

MAKING CAULDRONS MADE FROM USED ALUMINUM USING PERMANENT MOLDS

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ABSTRACT

Metal Casting is a manufacturing process that uses molten metal and molds to produce shapes that approximate the geometry of the finished product. Molten metal will be poured or pressed into a mold that has a cavity according to the desired shape or design. In the metal casting process itself there are several types of molds used. Commonly used molds include permanent molding and non-permanent molding (sand molding). In its operation, permanent molding is a type of mold that can be used repeatedly and usually this mold is made of metal material. The trial process was carried out several times to get the appropriate results. If the process is appropriate then proceed with the data collection process or results that have been made. The implementation method used in this final project is to design activities in the form of a flowchart, with the aim that the actions taken are more controlled and directed and as a guideline for implementing the final project so that the expected targets can be achieved. The results for testing the mass of aluminum are as follows: Mass ρ_{al} x volume of aluminum $2,7 \frac{gr}{cm^3} \times 534.453,12 \text{ cm}^3 = 1.443.023,42 \text{ gr} = 1,44 \text{ kg}$. Defects occur in the casting result due to several factors, among others: Melting and pouring process Air trapping in the mold cavity. In the results of the tool that has been made, this system has a direct inlet and air channel, where the molten metal is poured directly into the channel in the mold cope.

Keywords : Permanent Mold, Mold, Aluminum