

RECTANGULAR TRAY MAKING

Ex: No : 1

AIM

To make a tray of given from a sheet metal piece.

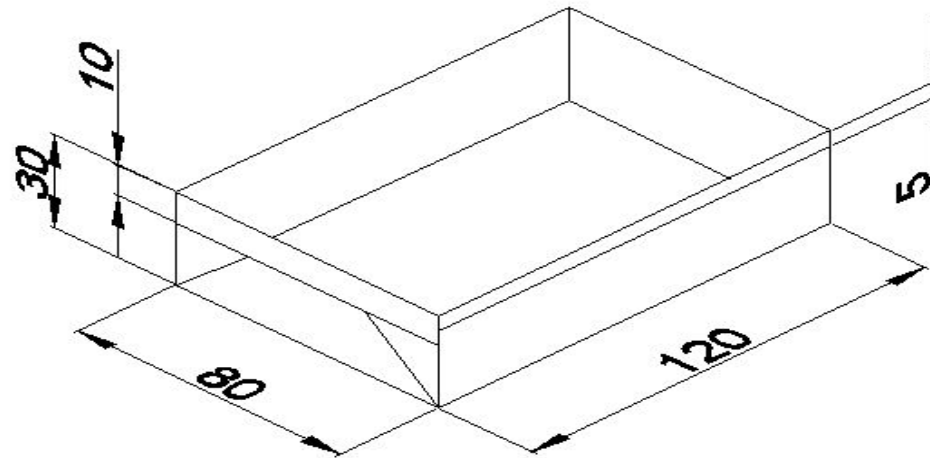
APPLICATION

Cabinets of stabilizer, computer, UPS and use it to store tools or other accessories.

SUPPLIED MATERIAL SPECIFICATION

Galvanized iron sheet of dimensions 200mm x 150mm thickness 33 gauge

DIAGRAM



FINISHED RECTANGULAR TRAY
ALL DIMENSIONS ARE IN mm.

STAGE 1



Blank SIZE 200 X 150 mm

TOOLS REQUIRED

1. Steel rule 2. Scriber 3. Straight snip 4. Mallet 5. Stake 6. Anvil

SEQUENCE OF OPERATION

1. Checking 2. Layout Marking 3. Shearing 4. Folding 5. Locking and Finishing

WORKING STEPS

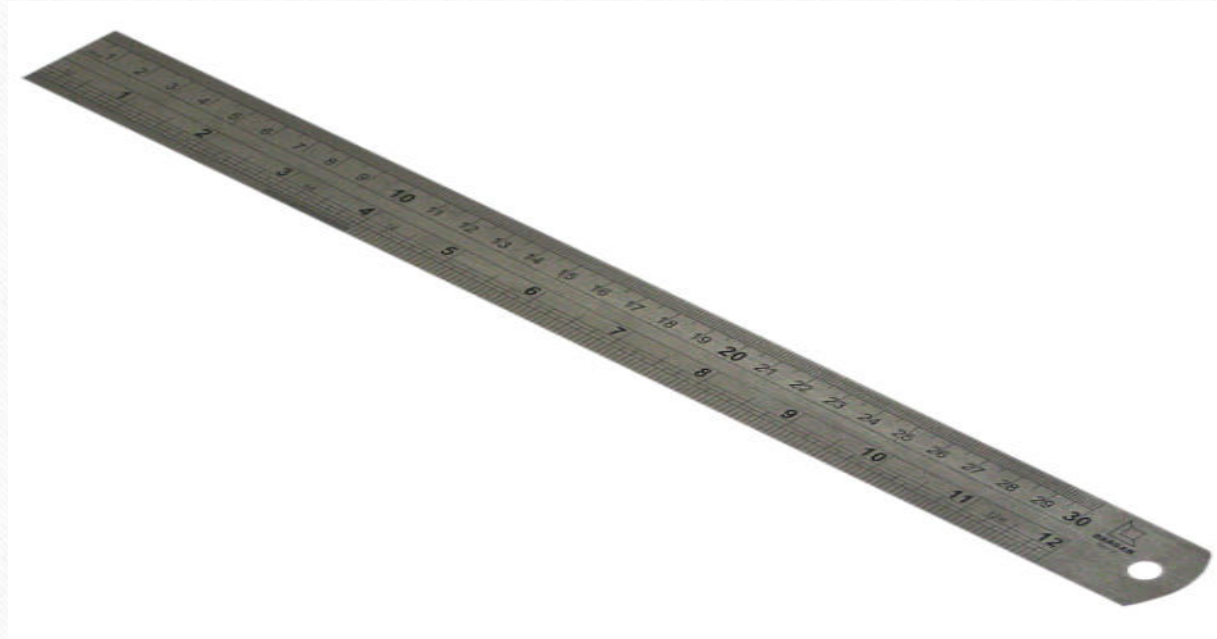
Check whether the given sheet is having its dimension as 200mm x 150mm.

If the dimension is excess trim off using hand shear.

If It's less change the given sheet.

TOOLS REQUIRED

STEEL RULE



Ex. No – 1 Cont. ..

SCRIBER



Ex. No – 1 Cont. ..

STRAIGHT SINP



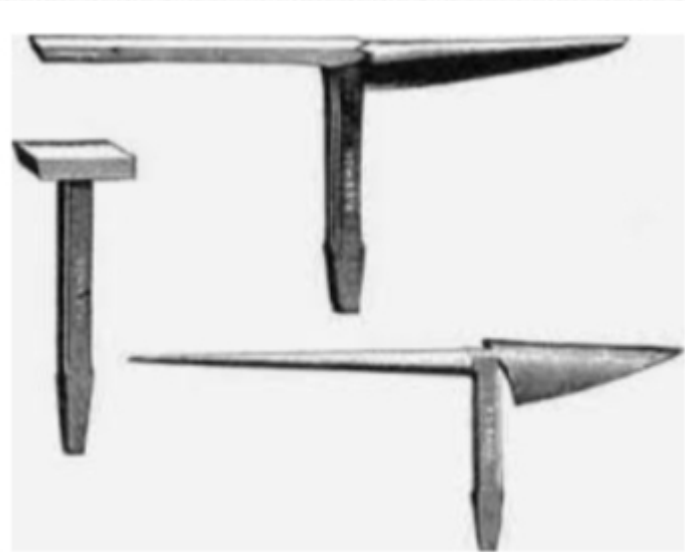
Ex. No – 1 Cont. ..

