screenhousesunlimited®
do-it-yourself home improvement kits

Insulated Patio Cover | Hard Top Screen Enclosure Roof Installation Guidelines

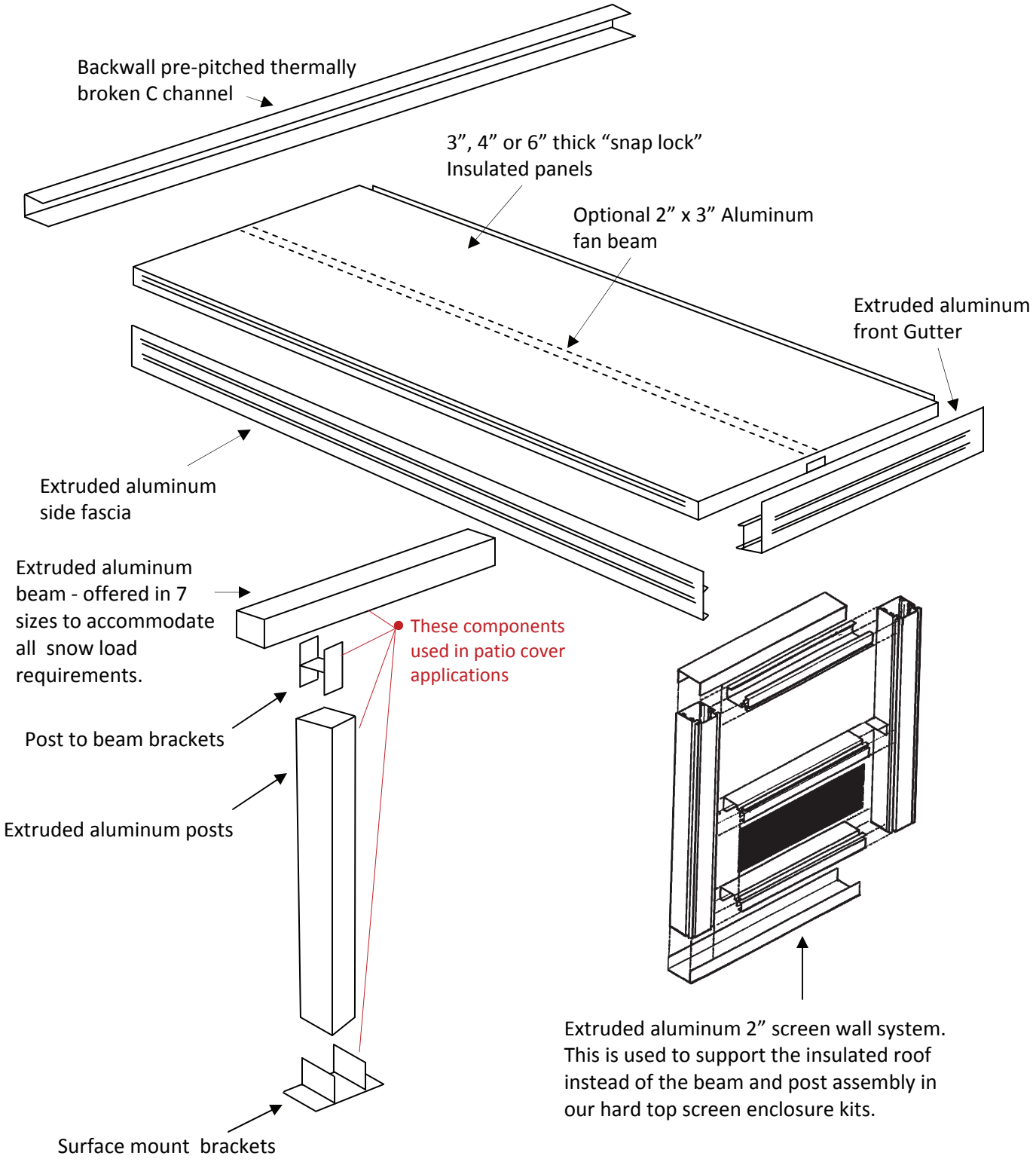
Tools You'll Need

- Carpenter's level
- Chalk line (to mark "U" channel locations)
- Chop saw with a metal cutting blade on it (required to make accurate and precision cuts)
- Cordless drill/nut driver
- Masonry bits for drilling into concrete; masonry fasteners (if necessary)
- Caulking gun
- Metal file (to smooth cut edges)
- Hammer, Screwdrivers, Drill, tape measure
- Box knife
- Gloves
- Safety eye-wear

1.800.922.4760

www.screen-house.com

Insulated patio covers are quoted all panels, beams, extruded fascia for both sides, thermally broken pre-pitched aluminum backwall C channel, front extruded gutter, screws & hardware, lags for panel to beams connection, posts, sealant, touch up paint, tar tape, top & bottom post brackets, and hardware.



