Step-by-Step for the Perfect Solar Still!

Pick-up lumber at construction supply store
   • Cut plywood at 76” long, then cut larger piece 33” wide
   • Make similar cuts on foam core to facilitate transport

Measure and mark all materials
   • 2 side pieces, 1 front piece, 1 back piece (Figure 1-1)
   • 2x4’s for frame (Figure 1-2)

Make all cuts

Figure 1-1: 4’x8’x½” Plywood

Figure 1-2: 2x4” Frame

FRAME: Nail together frame w/ 3.5” 12d coated nails
   • Start nails – 1 on each end, 2 inside 25” (Figure 2)
   • If shorter pieces vary in length, grade from longest to shortest
   • Secure corners with screws
Tack down plywood base w/ 2.5” 8d coated nails
- Around every 8 inches

SIDES
- Tack down front piece with 3” above base (Figure 3-1) and then place 2.25” deck screws every 8”
- Tack down back piece with 7” above base (Figure 3-2) and then screw every 8”
- Make sure to cut the side pieces slightly longer than frame dimensions, in order to ensure that they overlap the front and back pieces

INSULATION: Fit insulation snug into the bottom and line sides
- Secure with construction cement
- Bevel the front and back pieces so the glass will sit flush
- Double the front piece (Figure 4-1), both are originally 2”, and cut the inner piece for drainage
- Take ¼” off of top (Figure 4-2) and cut down to 1 ¼” (Figure 4-3 and 4-4)
- Bevel slightly towards front of still (Figure 4-4)
- Tack in the back piece with screws to maintain height
Figure 4-1: Double Front Piece

Figure 4-2: ¼” bevel on top

Figure 4-3: Center drainage at 1 ¼”

Figure 4-4: Side views

Cut hole for the overflow drain in right, back corner (Figure 5)
Cut inflow hole in opposite side from drain and higher (Figure 6)

Cut production hole in front
- Angle drill downward slightly (Figure 7-1 and 7-2)

Cut pond liner
- Make sure there is overlap so that corners will crease and it will fold over the drain in front and over the wood on all sides

Apply silicon
- All creases/joints (Figure 8)
May need to smooth out ‘ramp’ to production hole

Figure 8: Silicon all corners and underneath pond liner

Put in pond liner
- Bottom and sides – spread out and smooth on pond liner (Figure 8, above)
- Crease and silicon corners – clamp until dry (may need small blocks of wood to more evenly distribute pressure) (Figure 9)

Figure 9: Securing pond liner

Secure edges of pond liner
- Use a staple gun to tack down pond liner over top of the sides, front, and back