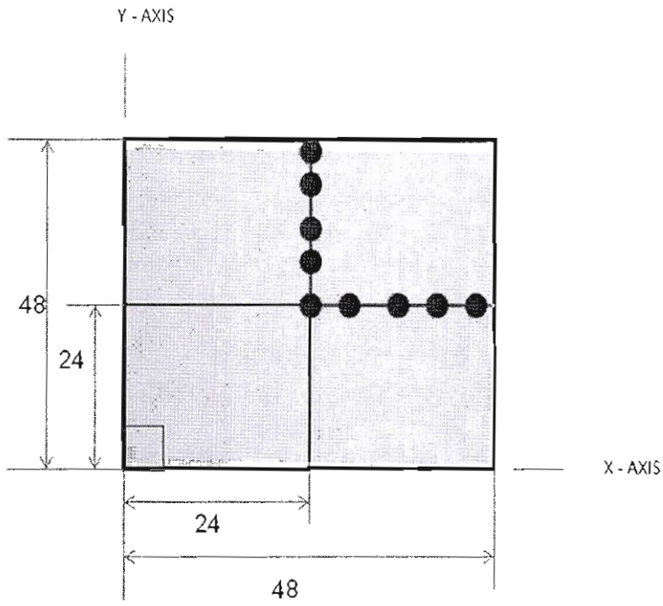
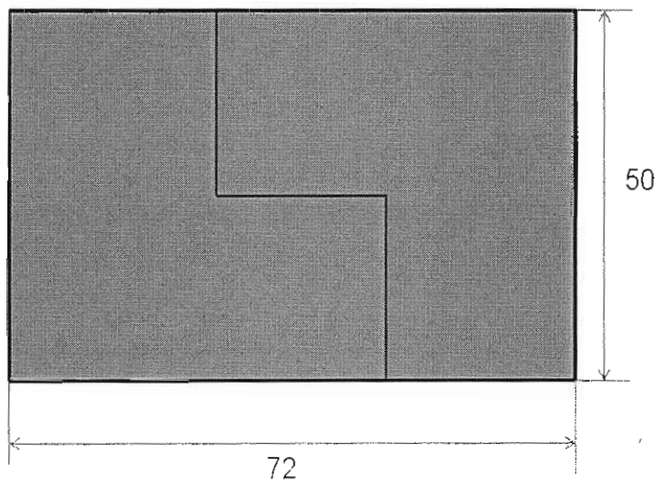
STEP FITTING



FINISHED STEP FITTING



STEP FITTING

AIM:

To construct Step fitting using mild steel work piece.

SUPPLIED MATERIAL SPECIFICATION:

Mild steel metal plates of dimension is (50 x 50 x 6) mm

TOOLS REQUIRED:

1) Hack saw frame with blade. 2) Try square. 3) Steel rule. 4) Jenny caliper 5) Files.

6) Ball peen hammer. 7) Centre punch. 8) Dot punch

SEQUENCE OF OPERATION:

1) Preparation.) Marking. 3) Cutting. 4) Filing. 5) Finishing. 6) Fitting

WORKING STEPS:

1) PREPARATION

1. Check the initial dimensions using steel rule.
2. Fix the job on a bench vice and file and two adjacent sides using a flat file to form right angles.
3. Check for the perpendicularity with try square.

2) MARKING:

a) Apply chalk on the work surface.
b) Measure the given dimension using jenny caliper from the steel rule.
c) Transfer the measured dimensions to the work piece
d) Mark the dimensions on the work piece with one of the filed sides as reference edge.
e) Repeat the above steps with the next edge as reference edge to mark the dimension.
f) Scribe lines along the marked dimensions on the work piece.
g) Make dots along these lines using dot punch which is called as PUNCH LINES.
h) Draw lines parallel to these punch lines at a distance of 2mm from them, which are called CUTTING LINES..

3) CUTTING:

a) Fix the work piece in the bench vice in such a way that the cutting line is perpendicular to the jaws of the vice.
b) Cut along the cutting lines.
c) Repeat the steps till cutting id finished along all the cutting lines by rearranging the work piece in the vice..
d) Must ensure that cutting is carried out along all the cutting lines.

4) **FILING:**

a. Fix the work piece in the bench vice in such a way that the cutting edges (punch lines) are parallel to the jaws.
b. File the cut edges using flat rough file to a distance of 2mm, so that the punch lines are exposed.
c. Remove and refit the work piece in the bench vice to make the next set of cut edges parallel to the jaws.
d. File the cut edges using flat rough file to a distance of 2mm
e. Must ensure that filing is carried out along all the cutting edge punch lines.

5) **FINISHING:**

a) Using a flat smooth file to produce a smooth surface finish in all the filed edges.

6) **FITTING:**

Check for true form with a mating gage and for symmetry about the axis with a Verniercaliper. The fitting accuracy is considered if both contours mate without misalignment and clearances.

RESULT:

Thus a Step Fitting is obtained out of the given work piece with specified dimensions, shape, finish and accuracy with proper fitting,