



26' GROWING DOME REFLECTIX & GLAZING TRIANGLES

REFLECTIX – NORTH WALL INSULATION

MATERIALS LIST FOR REFLECTIX

Included in the Growing Dome® kit for the north wall insulation are the following pre-cut reflectix triangles:

- 10 “A” triangles
- 2 “B” triangles (1-“LHB” & 1-“RHB”)
- 10 “C” triangles (8-“C2” & 2-“C1”)
- 1 “E” triangle

ATTACHING THE REFLECTIX TO THE GLAZING TRIANGLES

In order to determine where to install the reflectix insulation, it is best to consult the paper dome model. The reflectix insulation will be stapled within 3/4” from the edges of the polycarbonate triangle on the inside (i.e. the side away from the sun) before screwing the triangle in place. The reflectix bundle in your kit will help you determine the specific number and type of polycarbonate triangles that need the insulation stapled to them. The “A”, “C”, and “E” triangles are marked with small letters on the “B” side (example: A Δ B meaning an “A” triangle, and this is the “B” side). In the case of the left and right hand “B” triangles, all 3 sides are marked. See “North Wall Reflectix Insulation” Video 9-V1.

1. There are four glazing triangles that receive reflectix that will have an edge which comes in contact with the foundation wall and will require bottom caps. It is best if all the bottom caps that come in contact with the foundation wall are attached at the same time after the snowshed doorway is completed (Step 11.) The process for attaching these bottom caps are covered in Step 12. These four triangles and their un-stapled reflectix triangles should be set aside until that time. They include 2 “A” triangles, 1 “LHB”, and 1 “RHB”.
2. For the balance of the reflectix triangles, remove the clear protective backing before stapling the reflectix but leave the white protective backing on the outside of the triangle (the white backing with text) until you are actually ready to install the triangle on the dome structure. If you’re not installing them immediately, store these triangles up off the ground, grass, dirt, and gravel, with the tubes parallel to the ground, as the static electricity that is created when removing the backing tends to collect debris.
3. Line up the edges of the reflectix with the edges of the polycarbonate triangle and be careful not to kneel on the reflectix while stapling. It is best to staple the reflectix to the glazing on a stable, flat surface, such as a table, sawhorses, or workbench. Use 1/4” staples with twin-walled glazing or 1/2” with multi-walled glazing and space them every 6 inches. (Appropriate size staples are included in kit.)

ADDITIONAL NOTES

1. If you get carried away and forget to attach the reflectix triangles to the north wall polycarbonate triangles, you can always install them after-the-fact as shown in Video 9-V1. However, you will need to wait until after all the glazing panels (and trim strips) and bottom caps have been installed.
 - a. Simply push the reflectix into the appropriate space from the inside and staple it to the face of the strut nearest the polycarbonate. The overlap is only 3/4” but it is enough to get a staple in.
 - b. Just make sure that your overlap is even on all sides of the triangle. In this case, it is best to use 1/2” staples not 1/4” regardless of the thickness of polycarbonate chosen.

CAUTION!

Gloves should be worn when handling glazing and metal pieces!

ATTACHING THE GLAZING PANELS

MATERIALS LIST FOR GLAZING TRIANGLES

The 26' Growing Dome has the following fixed glazing triangles:

- 23 "A" triangles ("B" edge marked)
- 20 "C2" triangles ("B" edge marked)
- 10 "C1" triangles ("B" edge marked)
- 5 Right Hand Side "B" (RHB) triangles (all 3 edges marked: "B", "C", & "E")
- 5 Left Hand Side "B" (LHB) triangles (all 3 edges marked: "B", "C", & "E")
- 3 "E" triangles ("B" edge marked)
- Vents - 2 "A" (top) & 2 "E" (bottom) (should already be installed)

Also included in the kit:

- 1-1/2" star drive ss screws (T-20 bit included in kit)
- 8mm (twin-walled) or 16mm (multi-walled) bottom caps (U shaped plastic channel) according to the type of glazing you have chosen. Lengths needed out of the bottom cap package for this step include:
 - 1 - "A" side of "A" top vents (no drainage holes) (55")
 - 2 - "B" side of "A" top vents (no drainage holes) (63")
 - 4 - "E" side of "E" bottom vents (no drainage holes) (67")

4th IMPORTANT ASPECT:

This is the most critical aspect. Improperly aligned hubs are the greatest cause of glazing triangles not fitting accurately. No matter how much they have been tightened, they can still "twist" from the weight of a ladder against a strut on the other side of the Growing Dome to the weight of a person using a strut for balance. As it is best to start at the top of the Growing Dome and work your way down, it is important to re-check hub alignment before and after the vents are installed, after the top pentagon triangles are installed and before each subsequent layer of triangles are installed. Hubs will NOT twist once a glazing triangle has been attached to its struts, so you can't adjust it afterwards.

GLAZING TRIANGLES NEXT TO VENTS

Where the edge of a triangle fits up next to the opening side of a vent, we have provided labeled pieces of bottom cap with no holes to close off the tubes. This prevents dirt and dust accumulation through the open tubes over time. On one "A" vent, there will be an "A" side of an "A" triangle panel and a "B" side of a "C1" triangle panel that fit up next to the vent. On the other "A" vent the "A" side will have a factory edge and a bottom cap will not be necessary. On both "E" vents, there will be an "E" side of two different "B" triangle panels. If necessary, trim the corners of the bottom cap to fit using a pair of metal tin snips. Bottom caps come with a short and long side if you look at them in cross section. The short side goes to the outside of the Growing Dome. Start the bottom cap at one end and slide it to the other end. Attach the triangle edge by screwing through the bottom cap, glazing material, and into the wood strut below following the screw pattern shown on the "Screw Patterns - Step 9" Diagram 9-D1.