MALLET



Ex. No – 1 Cont. ..

STAKES



Ex. No – 1 Cont. ..

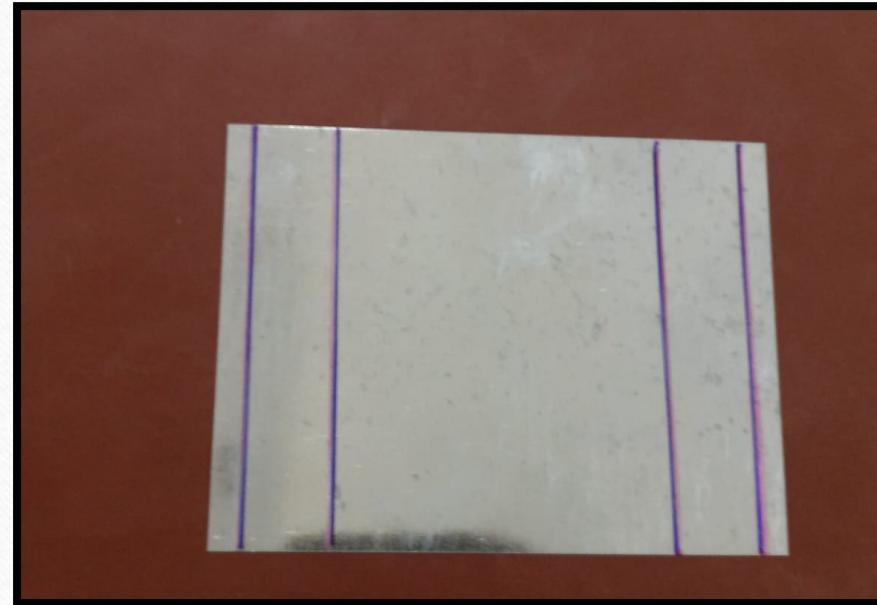
ANVIL



LAYOUT MARKING

- ❑ Keep 200mm horizontal position and start marking from bottom left side
- ❑ Using steel rule and scribe draw five vertical lines at a distance of 10mm, 40mm, 160mm and 190mm from reference vertical edge.
- ❑ Now in your work sheet you have four lines and five spaces.
- ❑ The first and last 10mm provide for hemming (safety folding) .
- ❑ Second and before last 30mm spaces provide for height and side of the job.
- ❑ Third 120mm space provide for base of the job.

STAGE 2



200 SIDE MARKING = 10 + 30 + 120 + 30 + 10

150 SIDE MARKING

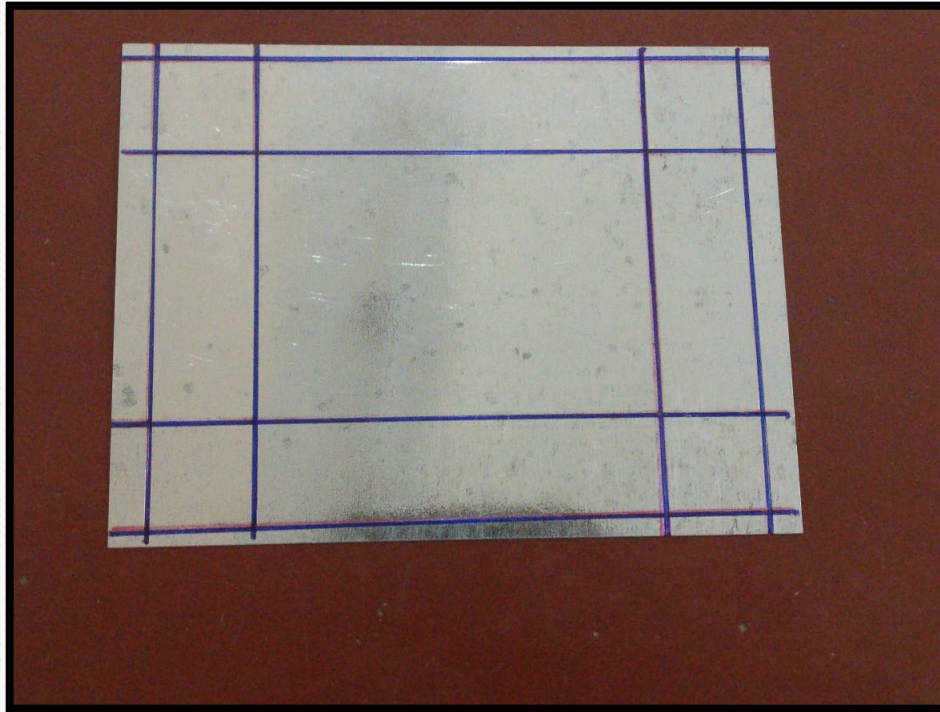
- Keep 150mm side horizontal position and start marking from bottom left side
- Using steel rule and scribe draw five vertical lines at a distance of 5mm, 35mm, 115mm and 145mm from reference horizontal edge.
- Now you have 5 spaces, first and last 5mm space providing for hemming second and before last 30mm space providing for height and side of the job third 80mm space provide for base of the job.
- After completing both side (150mm and 200mm) marking in each corner one square in 30mm x 30mm within the square draw diagonal line from the base corner now you have two triangles in the square, then identify and shade the unwanted portions as shown in the figure which is called as seam allowances.

