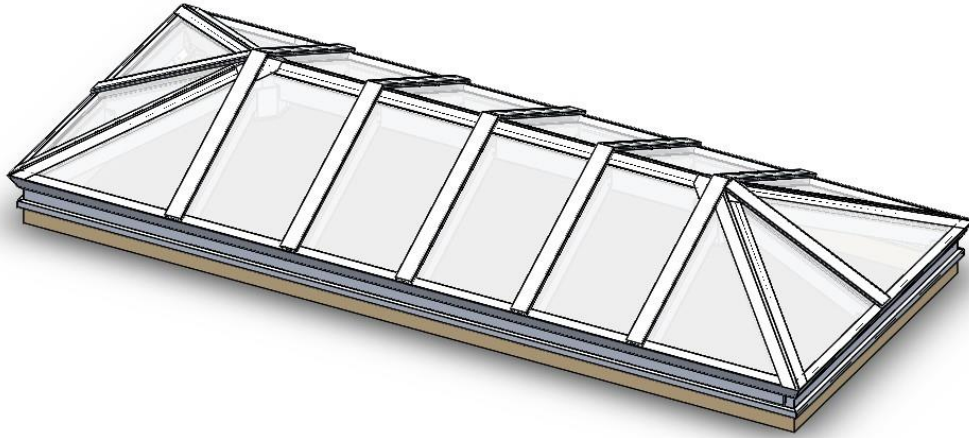




HIPPED RIDGE/PYRAMID Structural Skylight Installation Manual Rev 05-28-24





INTRODUCTION

Thank you for purchasing a DĀLYTE 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 DĀLYTE'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 DĀLYTE at (800) 748.2036 or info@dalyteusa.com

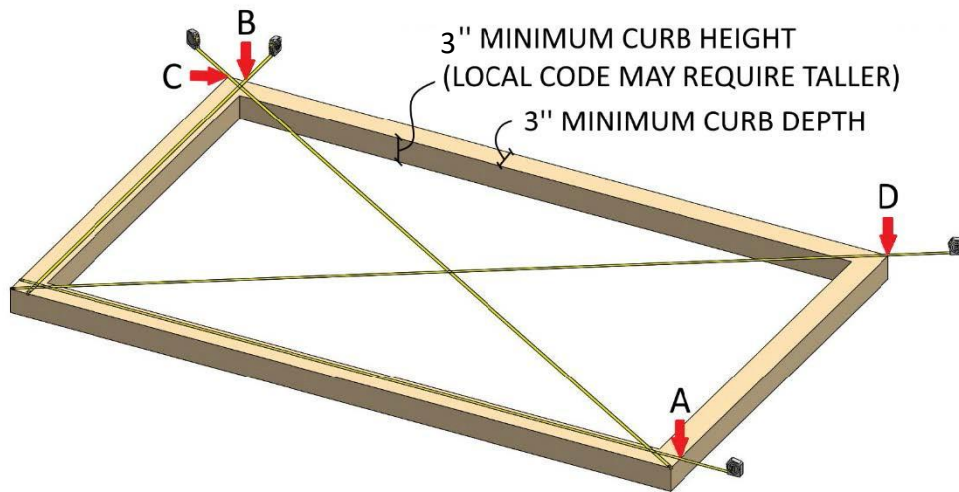
BEFORE YOU START

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 very 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.



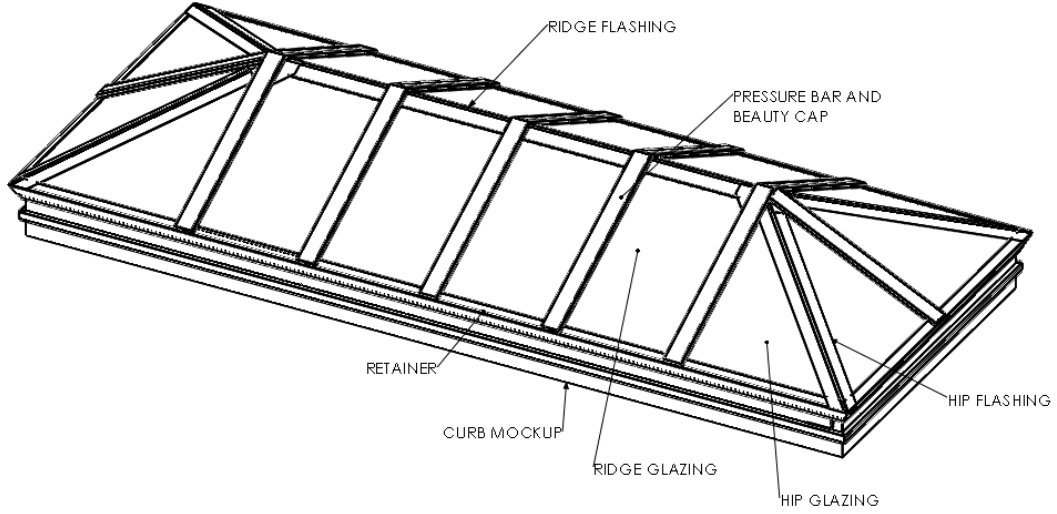
Check Dimensions and Squareness.