Install the Thermally Broken C Channel

(This is the 24' piece of extrusion with two lips and a black bead in the middle of the back running the length of the extrusion.)

Determine the area in which you are going to mount the C channel. Snap a level chalk line along the surface at which the bottom of your channel will be installed.

Cut your C channel to the exact length of the finished size of your unit. That is the total width of all of your panels connected together **minus** the male lock of the last panel which you will trim off to install the side fascia extrusions. Your C channel and the front gutter will be capped on each end by your side fascia extrusion.

If you are installing on your fascia board make sure you are catching rafter ends in order to make a secure installation. If you are installing on your house wall or under the small gutter of your trailer / mobile home, it is suggested you install a ledger board by lagging it to your house wall studs on the inside of the exterior veneer. By doing this you can easily secure the C channel in as many locations as is necessary without worrying about finding house wall studs for each screw.

Prior to securing your C channel we suggest running two beads of caulking on the back surface where it will meet the building or fascia board. We suggest two screws (one above and one below the thermal break) every 12" - 16". If you have room it is advised to run a bead of caulk on the top of the C channel once installed so as to ensure a water-tight seal.

Tip #1: The supplied C channel has two flanges - - one is slightly larger than the other. The smaller flanges is installed at the bottom.

Tip #2: Though it is not "imperative" it is advisable that the C channel be installed with enough room to be able to use the supplied 1/2" hex head Tek screws on both the top and bottom lips in order to firmly hold the roof panels in the C channel at the house wall. If you cannot put the screws through the top lip, be sure to at least use the screws on the bottom lip.

Tip #3: If you are installing the insulated roof system to sit on top of a screen wall system, be sure the bottom of your C channel is flush with the bottom of your ledger board. This will allow the U channels and mainframes on the underside of your roof line to meet the vertical installation of U channels and mainframes without any miter cutting for a small step created by the thickness of your ledger board. (see illustration #4)

Illustration #1

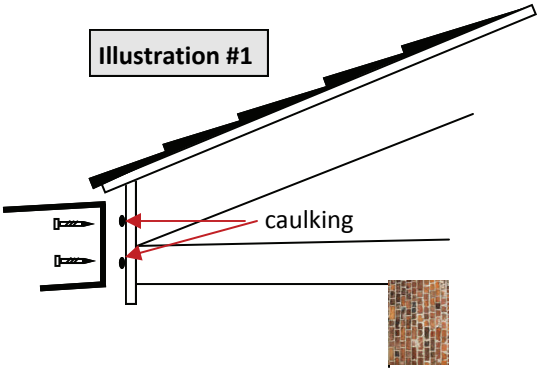


Illustration #2

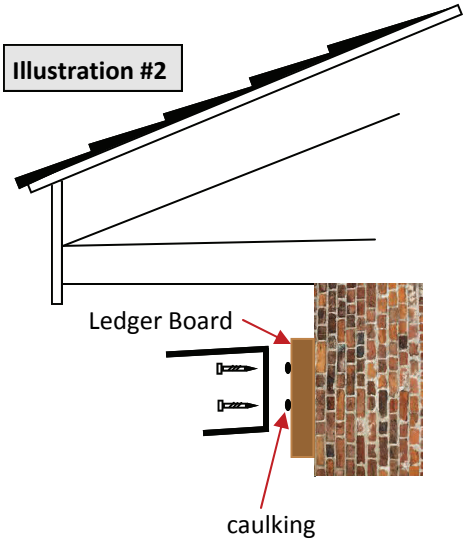


Illustration #3

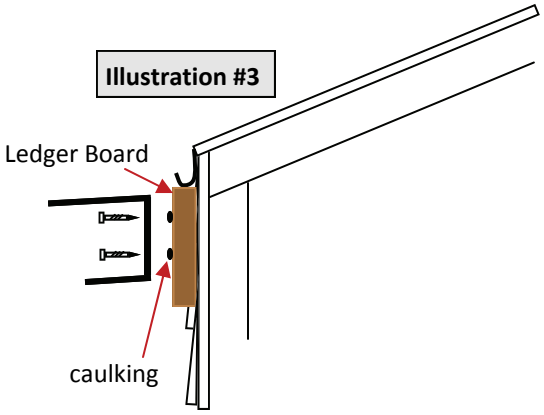
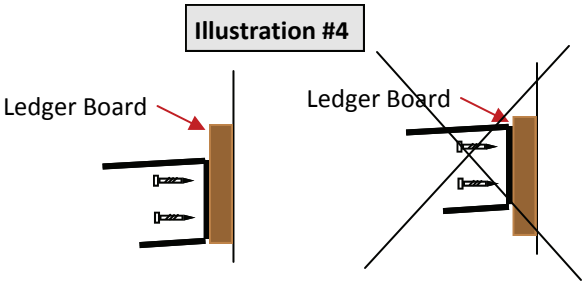


Illustration #4



**You will be responsible for the purchase of the hardware (screws / lag bolts) necessary to secure the C channel to your existing surface.

