually inspect skylight and caulking for gaps and apply silicone as needed.

You are done- Stand back, admire your work, take photos and share!