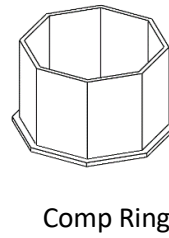
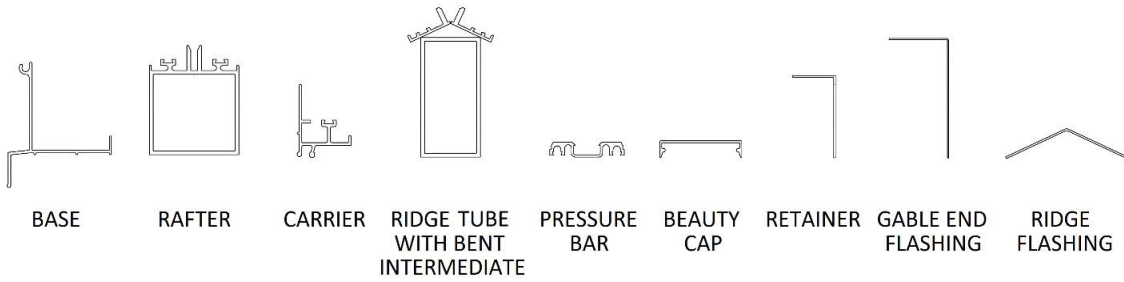
STANDARD INSTALLATION TOOLS AND MATERIALS NEEDED:

- 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

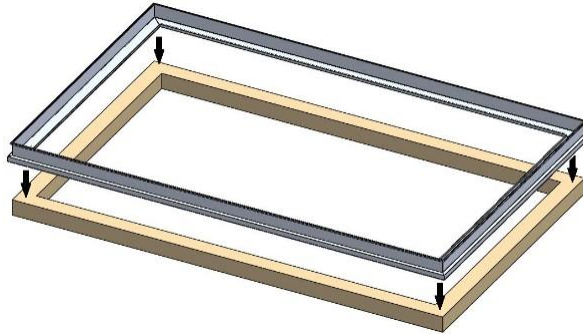


Part Names



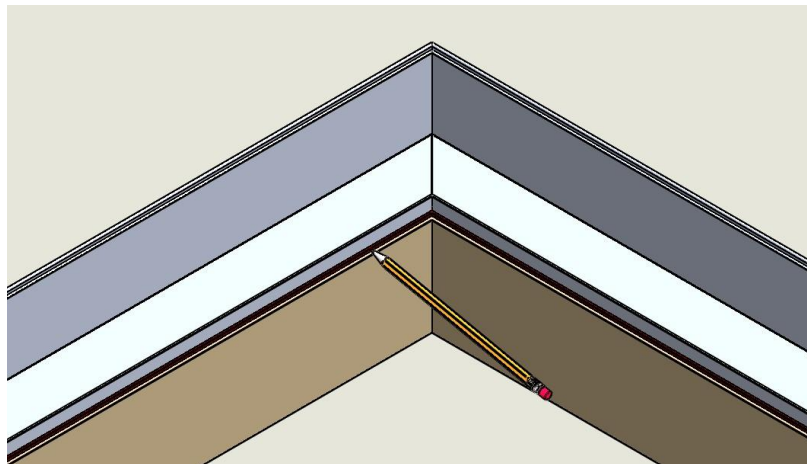
1) FRAME Assembly and Installation

- Unpack and familiarize yourself with the Skylight parts, Packing List and Submittal Shop 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.



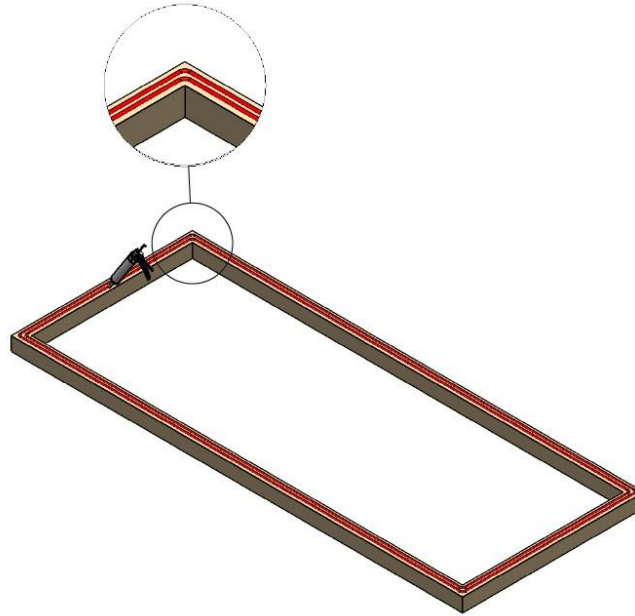
Dry-fit the BASE
(it should overhang ½" all-around)

- 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 ¼" diameter. The first bead should be placed ½" under the BASE from the marked reference point inside the edge of the BASE. The second bead should be placed ½" from the exterior edge of the curb.



BEADS ¼" Clear Silicone.

Apply two

- 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.
- Make sure the BASE is square.

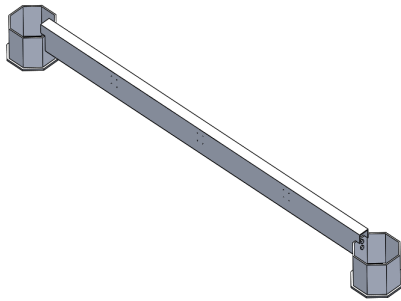


Install the BASE on the curb with two beads of Clear Silicone & temporary screws.

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.
- Keep in mind that although the BASE may not be fastened at this time, it is important to monitor it for squareness.

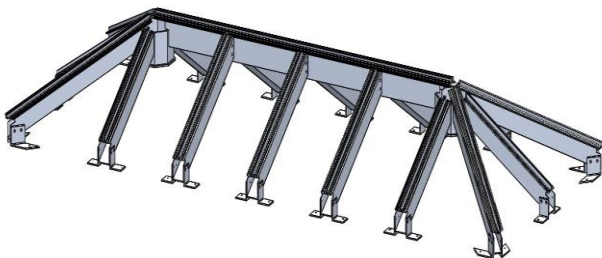
- COMPRESSION RING & RIDGE TUBE/RAFTER Assembly
 - Locate, bolt together, note: sides are numbered with the corresponding rafters (interior faces of Compression Ring are numbered)
 - These bolts with washers are torqued to 20 ft-lbs.