GLAZING TRIANGLES IN TOP PENTAGON

Fix the top 3 "A" triangles first (with the bottom caps placed on the edge of the triangles that fit up to the unhinged sides of a vent), and then work around the Growing Dome one layer of triangles at a time. There should be an "A" triangle in between the two "A" vents. (Be sure you are re-checking hub alignments as you go!)

ATTACHING THE TRIANGLE GLAZING - GENERAL INFORMATION

For your convenience, we put a dot on the corner of the glazing opposite the "B" side of the triangle. The dot also indicates that this side faces out (toward the sun). (These dots also correspond to dots shown on your Growing Dome paper model.) Hopefully you placed the panels on pallets or strips of wood with the tubes parallel to the ground, as the panels are very electrostatic, and attract dirt and dust. If dirt or dust has been "sucked" back into the tubes, you can clean them by using a shop vac to "blow them out". Do not vacuum them, as this will only create more static electricity. If you do need to "blow them out", do so before removing the protective plastic film.

When you are ready to attach the panels, remove the protective plastic film from both sides of the panel, making sure the outer side will be on the outside of the Growing Dome, as this is the UV treated side. If the dot is not visible, the UV side (the side with the writing on the protective film) can be recognized by its purplish color if you look at the cut edge of the panel. It may also have a serial # imprint. Make sure to remove the protective film with the glazing triangle on a pallet or up off the ground as removing the protective film also creates more static electricity. (Hint: Set each panel on edge on a clean garbage can to remove the protective film. This way it's up off the ground and easier to dispose of all the removed protective film in the garbage can.)

Screws are placed approximately 3/8" from the edge of the panel and approximately 8" from the points of the triangles using 1-1/2" star drive screws. Be careful not to screw into a carriage bolt. See "Screw Patterns - Step 9" Diagram 9-D1 for screwing pattern. Screw to a depth so that the head of the screw ends up flush with the surface of the glazing. This makes the taping process easier. Also make sure that the screws are perpendicular to the face of the glazing. Do not over-screw as the screw heads will punch through the glazing.

Make sure the panels are fixed so that the edge of the panel is even with the centerline of each strut. Ideally, the edge of the panel goes not quite halfway over the head of the bolt, and the point of the panel is over the center hole in the hub. It is important to start at the top of the Growing Dome and work your way down.

We make every attempt to cut the glazing triangles to fit accurately, however, there are certain variables that allow there to be a gap between the triangles. This is not a problem as the space is covered by the tape, creating a dead air space. As long as the glazing rests on the strut, the fit is satisfactory. You may also encounter a triangle that is too large to fit in the appropriate space. First check to make sure the hubs are still in alignment. Then check to see that the surrounding panels do not have a gap that can be adjusted. But if there is still an overlap, simply place the triangle over the struts and using a felt tip marker, mark the centerline of the strut below. Using a fine tooth blade, such as a plywood blade, on your circular saw, trim off the excess. It is best to not trim off a factory edge, if possible. Be aware that the circular saw could scratch the glazing triangle if the protective film has already been removed. (Hint: You can scotch tape a discarded piece of protective film on to the glazing to protect the glazing from the saw while cutting.) Use eye and hearing protection and warn others in the area before cutting glazing as it is a very noisy process! If necessary, use a shop vac to "blow" out any polycarbonate dust.

If there is a gap between the glazing panels of more than half an inch when screwing down the panels, it is advisable to offset the screws instead of putting them opposite each other. This way the tape can be adjusted to cover each of the screws in turn.

GLAZING TRIANGLES IN FIRST (TOP) LAYER

The first series will be "C2", "C1", "C2", repeated five times. The glazing needs to be installed so that the tubes drain out. This is why the "C2" panels have the tubes parallel to the "B" side, and the "C1" panels have the tubes parallel to a "C" side. The paper model again proves its worth at this point! Also check the paper model as some of these "C1"s and "C2"s will be reflectix-stapled panels.

GLAZING TRIANGLES IN SECOND (MIDDLE) LAYER

The next row of panels consists of "C2", "C1", "C2", "A", "A", repeated five times. Again, some of these triangles will include those in the north wall insulation area.

NOTE: At this point, if you have not already, we recommend you attach the brown metal trim strips now (before you install the bottom row of triangles). See Foundation Wall Trim Strips Step 8.

GLAZING TRIANGLES IN THIRD (BOTTOM) LAYER

The final series is "A", "A", "A", "LHB", "E", "RHB". The "E" triangle is a vent in two places of your choosing, usually opposite each other and not at the north point. Looking at the Growing Dome from the outside, the "LHB" triangle goes on the left side of the "E" triangle and the "RHB" to the right. Both the "LHB" and the "RHB" on both opening sides of both "E" vents will receive bottom caps to close off the open tubes.

NOTE: Do not attach the row of screws where the bottom triangles attach to the foundation wall at this time. It is best if all the bottom caps that come in contact with the foundation wall are installed and attached at the same time after the snowshed doorway is completed (Step 11). The process for attaching these bottom caps is covered in Step 12. Also covered is what to do with the last four triangles and their un-stapled reflectix triangles that were set aside. (They included 2 "A" triangles, 1 "LHB" triangle, and 1 "RHB" triangle.)