STAGE 3



$$150 \text{ SIDE} = 5 + 30 + 80 + 30 + 5$$

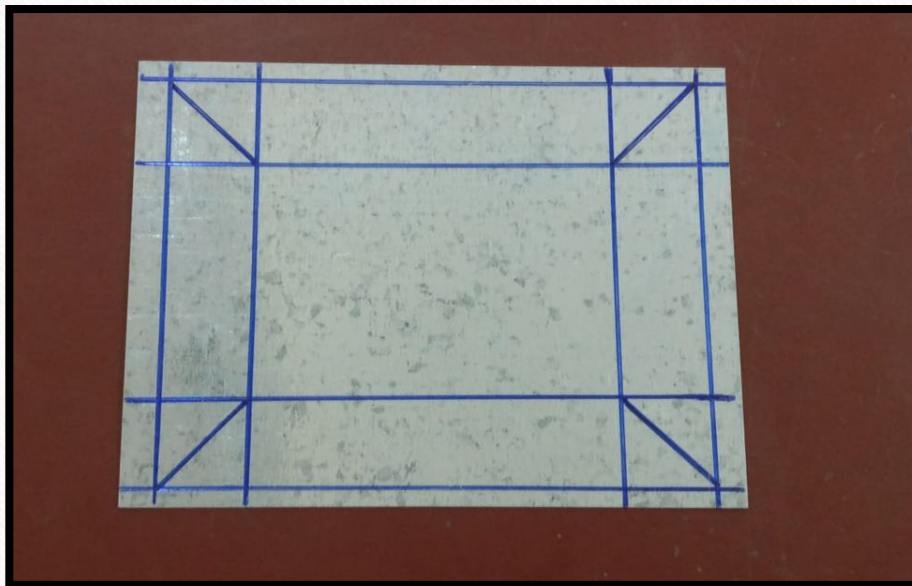
STAGE 4



**AFTER COMPLET 2 SIDE
MARKING**

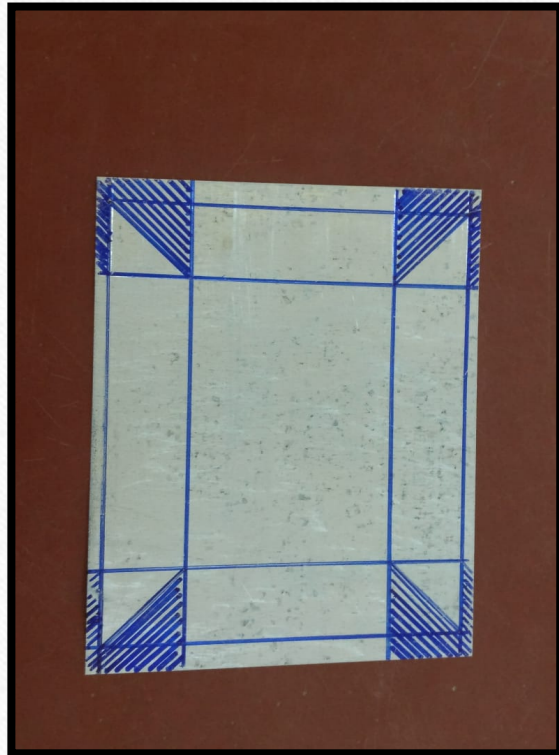
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STAGE 5



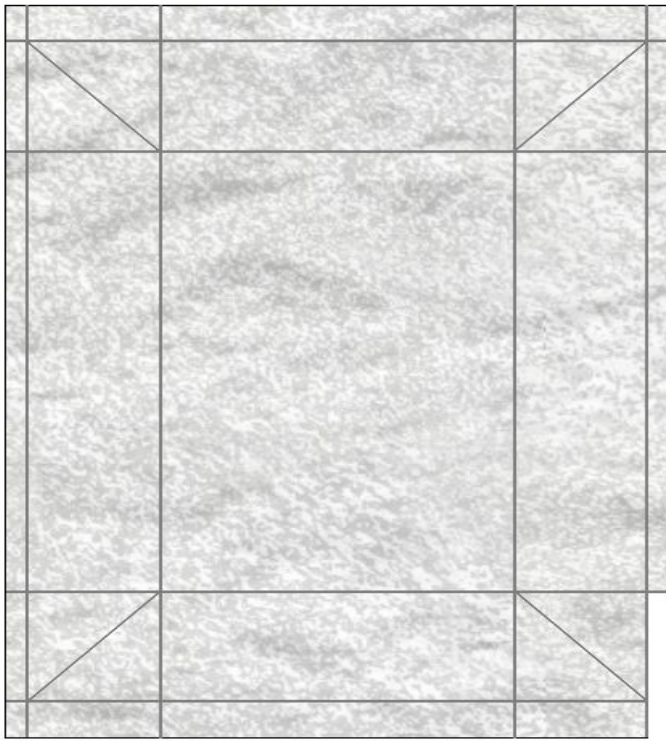
DIAGONAL LINE IN SQUARE

STAGE 6



**CUTTING THE UNWANTED
AREA (LAYOUT)**

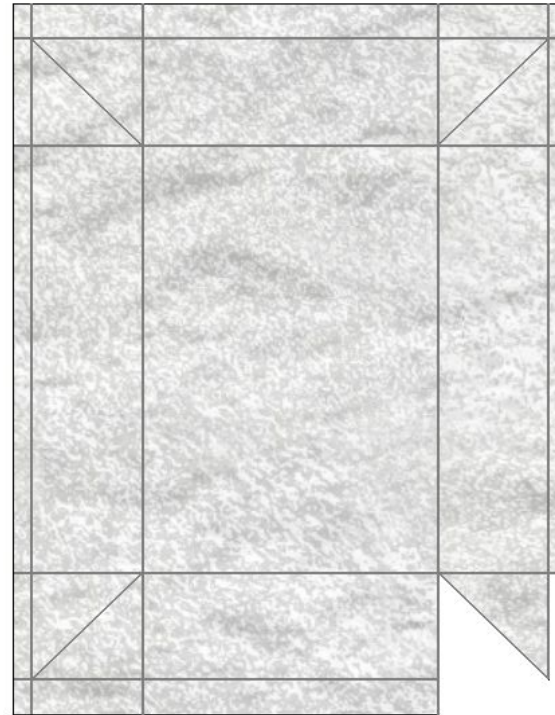
SHEARING



- Remove the unwanted portion shown in the layout.
- While cutting, cut along the proper line and remove the unwanted portions

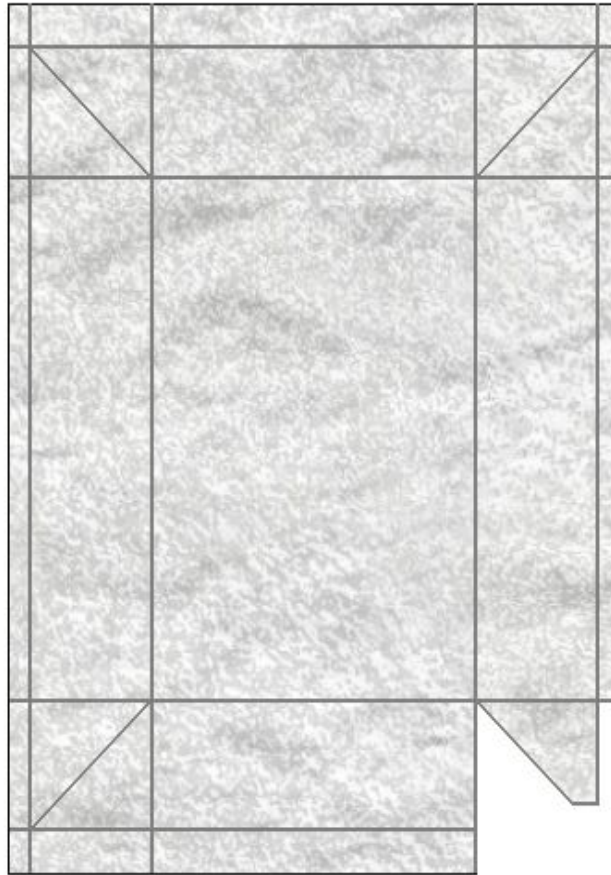
First cut. Right side corner 5mm
width up to 40mm as SHOWN

Ex. No – 1 Cont. ..