COMPRESSION RING & RIDGE TUBE Assembly for Hipped Ridge

COMPRESSION RING & RAFTER Assembly for Pyramid

- ADD RAFTERS & HIPS to COMPRESSION RING & RIDGE TUBE Assembly
(Note: This assembly is often called a “spider”)
 - RAFTERS & HIP RAFTERS that go into Compression Ring
 - Locate, bolt together, note: sides are numbered with the corresponding rafters (interior faces of Compression Ring are numbered)
 - These bolts with washers are torqued to 20 ft-lbs.
 - RAFTERS that go into Ridge Tube
 - Slide the MID RAFTERS over the “U” shaped clip at the RIDGE TUBE. (Note: RIDGE TUBE has “U” shaped clips pre-installed. Next, push/seal the RAFTER firmly into the RIDGE TUBE (no gaps) as you drill a 3/16” tap hole, while aligning the top gasket track plane. Following, you will screw in a #12 x 1/2” FHP screw. This step will need to be done four times for each RAFTER. Tighten to 10 ft-lbs.

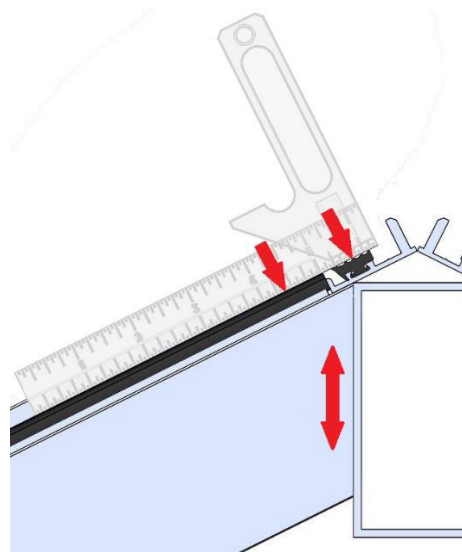


RAFTERS & HIPS to COMPRESSION RING & RIDGE TUBE Assembly (AKA Spider) for Structural Hipped Ridge.

RAFTERS & HIPS to COMPRESSION RING Assembly (AKA Spider) for Structural Pyramid.

FROM HERE ON OUT THE INSTRUCTIONS ARE IDENTICAL FOR THE PYRAMID AND HIPPED RIDGE (DISREGARD RIDGE TUBE STEPS FOR PYRAMID INSTALLATION).

Note: When drilling and fastening the RAFTERS to the RIDGE TUBE, it is important that the tops of the gaskets/tracks are aligned in order to be in the same “plane” and that there is not a gap at the RIDGE TUBE.

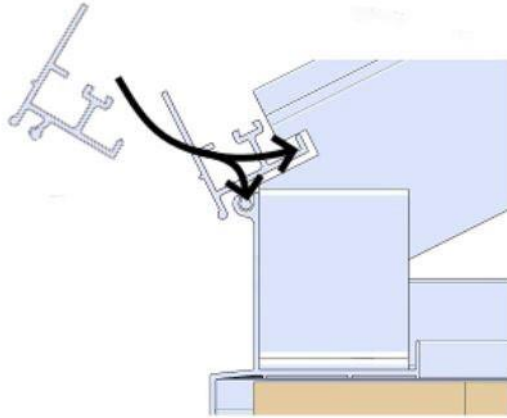


Align tops of gasket or tracks when drilling and fastening RAFTER to clips on RIDGE TUBE.

- Once the END RAFTERS have been assembled, a similar process will be followed with the remaining middle RAFTERS (these have two “L” clips at the base).

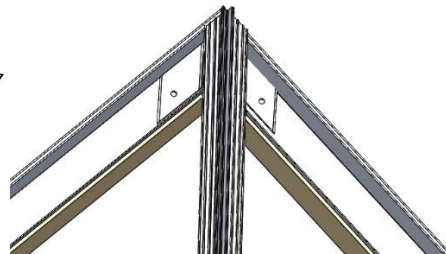
PRO TIP: The RIDGE TUBE / RAFTER assembly is often called a “spider.” On larger skylights, it must be built over the opening, while on smaller skylights, it can be built next to the opening and carefully carried into place, setting it on top of the BASE.

- Prior to fastening the RAFTERS to the BASE, place the CARRIER on the lower end of the RAFTERS in the slot provided (Note: These often need to be twisted and prodded together due to a tight fit).



Make sure the CARRIER lower “tongue” inserts properly into the “groove” on the BASE.

- FASTEN RAFTERS through BASE into curb with LAG BOLTS.

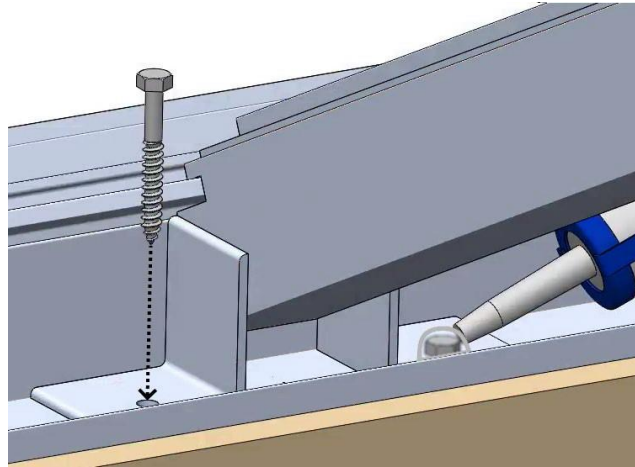


Place CARRIER into slot before lagging RAFTERS down.

