

PLAN TO MAKE WOODEN-BOX SOLAR COOKER

REQUIREMENTS

1. Timber: 200 x 25 x 3000
2. Plain iron sheet: 2.500 x 1.200
3. Insulation
4. Plain glass 3mm
5. Mirror 3mm
6. Threeply 1.200 x 1.200
7. Wire as you see in wire mesh. 1m or more
8. Paint: a) Black (black board) paint
NB: not oil paint
b) Any other paint
9. Nails: (a) 50cm 1kg (b) 25cm 1kg (c) Tacks
10. Lantern wick

NB:

All measurements are in metric. All measurements are indicated for our sample box cooker only. But you can use larger measurements to make bigger boxes to accommodate more pots etc.

INSTRUCTION

This is an instruction on how to make a wooden box solar cooker. You can use any of these sizes of timber 150 x 25 , 200 x 25, 250 x 25 the sizes depends on pot sizes that will be used for cooking.

Here we want to use the smallest pot size.

A wooden box solar cooker has six parts.

Part 1

We take our timber 200 x 25 and cut 2pcs of 600 and 2pcs of 400 to make a rectangular box. After joining the edges its depth will be 200

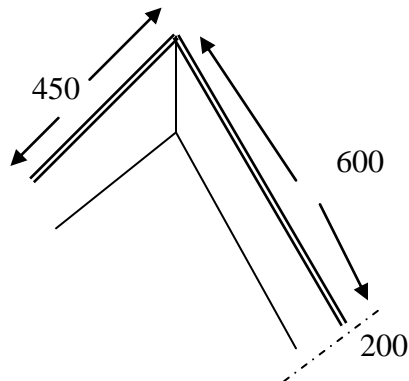


Diagram 1

Part 2

Have a plane iron sheet measuring **2.500 x 1.200**. Cut along the straight lines and fold along the dotted lines. Join the folded iron sheets of diagram 2a and 2b to form a box. Place it in our wooden box, it will be a unique box as shown in diagram 3. Fasten the flap on the wood to make it solid.

Turn our box upside down to fill insulation as in diagram 3.

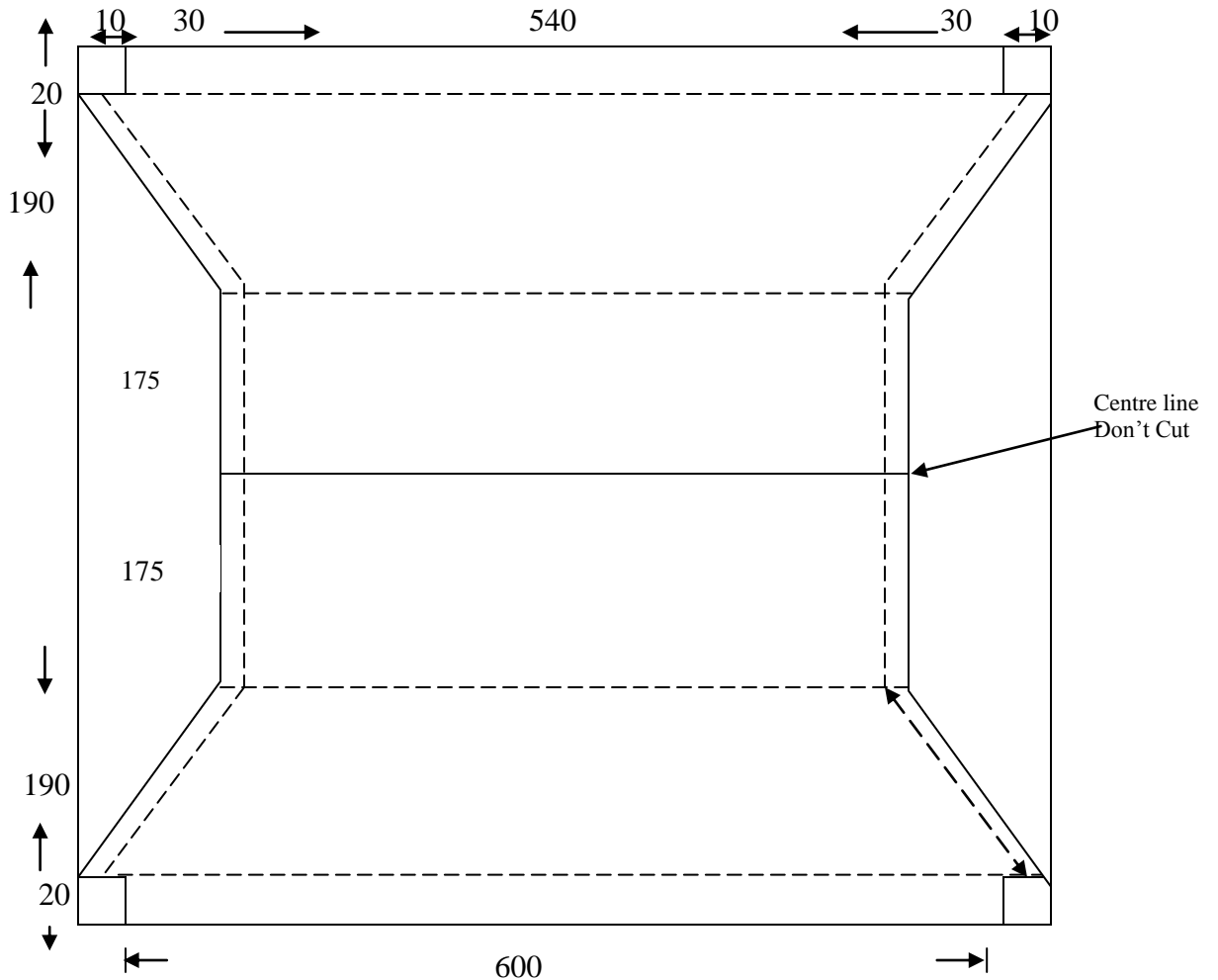
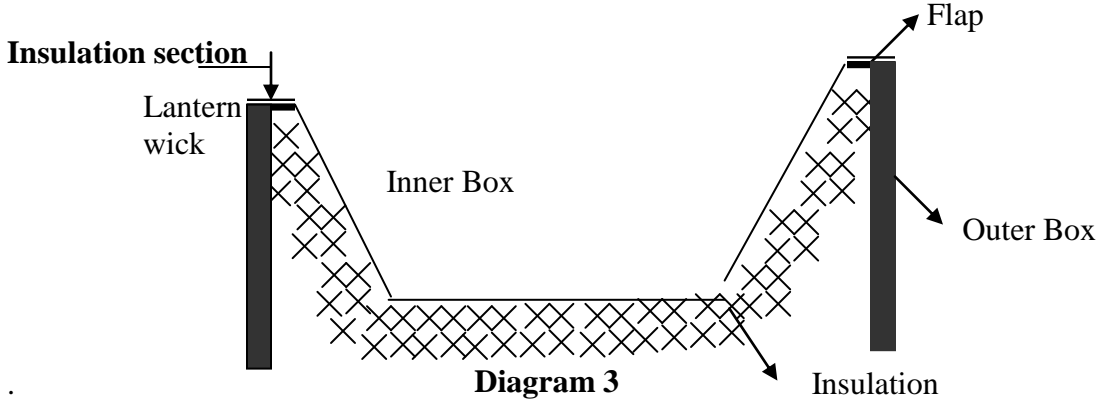