Note that the C channel is pre-pitched. When figuring out your final post height or the front wall height of your screen room, do the math using a pitch of 1/4" per foot of projection.

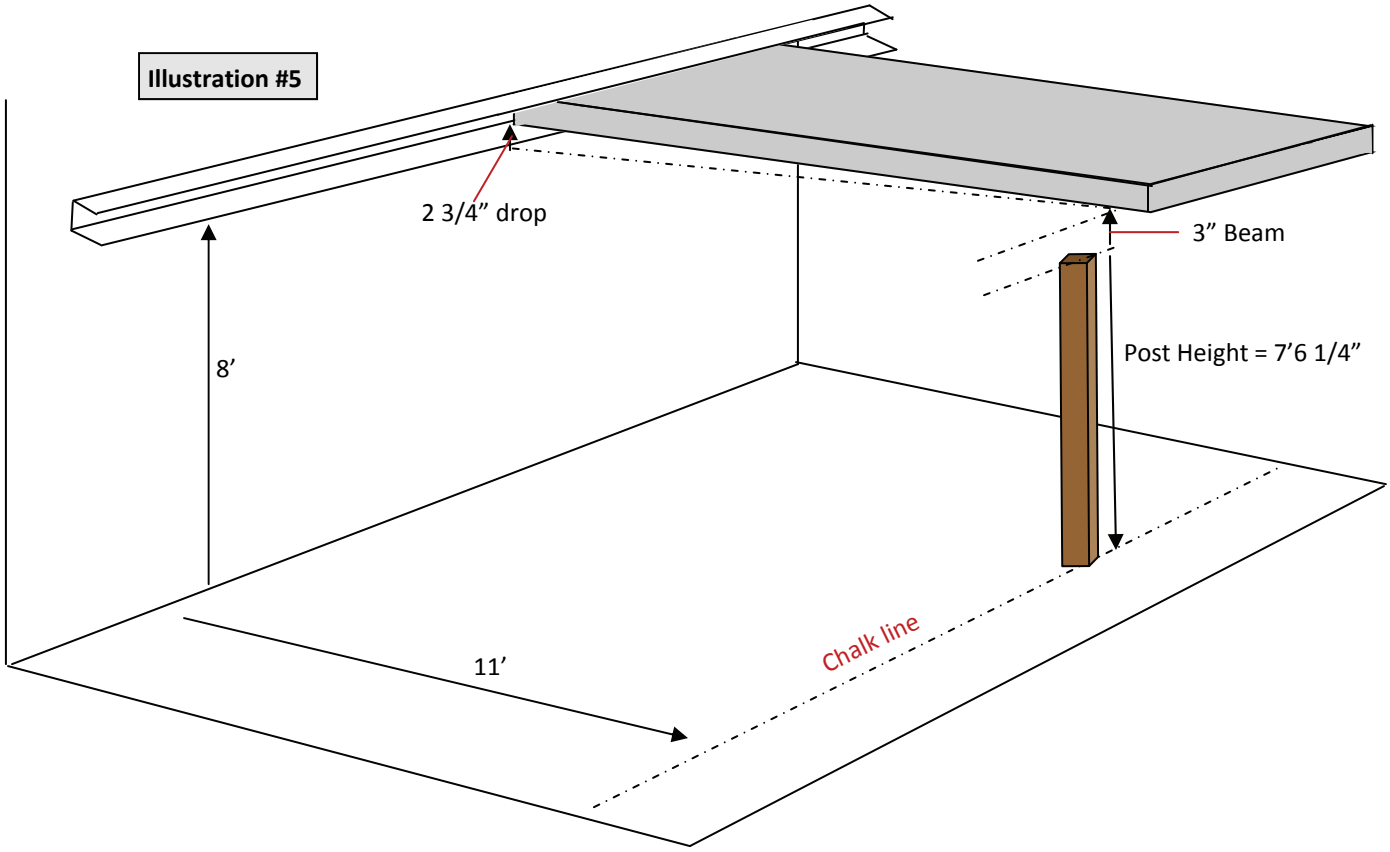
Post Bracket, Post & Beam Installation

You will need to do the math to determine the finished size of your post and beam assembly. The following example is for a 12' long, 3" thick panel supported at the 11' mark by a 3" x 3" set back beam and 8' posts. Your numbers should be adjusted accordingly.