Hip Rafter

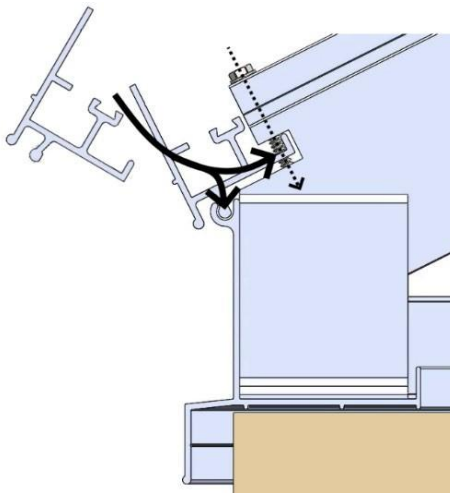
- 1st - Check your glazing dimensions for proper fit before fastening the Rafters.
- 2nd - For a wood curb, using 3/8” x 3” Lag Bolts are typical. Once the proper location has been determined, drill a 1/4” “tap” hole and inject two pumps of the provided clear silicone into the hole and then screw in LAG BOLTS snugly (Installer provided).
- 3rd - Place clear silicone on the heads to seal the LAG BOLTS.

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.

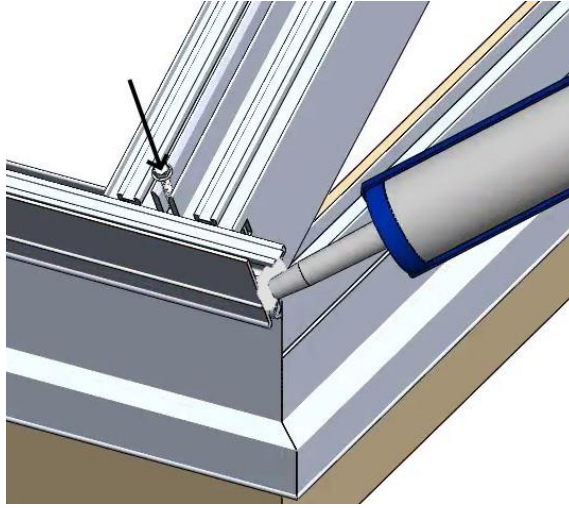


Anchor RAFTER Clips and silicone seal the heads.

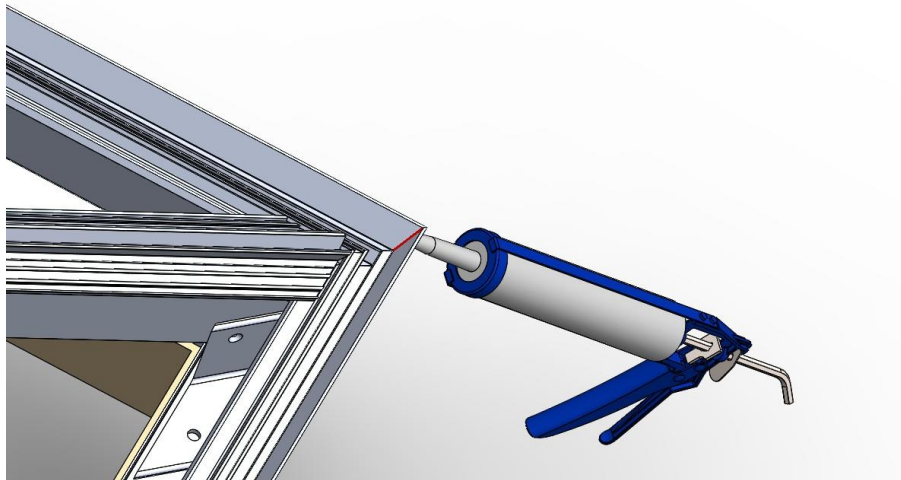
- After Rafters are lagged into place, fasten CARRIER to the centerline of the RAFTER with a #10 x 1 ½" PHP screw (one at each rafter).
- Create the END DAMS at Corners of the CARRIERS to control water with Clear Silicone pump/form and tool an "end dam" on the ends of the CARRIERS (this ensures that water will be properly wept to the exterior if it gets into the CARRIER).



Double check lower tongue is in groove and fasten Carrier through screw boss.



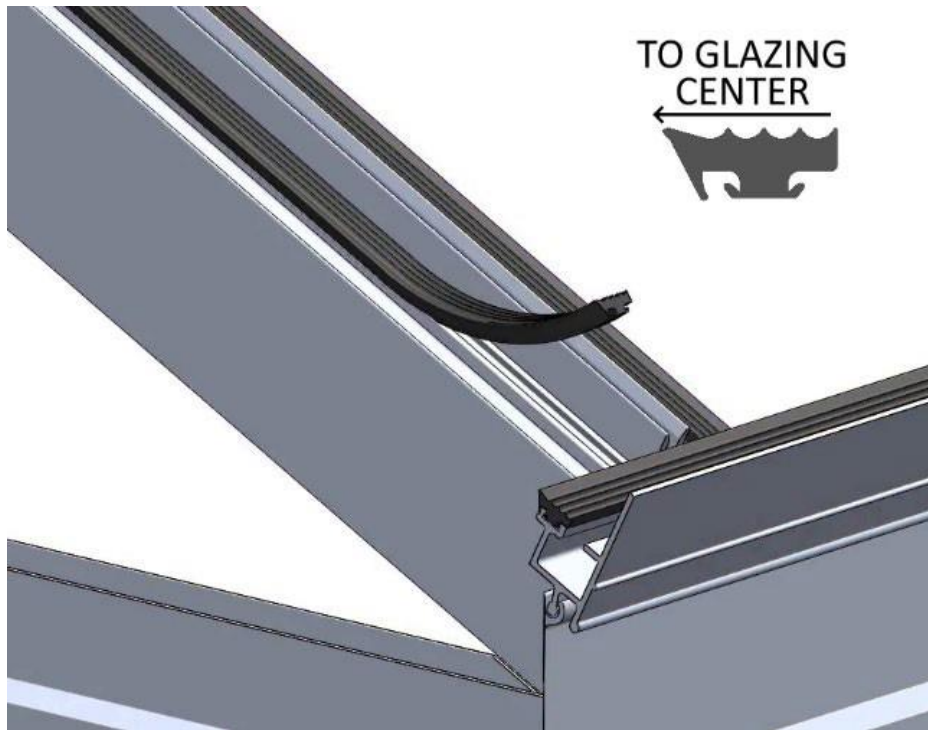
Dam on interior, then caulk exterior.