Diagram 2 (a)

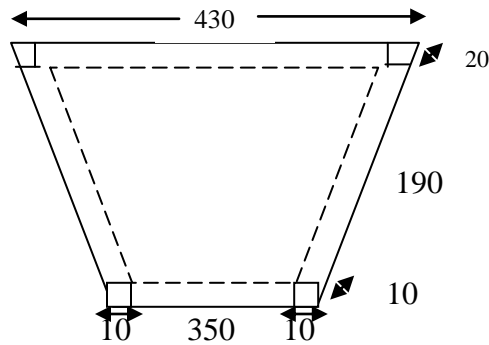


Diagram 2 (b)

The flap rest on top of timber and fastened with nails.

Part 3

The space left between timber and iron sheet to be filled with insulation to the bottom before sealing. While turned upside-down, seal the bottom with iron sheet overlap to the side 30cm or more.

Part 4

Turn our box upright and measure length and width to make a frame that covers top. These frames will be two of the same size, both of them grooved for glass to fit in. one to be grooved for a plain glass 3mm to fit in. the second one grooved for a mirror 3mm + three ply. When you fit the mirror in the grooved frame you place the three-ply at the back to guard it from accidental breakage.

Our frames are ready. Join these frames with hinges to make them open on each other. Lanten wik to be placed surrounding top of our box before placing the frames tightened with tacks then place our frame on the box mirror upside and open. The mirror is our reflector so it should stand on its own being adjusted according to the movement of the sun.

Part 5

To avoid slipping of frames on top outer side of box fasten timber of 50cm x 25cm to overlap the upper part so that the frame will enter inside it.

Therefore have a stable wire hook it on the side of the mirror frame (both sides or one side optional). And make 3 or 4 holes on the side of the fixed 50 x 25 timber for adjustment

Inside of the box paint black to transform reflected light to heat. Outer side you can paint any color for attraction.

Part 6

You can leave it as it is and put is on a stool or table, or make a stand for it of any size as desired. Our box is completed and ready for use. Take your pot with lid painted black outside, put your uncooked food in following (recipes) instruction on how to solar cook.

We choose wooden box for its durability and low maintenance. But it doesn't match our advocacy of tree preservation. It seems as if we are supporting those who cut trees in buying their products or we encourage others to do so because there is a ready market.

Now we are proposing to use aluminum instead of wood because it will:-

- ❖ Reduce weight
- ❖ Match our deforestation advocacy
- ❖ Reduce manufacturing time

Enjoy your solar cooked food with relatives and friends, and spread solar cooking skills to others.

Preserve our environment by using solar cookers.

Reduce air pollution by using solar cooker.

Improve our health by using solar cooker.

Best Regards

Thanks.

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