Take the measurement from the deck / patio to the bottom flange of the installed C Channel. For the purpose of this illustration, call it 8 feet. With a pitch of 1/4" per foot of projection, the total height of the post & beam assembly will be 8' minus 2 3/4" (11 x 1/4") = 7' 9 1/4". The beam in this illustration is 3" tall which means the 8' post supplied with the kit would need to be trimmed to a finished height of 7'6 1/4". (See illustration #5)

NOTE: If you are installing a full screen enclosure, your front support is a screen wall. The finished height of you front screen wall will be 8' minus 2 3/4" (11 x 1/4") = 7' 9 1/4". Though not necessary, you could account for the thickness of the two U channels (approx. 1/8" x 2). Therefore the finished height of your front wall would be 7'9". **At this point you would skip to page 7.**

Illustration #5



Once you have determined the finished height of your posts you can get ready to install them. Posts should be plumb. In the case of anchoring your posts to a cement surface we recommend they be at least 4" away from the edge of the slab or expansion joint. The bottom brackets have single holes on the bottom flanges. Line up the holes along your chalk line.

Post spacing is indicated in your quotation or in the specials table on our WEB site.

Attach the bottom brackets with the supplied hardware. (See illustration #6 & #7) For those attaching to a wood deck we suggest using nuts and bolts secured to the underside of your deck boards. Alternatively we suggest going through the deck boards with a large lag screw into the support structure below. If you are cementing your posts into the ground, we suggest you ask for posts long enough where at least 2' of the total height of the post is in the ground. (See illustration #8)

Once the bottom brackets and post are installed, install the supplied beam. The beam size will have been indicated in your quotation. You will have been supplied with a beam and all the beam to post connection hardware. You can see illustrations on the beam to post connections on page 6. (See illustration #9, #10, #11)

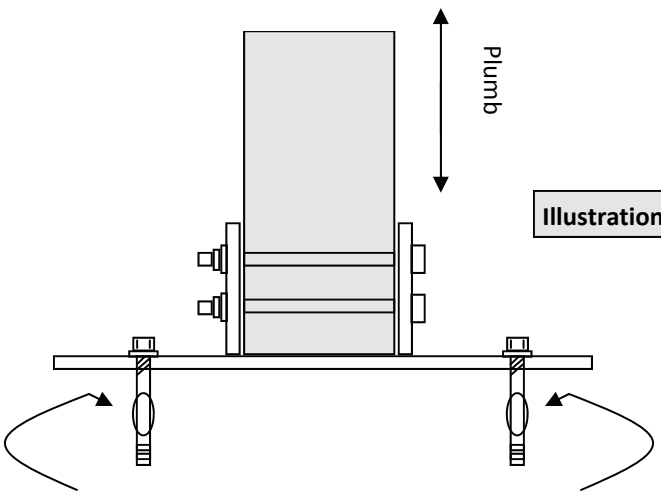
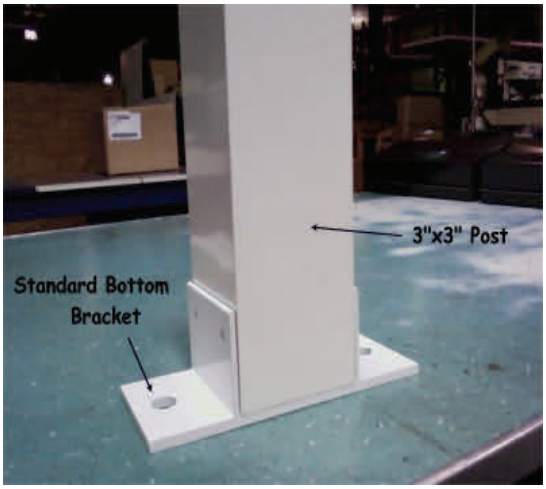
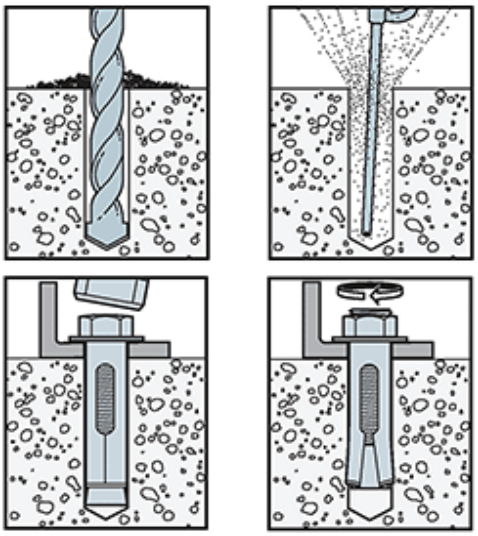


Illustration #6





Drill a hole in the base material using the carbide drill bit supplied. Drill the hole to the specified embedment depth and blow it clean using compressed air.