Silicone any splices on the interior and silicone caulk corners of each carrier.

2) Prepare installed FRAME for GLAZING (Glass or Polycarbonate Multiwall)

- 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.

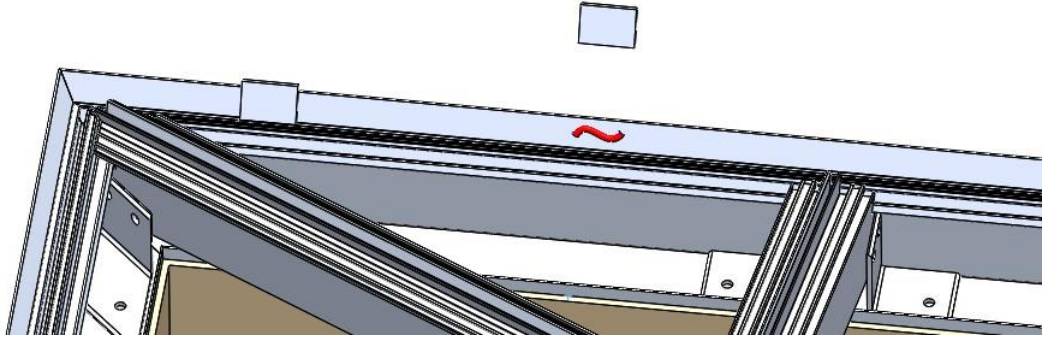


Install GASKETS on Rafters, Pressure Bars, Carrier, and Ridge.

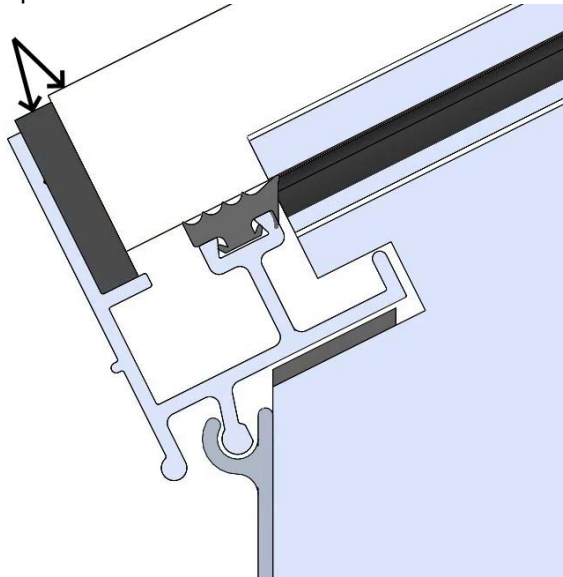
PRO TIPS:

- 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).

- 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 CARRIER, then place the 1/4" thick SETTING BLOCK on it (*lower edge of GLAZING will rest on these*).

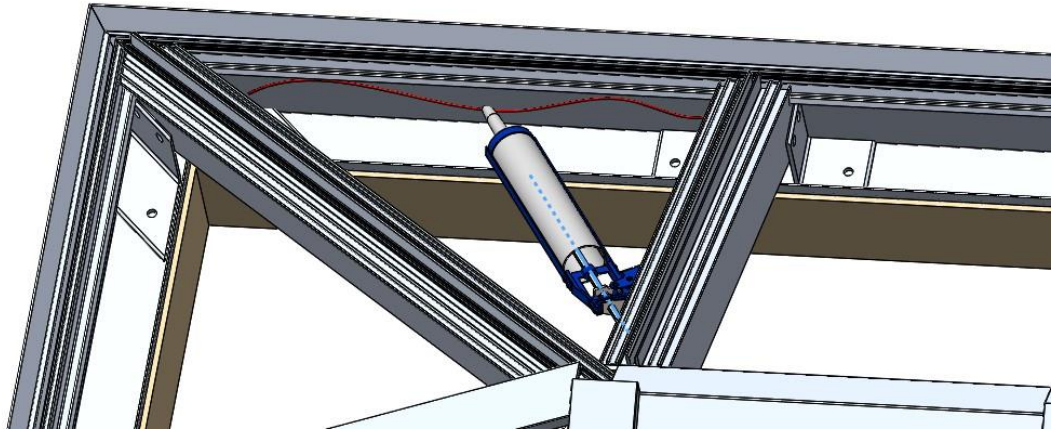


- Adjust or cut the rubber SETTING BLOCKS so that they are just below the exterior plane of the GLAZING.



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

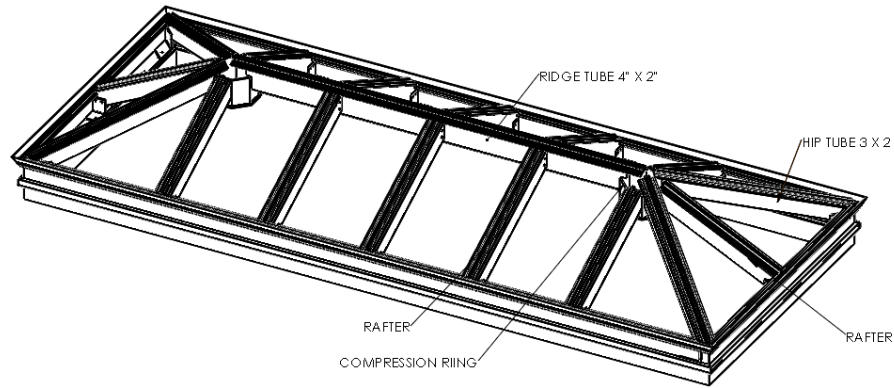
- Install Insulation Foam
 - Test fit and cut as needed.
 - Use the clear silicone provided to run a 3/16" bead to bed the insulation foam per Submittal Drawing.