Second cut. Right side corner down 40mm depth and diagonal line as SHOWN

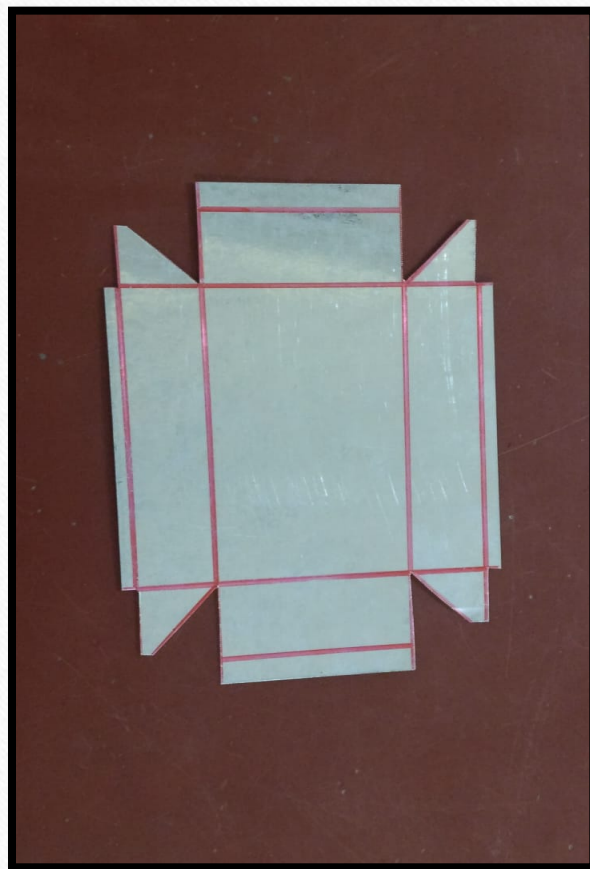
Ex. No – 1 Cont. ..



Third cut. Tip portion as SHOWN

Ex. No – 1 Cont. ..

