PRESS TOOL DESIGN FOR THE PROCESS OF PIERCING AND BLANKING OF ALUMINIUM CORMORANT SIEVE PRODUCT 31 HOLE WITH CAPACITY 1 KG

College Student name : Taufiq Cahya Adhitya  
NRP : 2108039023

College Student name : Tegar Galang Adilaga  
NRP : 2108039032

Departement : D-3 Disnakertransduk  
Mechanical Engineering FTI-ITS

Counsellor lecturer : Ir. Nur Husodo, M.Sc

Abstrak

In Sayangan small industry, manual methods is still used in the process of rice cormorant sieve making. The process has been done by piercing and blanking process 31 hole one by one twice. For increasing the efficiency of the job, it has been arranged the press tool which is used the piercing and blanking process once.

This press tool has been arranged to able to make 200 mm diameter of circle and 3 mm of piercing cavity in a number of 31. The materials which used is aluminium with 0.4 mm of thickness. The first step done is to find out how big the shear force is, for determining the hidrolic need. The next step done is to calculate the size of clearance, estimate the big of punch and die of piercing and blanking process, determine the dimension and sketch the punch and die design.

From the calculation, it has been found that the force which is required for the piercing and blanking process is 1700,38176 kgf with the clearance of 0,04 mm/sisi. The thickness of die is 37,998 mm, and the maximum length of punch of 182,28 mm.

Kata kunci : blanking, clearance, piercing,