Install INSULATION on Base

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

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

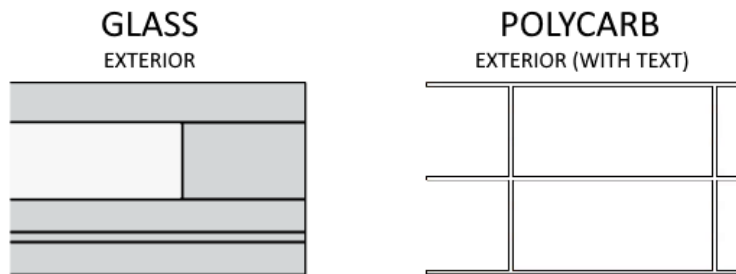


Completed FRAME ready for GLAZING.

- 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 fix if needed. Remove
- Check for Caulked Base & Carrier splices, Carrier corners, etc.
- Check tightness of bolts at compression ring
- 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 seal 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. on all interior components.

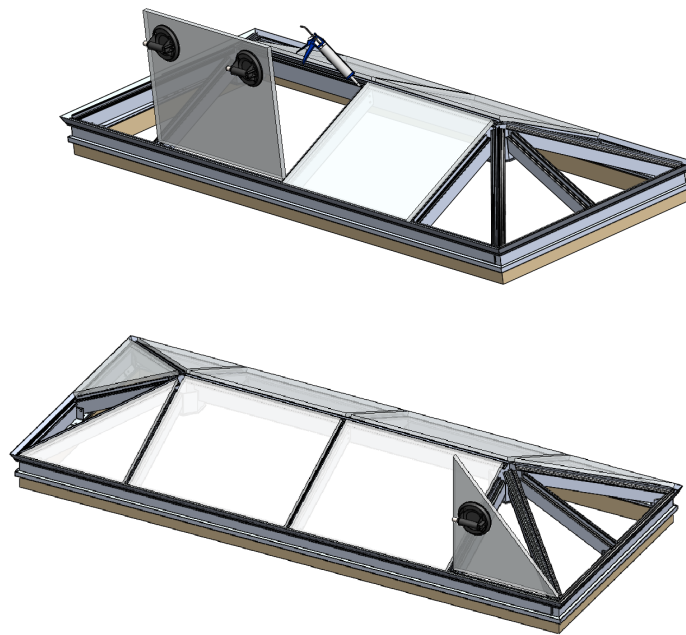
4) Set the slope GLAZING.

- 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).



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 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 run 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.*

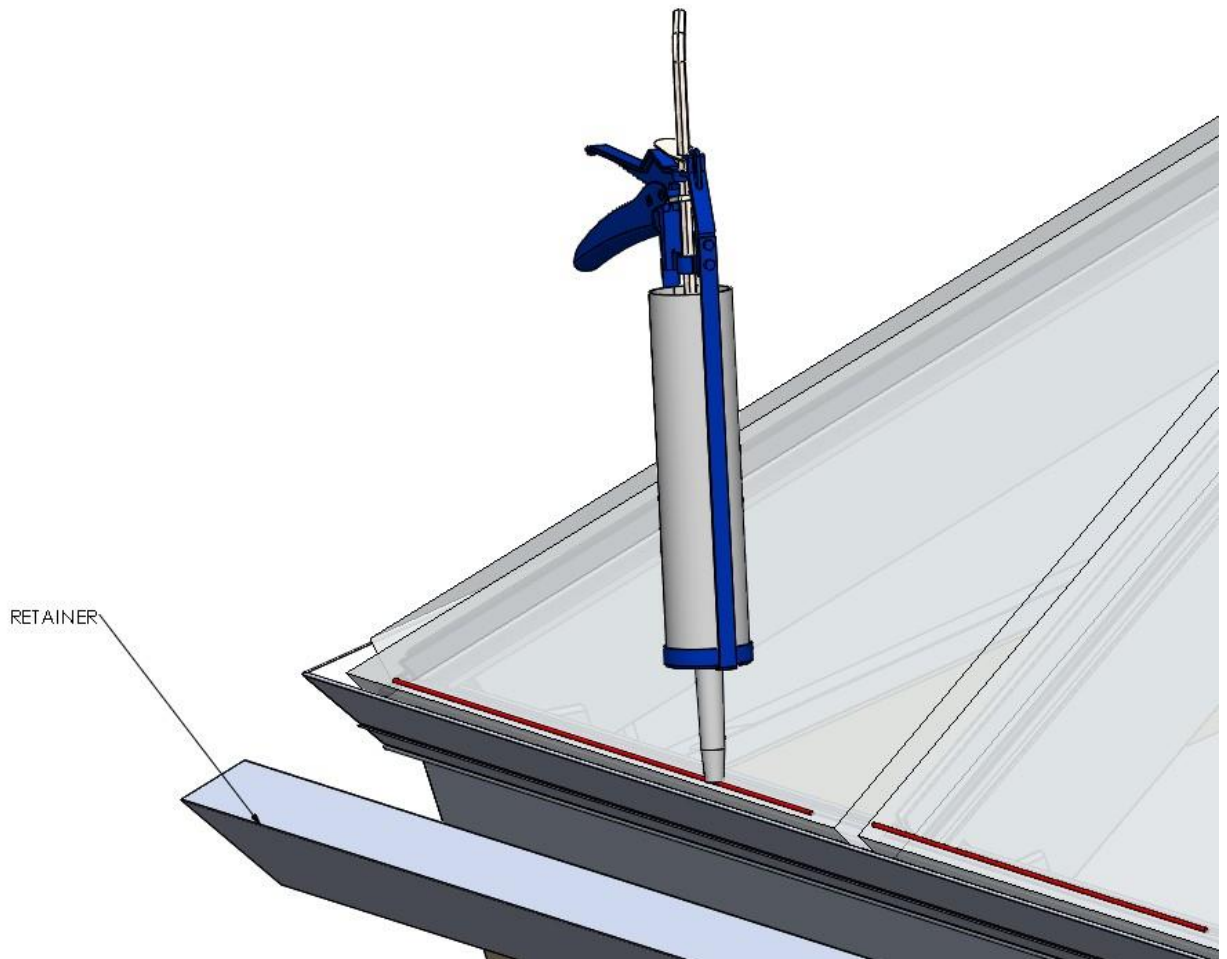
PRO TIPS:

- 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.