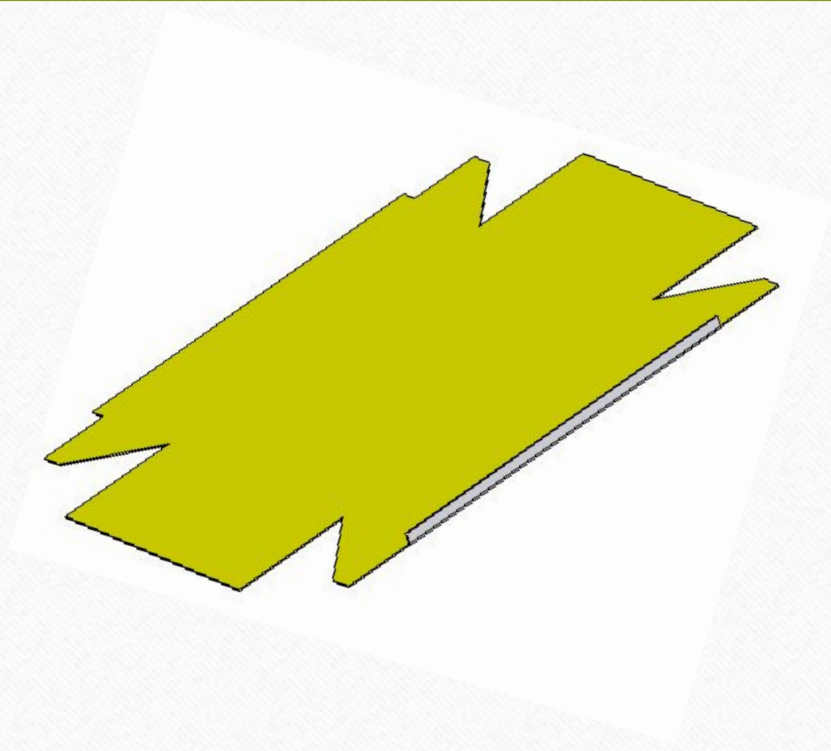
PATTERN



FOLDING

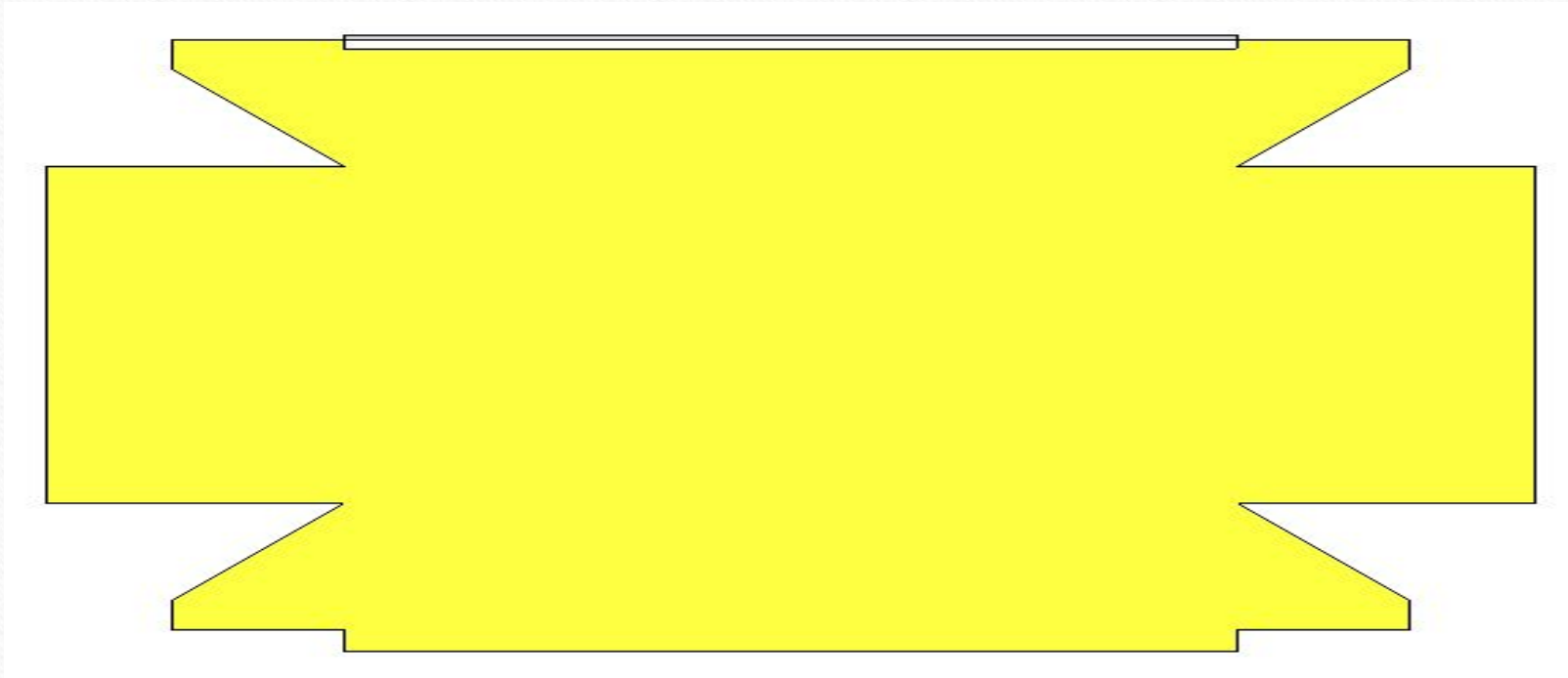
- First fold 200mm side hem portion 5mm by keeping the pattern over the anvil edge for 180° towards the marking, repeat this step for opposite edge.
- Use rectangular stake, fold along base line 80mm x 120mm for 90° opposite to the marking. Now you get base and four sides of the tray, repeat this step for other edges.
- The incomplete tray is having four corners in align with the corner of stake. Using the mallet, fold the triangular shape projection 90° towards the tray. Repeat this step for all other corners.

FLODING STAGE

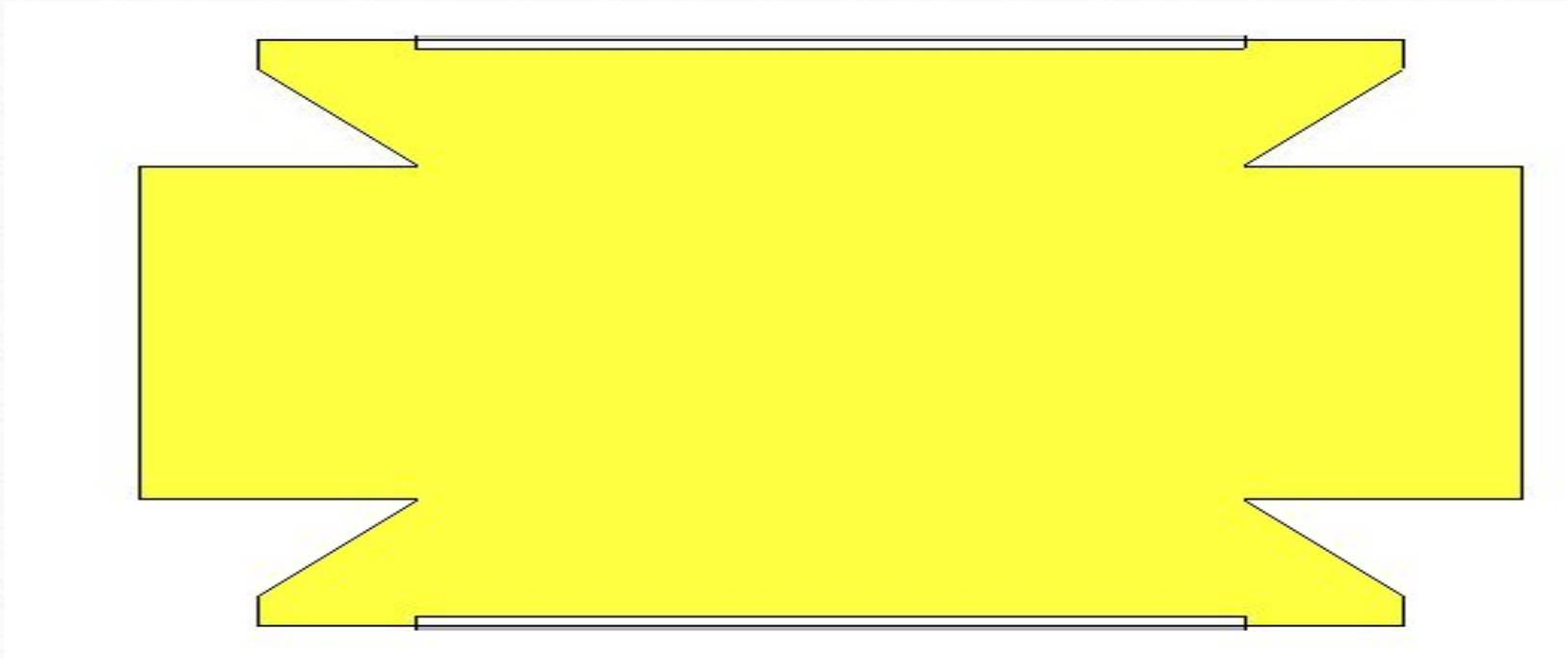


First fold. Fold 5mm **90°** towards
the making using **MALLET**

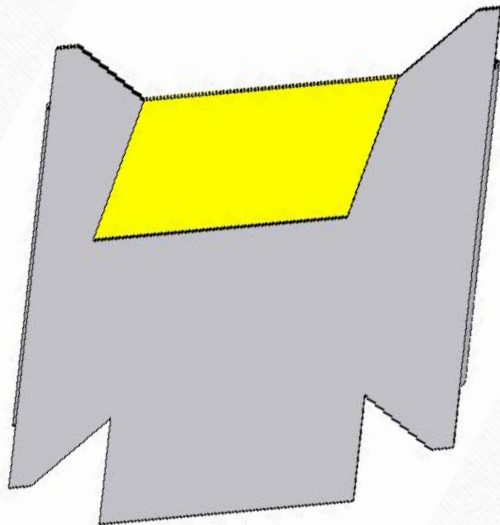
Second fold. Fold 5mm again 90° towards the making using Mallet. Total folding is 180°