Alternatively, drill the hole deep enough to accommodate embedment depth and dust from drilling.

Place the anchor in the fixture and drive into the hole until the washer and nut are tight against fixture.

Illustration #7

Anchoring your posts in the ground

Using a Sonotube to capture the cement you pour can lead to a cleaner installation

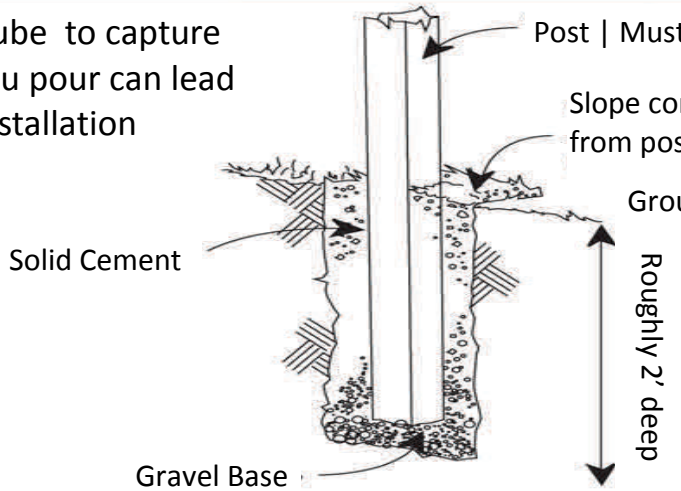
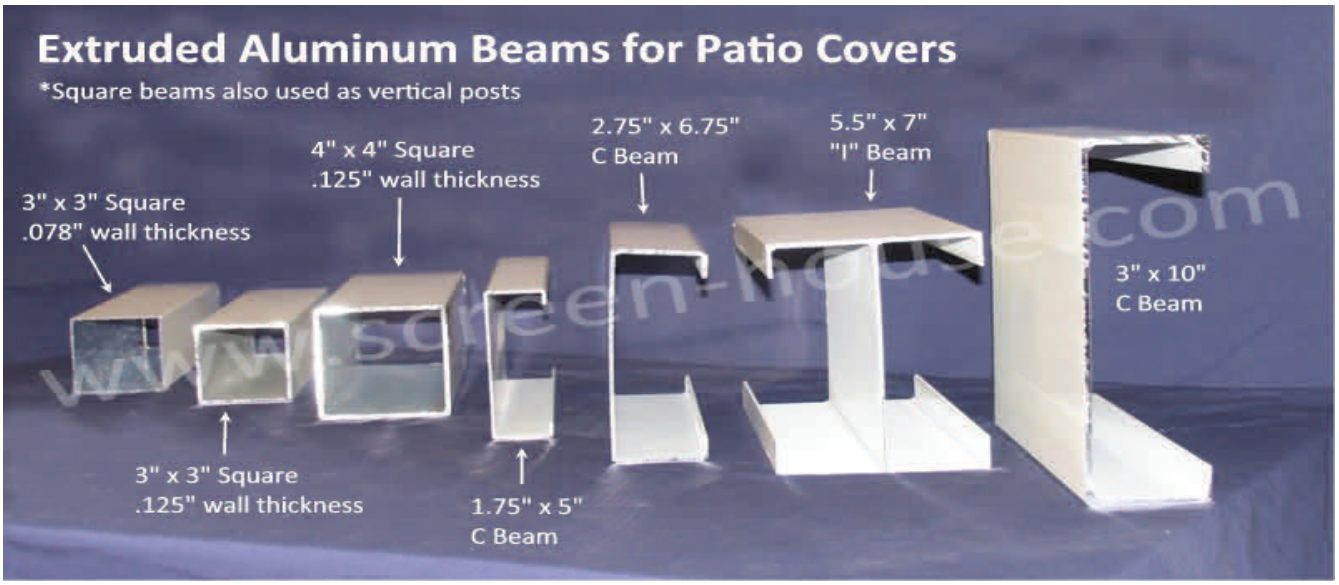