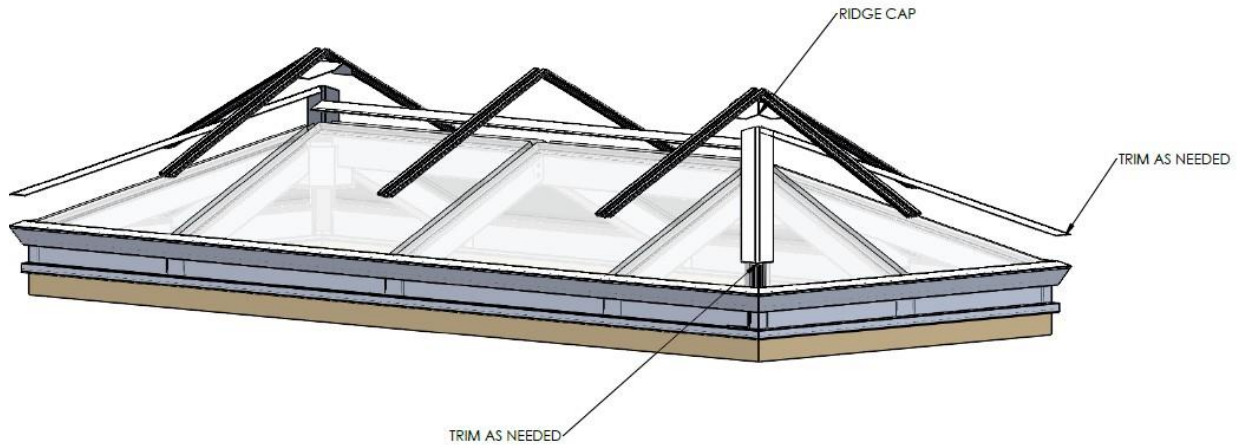
- 5) **COMPLETE RETAINER and FLASHING:** RETAINER & FLASHING SEQUENCE: Generally, you install from the bottom to the top (like roof shingles).

SILL RETAINER: Dry-fit the RETAINER and trim as needed and clean glass. Use blue tape

- (preferably to eliminate silicone bleed on the glass/polycarb panels) or add a bead of 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 ½" 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.

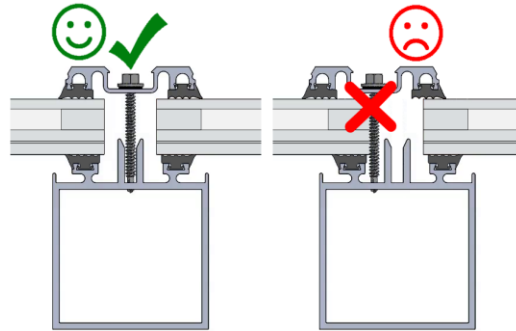


RIDGE FLASHING and PRESSURE BARS

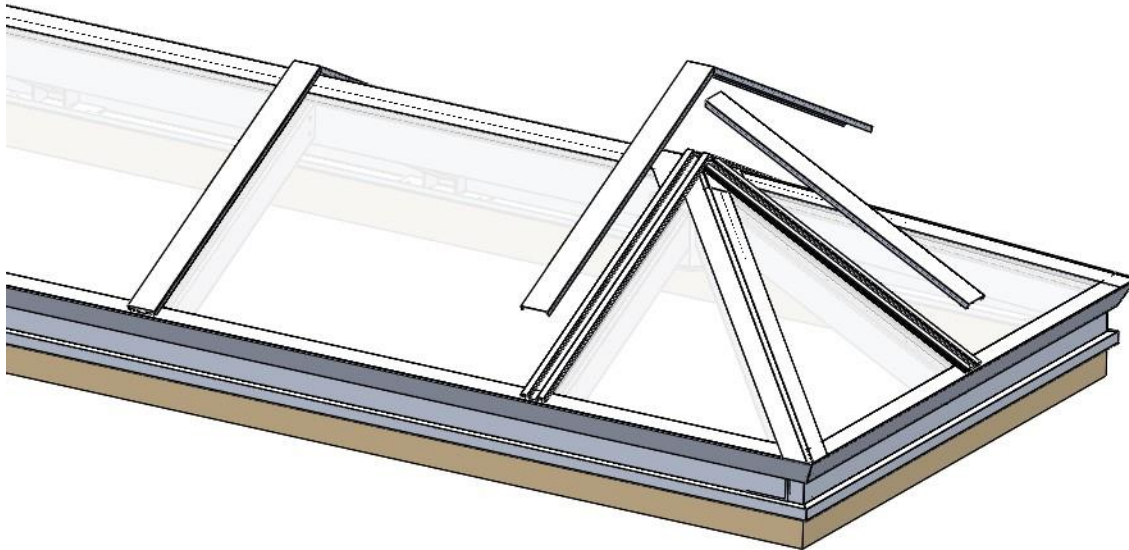
- Install HIP FLASHING; dry-fit and trim as needed, apply silicone bead between the glass and Flashing (note- there will be splices if longer than 120". So, install the lower flashing first then the upper so that water sheds and silicone seal).
- Install RIDGE FLASHING; dry-fit and trim as needed, apply silicone bead between the glass and Flashing (any joints are placed at the center lines of the RAFTERS and silicone sealed).
- 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