Third fold. Fold other side AS SHOWN

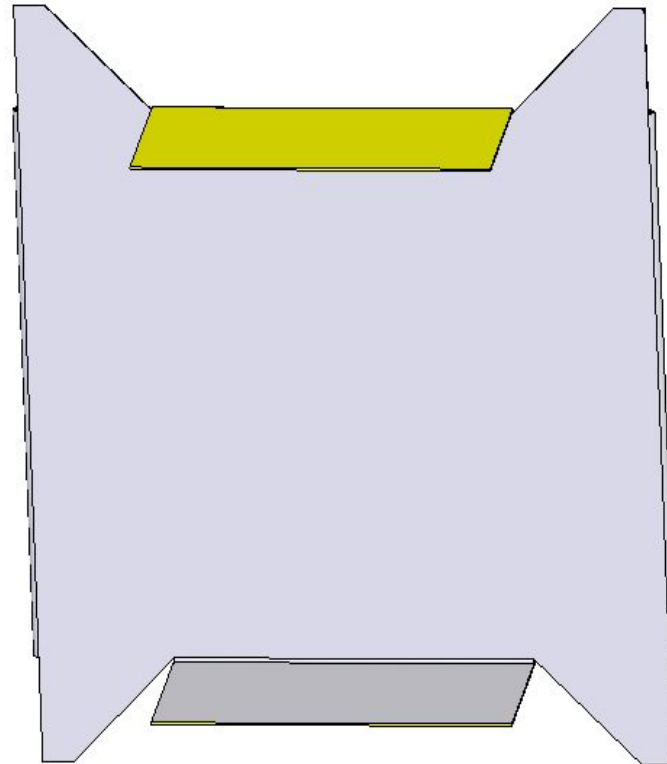


**Fourth Fold. Fold 30mm height of one side
90° opposite to marking**

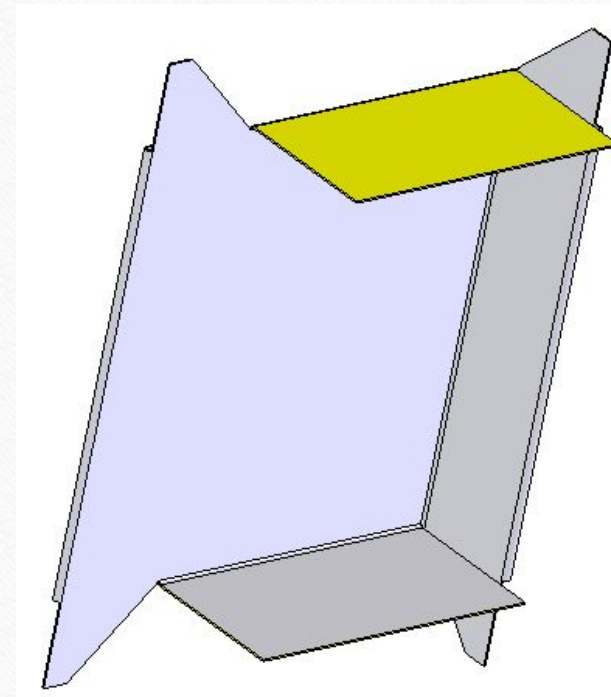
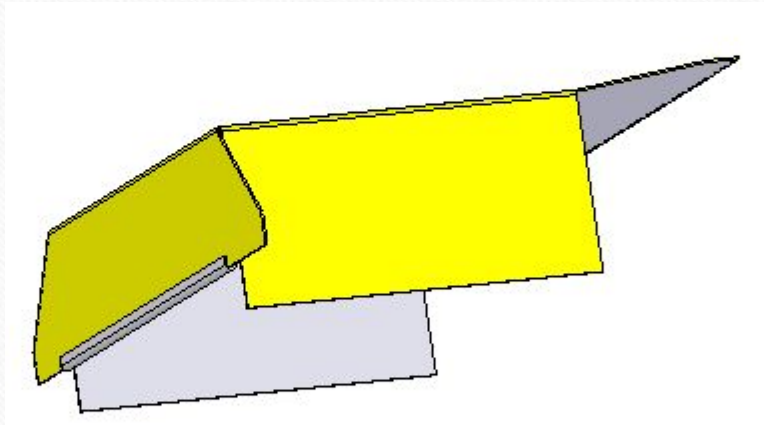


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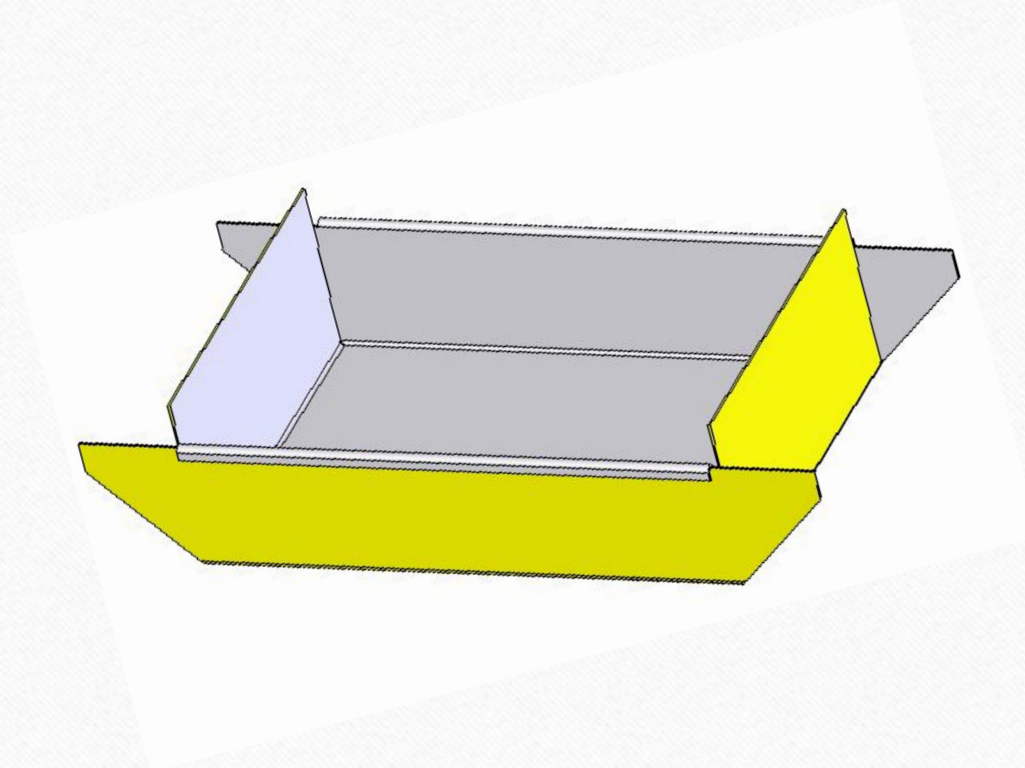
**Fifth Fold. Fold 30mm height of other side
90° opposite to marking**