Illustration #8



3" x 3" & 4" x 4" Post to Square Beam Connection

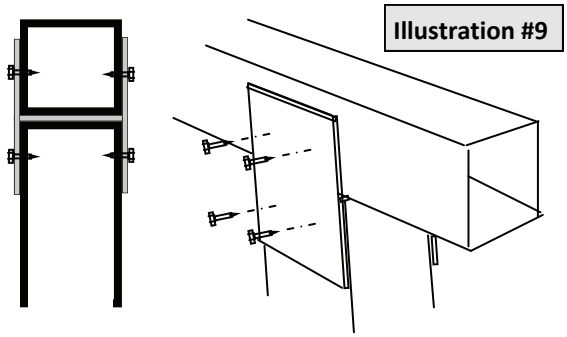


Illustration #9

3" x 3" & 4" x 4" Post to "I" Beam Connection

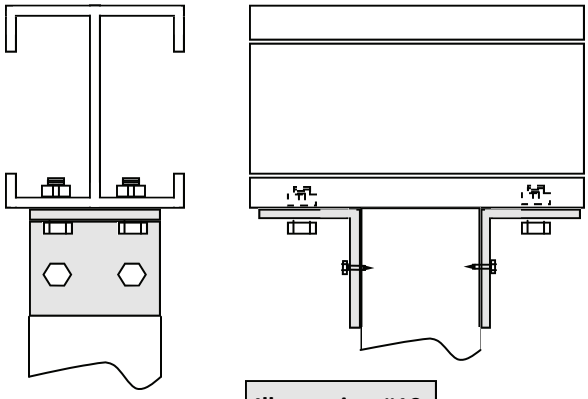


Illustration #10

3" x 3" & 4" x 4" Post to C Beam Connection

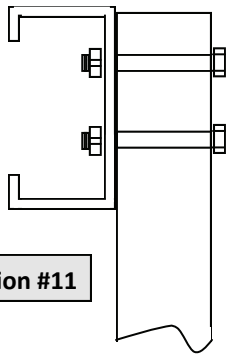


Illustration #11

For those installing a full screened enclosure:

If your unit has required a set of beam and posts, then follow the beam and post installation instructions on pages 4-6.

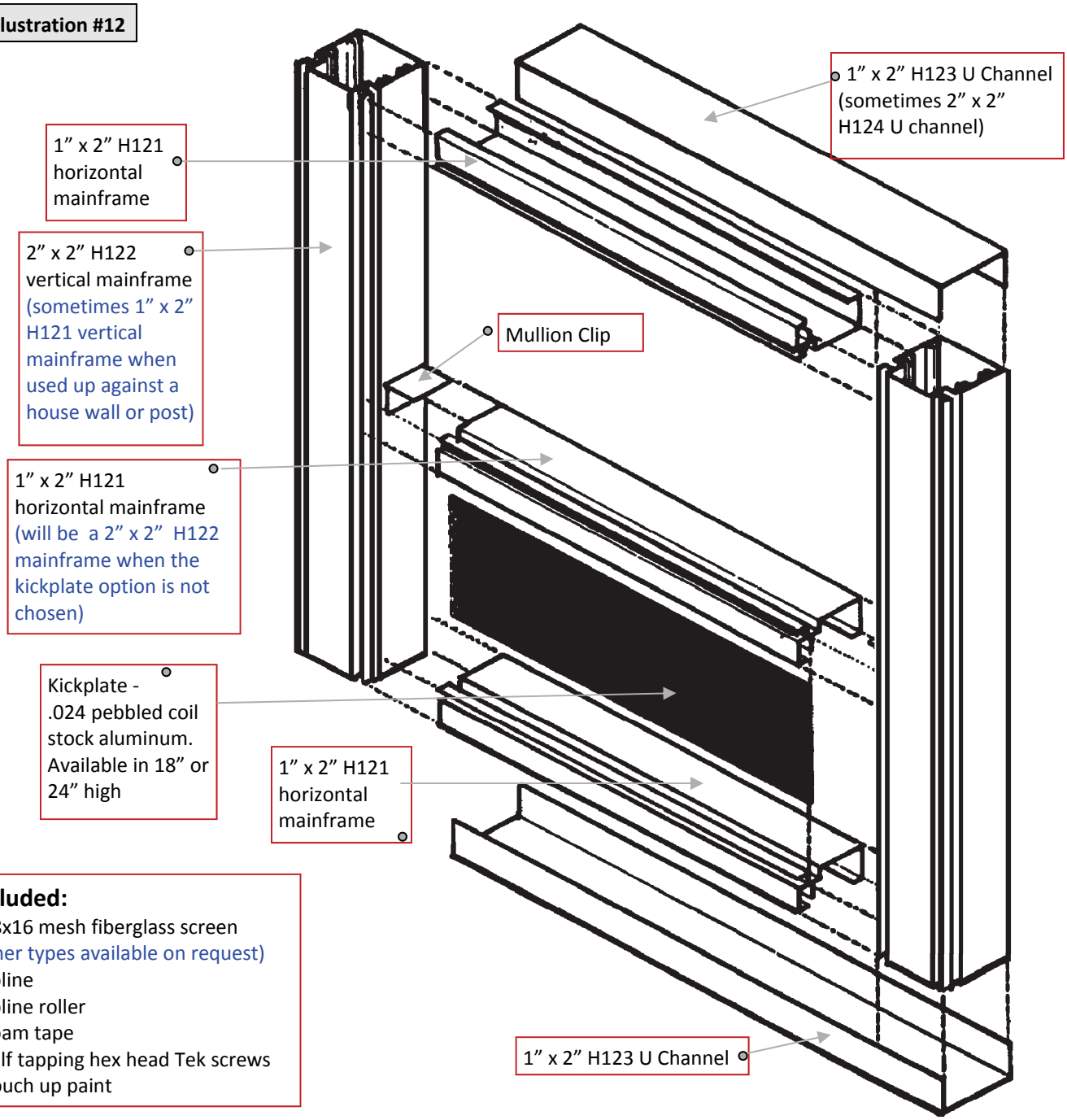
If you do not have a set of beam and posts, then you will need to install the front wall of your screen room to move forward. After determining the finished front wall height (illustration #5, pg. 4) please skip to page 7.