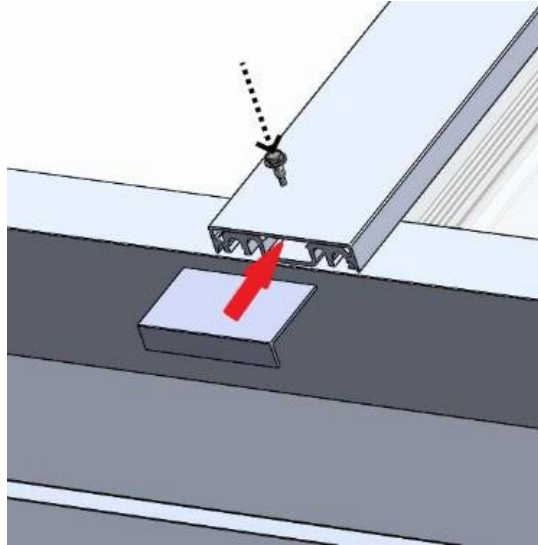
- Use caution when placing the Glazier screws through the PRESSURE BAR into the “screw-boss,” as you can accidentally put the screw on the outside of the screw-boss and catch an inside edge of the glass causing breakage. Sometimes it is best to install the upper-most screw, then the lower-most to help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



- 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 12” long 2x4 scrap wood that is smooth and a mallet to lightly tap BEAUTY CAPS into place meeting at apex.

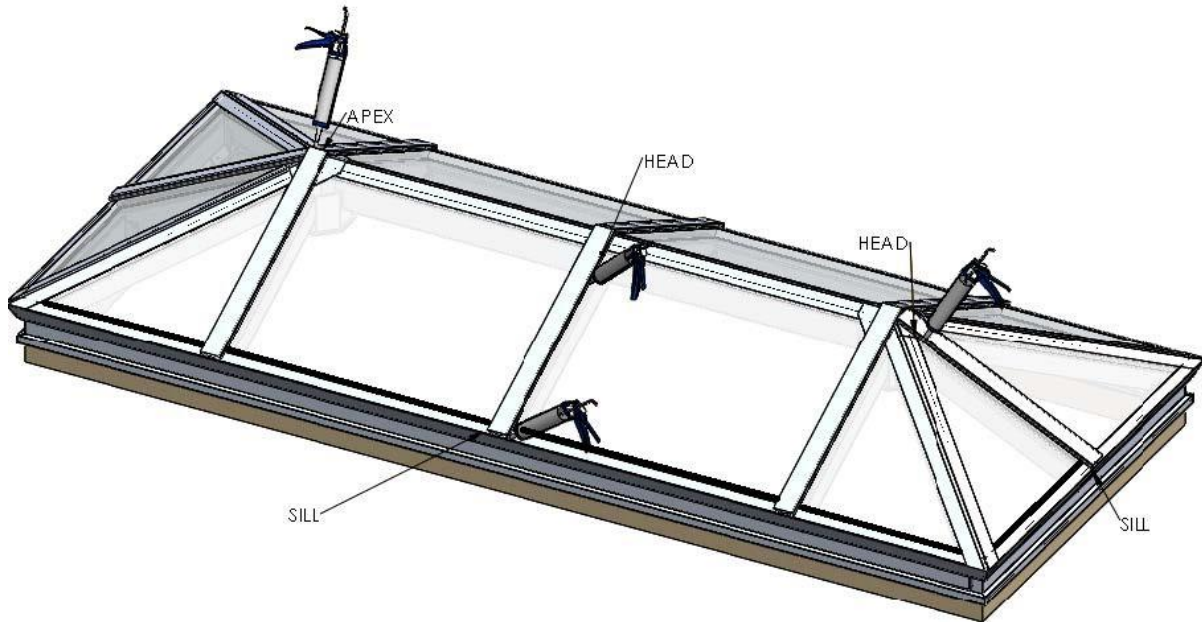
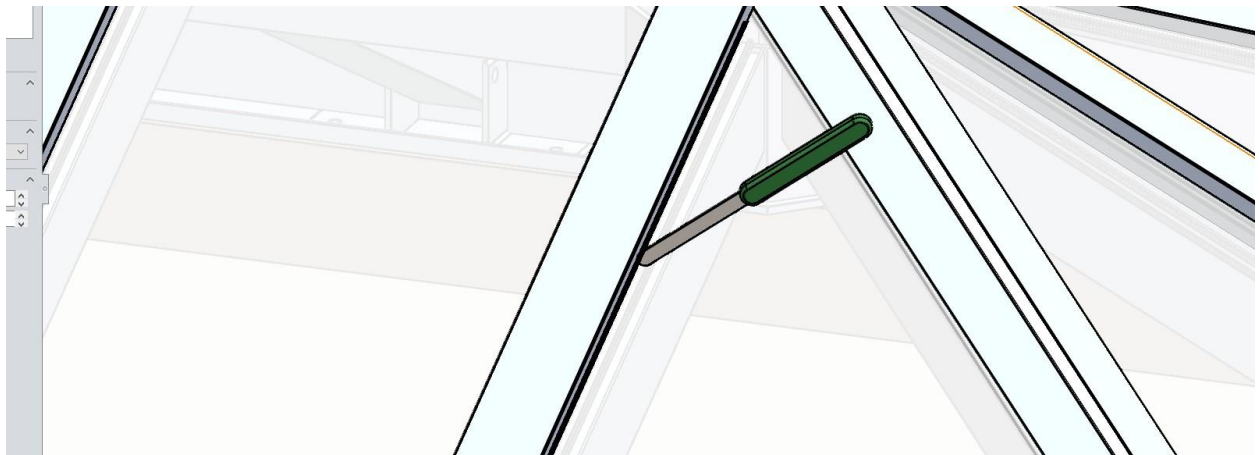


Install END CAPS

- 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

- Clean if needed– see cleaning & care instructions.
- Check for any loose parts.

**Final Silicone**

Always “Tool” silicone joints for proper adhesion.

- 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.
 - APEX - Silicone seal where the two sides of the Beauty Cap meet.
 - HIP ENDS- Silicone Gable End Flashing and Sills.
 - Note: For extreme weather or hard to access areas, 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.
 - Double-check every joint for gaps.

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