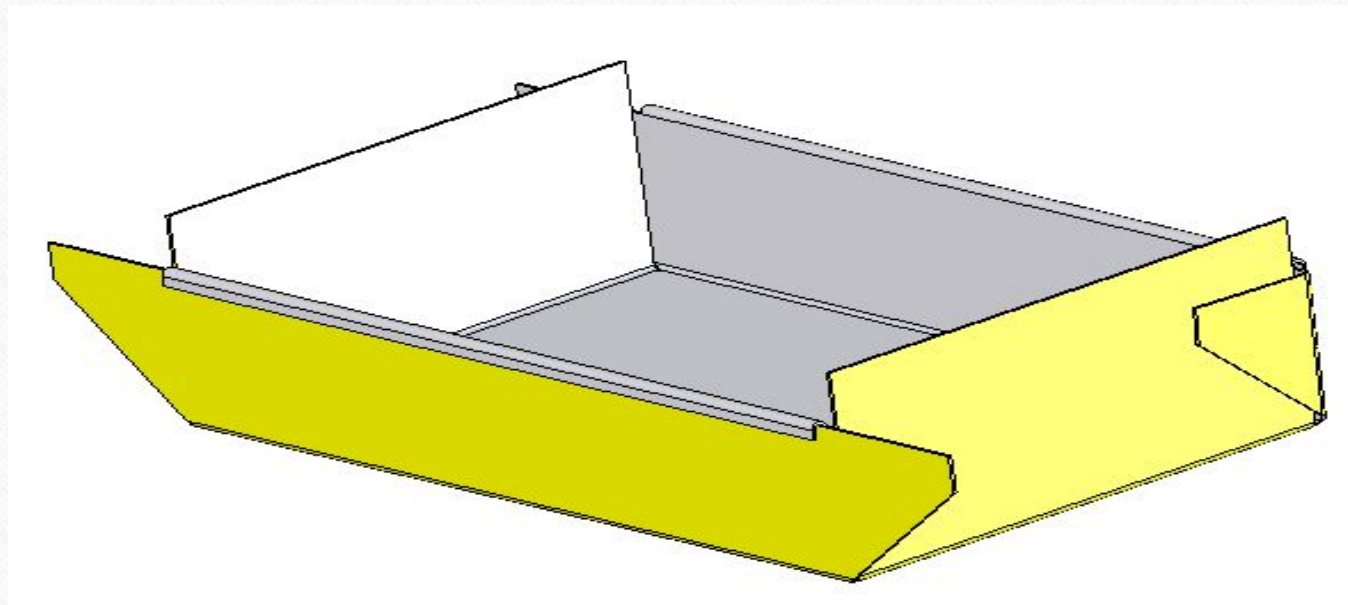
Sixth Folding. Fold 120mm 90° down as SHOWN



ALL SIDES FOLDED IS SHOWN



90° Corner triangle folding

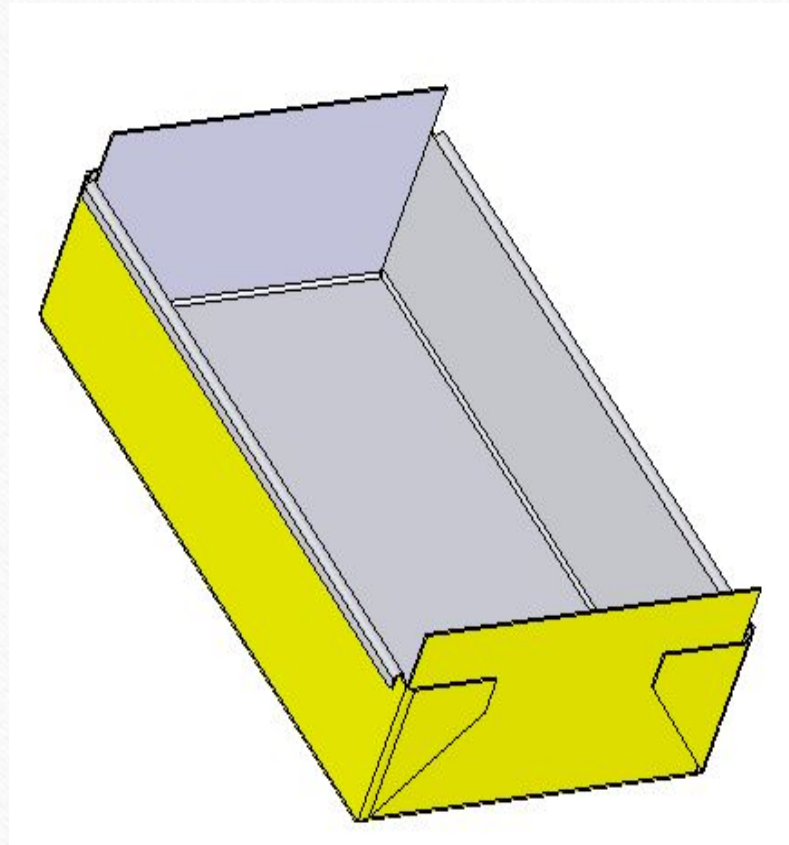


LOCKING AND FINISHING

- Fold the remaining portion 10mm 180° outwards using stake and mallet to lock the triangular folds.
- Use mallet makes it perfect shape
- Check for the dimensions