if you are installing a screen room underneath your new insulated top, go ahead and fully erect your front screen wall including your base H123 floor channel (lag to concrete / deck*), 2" x 2" vertical H122 columns including your corner H120 columns, top horizontal H124 – 2" x 2" u-channel, and go ahead and put the 1" x 2" mainframe (H121) inside your top and bottom channels. This front wall will allow you to support your insulated panels as you install them *(Please refer to the porch screening / screen walls only instructions on how to do this. Note that you will come back after you install your insulated top and erect your two side screen walls last.)*

Be sure to figure the height of your front screen wall based on a ¼" per foot of projection slope from the start of your insulated cover.(See illustration #5, pg 4) *If you are installing a door on your front wall, be sure to cut out your floor channel for where your door will go before securing the floor channel to your concrete slab.*

*All hardware to attach profiles to existing surfaces are supplied by the customer.

Illustration #12



Included:

- 18x16 mesh fiberglass screen (other types available on request)
- Spline
- Spline roller
- Foam tape
- Self tapping hex head Tek screws
- Touch up paint

Insulated Panel Installation

You now have your post & beam or front screen wall in place. From the "outside looking in" (OLI) toward the house wall, you will start on the Left Hand Side (LHS). With the female lock on the left, lift your panel into place. We suggest putting a bead of caulking on the underside of the top lip of the backwall C channel prior to pushing the panel into place.

Tip #4. In order to avoid scratching the underside face of the roof panel use cardboard or a soft fluffy cloth on top of the beam of screen wall until you are ready to secure the panel in place.

Once the panel is in place, flush with the left edge of the C channel, secure the panel to the C channel using the 1/2" hex head self tapping Tek screws on both top and bottom flanges, roughly every 8".

Out front where the panel sits on the beam or screen wall, you will be supplied with large hex head lag screws with neoprene back metal washers, 1" longer than the thickness of the roof you are installing. The screws are supplied for screen wall applications and box beam applications. There will be lag bolts with bottom nuts for I beam and C beam installations. We suggest installing (1) lag screw/bolt on the Right Hand Side (RHS) of the panel 5" in from the seam. DO NOT TIGHTEN ALL THE WAY DOWN SO THAT THE NEXT PANEL HAS ROOM TO SNAP ONTO THIS PANEL. This will hold the panel in place while you assemble the remainder of the roof.

Tip #5. Tighten the lag screw/bolt so as to create a slight dimple in the top of the roof metal. It does not need to be tightened any more than that!

With the first panel in place, put a bead of caulk on the underside of the top lip of the C channel, put your cloth or cardboard on the beam or front screen wall and put a bead of caulking (supplied) in the top channel of the male lock making sure it is a consistent thickness and with no air pockets. Then take your second panel, position it just outside the C channel, raise it up and gently but firmly, snap it down. (Illustration #13) Then pushing from the front of the cover to toward the house, slide it into place in the C channel. Be sure to do this before the caulking begins to set! Wipe off any excess caulking on the seam. You may secure the panel to the C channel using the 1/2" hex head self tapping Tek screws on both top and bottom flanges, roughly every 8".