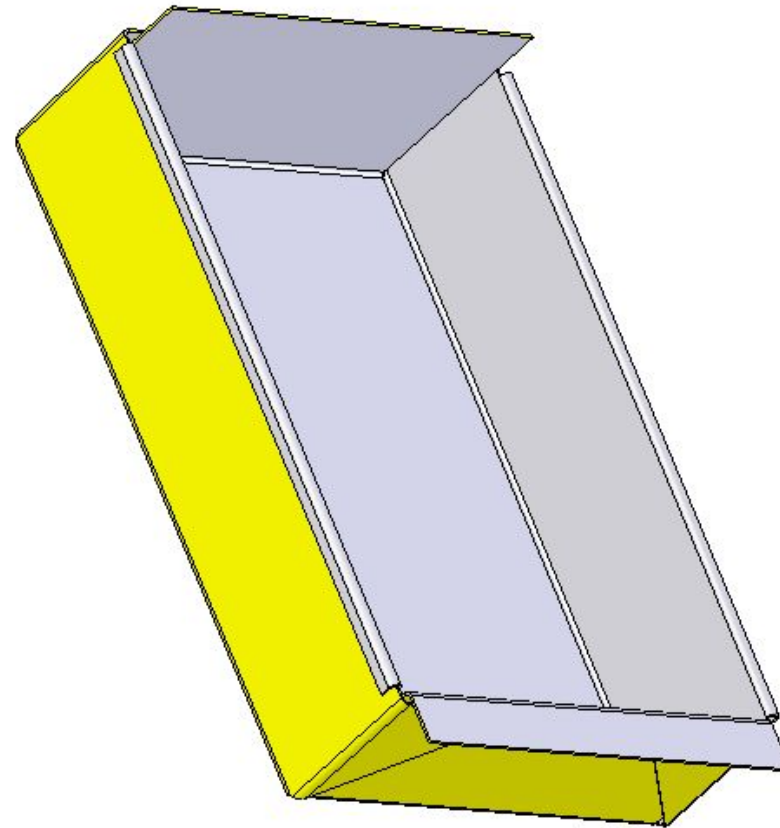
Ex. No – 1 Cont. ..

Fold other corners as SHOWN

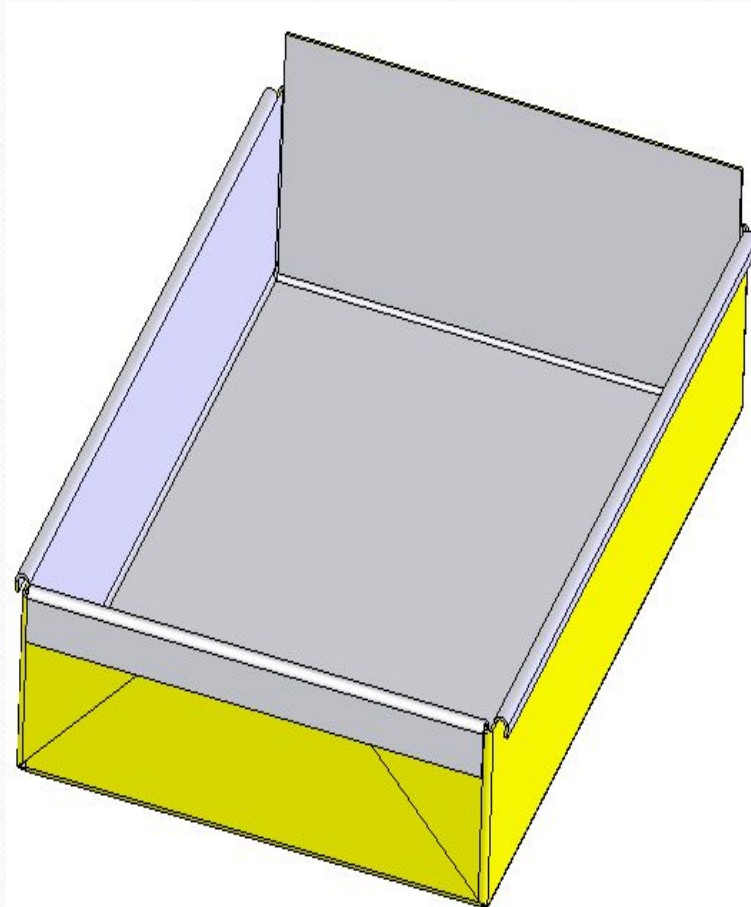


Ex. No – 1 Cont. ..

Fold 10mm Locking of 90° towards the
marking

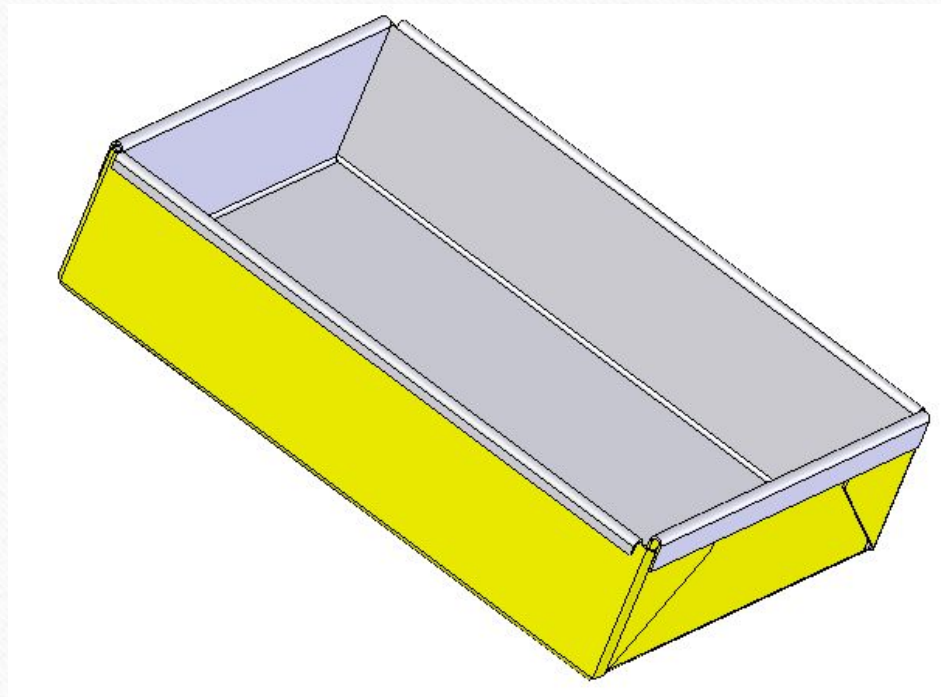


Fold 10 mm Locking of 180° towards the marking



Ex. No – 1 Cont. ..

FINISHED RECTANGULAR TRAY



RESULT

Thus the required tray is made out of the given sheet metal piece.

THANK YOU