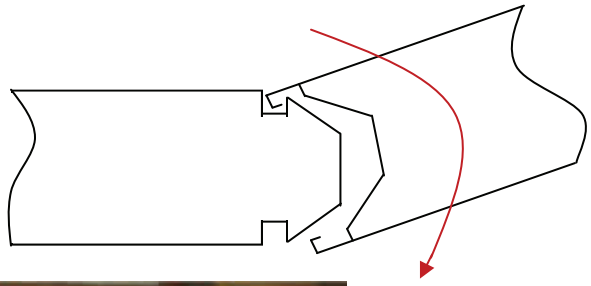


Illustration #13

Repeat for all remaining panels. Your last panel will have a male lock protruding past the edge of the roof line. Prior to putting into place, carefully trim off the male lock back to the seam edge. The seam edge should line up with the right hand edge (OLI) of the C channel installed on the house wall. This will also allow you to attach the extruded side fascia, capping the edge of the insulated panel.

To install the remaining lag screws/bolts, snap a chalk line on top of the roof that is centered over your beam or screen wall. Be sure that it runs over top of the center of the first lag screw/bolt you installed in the first panel. Using the chalk line as a guide install the remain lag screws/ bolts. We suggest putting a bead of caulking down around the lag screw/bolt prior to finally tightening it down on the roof.

You will use (3) three on every 4' wide panel and (2) on every 2' wide panel.
Always be sure the outside lag bolts/screws are at least 5" in from the seam edges.
**For the side walls on 'screen enclosures ' space them 2' apart. **

Finishing Your Insulated Panel Installation

Before going any further, take your side fascia extrusion and bring it up to the end of your front gutter extrusion. Understand how they are going to fit together on your roof. The side fascia will cap both the back wall C channel as well as each end of your front gutter.

Cut your front gutter extrusion to the exact width of your finished roof. Put a bead of caulking on the underside of the top lip before you slide it in place on the front of your roof panels. Use the 1/2" self tapping Tek screws to attach the top and bottom flanges to your roof panels. Wipe off any excess caulking. Next cut the exact length of side fascia you need to run from the house wall to the front gutter, capping the end of the gutter itself. Again put a bead of caulking on the underside of the top lip before you slide it in place on the side of your roof panels. Use the 1/2" self tapping Tek screws to attach the top and bottom flanges to your roof panels. Wipe off any excess caulking. Do the same for the other side. Be sure to caulk the joint where the fascia caps the gutter.

We supply a white tar tape to finish off each of the seams on the top of your unit. Because the caulking you have applied thus far is likely still setting to some degree, we strongly suggest, before you get up on your roof, that you temporarily support your roof from underneath, at the half way mark of the projection, with padded 2x4 bracing. This will minimize the flexing at the seams as you apply the tar tape. Apply the tape to every seam on the top of your roof. This will include the seams between panels as well as all the seams where the backwall C channel, side fascias and front gutter sit on the roof top. **Make sure to put a large bead of caulking on top of each lag screw so as to prevent a water build up in the "dimple."**

*For those doing a full screen enclosure you may want to go back to finishing the installation of your sides, kick plates and doors as well as install the lag screws through the roof panel into the 2x2 U channel on the underside of the roof line that caps your sidewall verticals. (see bottom of page #8) (refer to the screen walls installation guide)

We have provided scuppers (see picture off to the side) to drain your front gutter. If you choose to purchase downspouts locally, please follow their directions for downspout installation.

Lastly, due to the design of the panel and the patented snap lock design, it is almost impossible for the panel to leak at the seams. In any patio cover installation, the most critical leak point is where the unit meets the existing structure. We would strongly suggest you use your local supplier to talk about which type of flashing best suits your application. Naturally, if your installation is under an existing soffit, it becomes less necessary for this step.

ENJOY your new…
Insulated Patio Cover | Hard Top Screen Enclosure

DISCLAIMER: This document is intended as a 'guide' only. There are far too many variables within existing structures for us to address each an every one. As such this kit is very adaptable. Assembling this "materials supplied kit" will require patience & common sense. If you have any doubts about the action you should take we will gladly lend our expertise… please call us toll free. ScreenHouses Unlimited will not be responsible for errors in cuts made to the material. If we can reasonably demonstrate that you had enough material to complete the job, you will need to purchase additional material. We will always work to get the material to you in the cheapest and fastest manner possible.