

STUDY OF TECHNOLOGY OF FOUNDRY

This FINAL YEAR PROJECT REPORT is presented in partial fulfillment for the award
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May **GOD, ALLAH S.W.T.** blesses all of us.

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ABSTRACT

Our project is to study about the Principle Of Foundry Technology. It will includes the whole process of producing casting, which is that we found that its maybe classified into 5 stages. There are:

1. Pattern making – at this section patterns are designed and prepared as per the drawing of the casting.
2. Moulding and core making – from the help of patterns, the mould are prepared to produce the desired shape.
3. Melting and casting – a suitable furnace is used to melt the metal and poured into the moulds.
4. Fettling – a process to make the entire surface clean and uniform including the heat treatment process.
5. Testing and inspection.

But we are not focusing on the ‘testing and inspection’ procedure. Then, we would like to include the quality control in casting and also about the Modernisation and Mechanisation of foundries. This is comprehensively all covered in our report.

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1. INTRODUCTION

Foundry engineering deals with the process of making casting in mould formed in either sand or some other material. The casting of metals is one of the oldest industries in the world. As far back as 5000 BC, metallic objects in the form of knives, coins, arrows and household articles were in use.

The superior quality of metals and the absence of any impurities in them emphasize the ability and precise quality control of the refining process even in these day. Even though the techniques and methods of production have changed considerably but the basic principles still remain almost the same.

Casting have several characteristic that clearly define their role in modern equipment used for transportation, communication, power, agriculture, construction and in industry.

Hence, foundry in an important process for technology development and human life. There are many advantages that we can get from the casting process.

Design advantages of casting :

- ✓ Size – casting may weigh as mush as 200 tons or be as small as a wire of 0.5 mm diameter.
- ✓ Complexity – the most simple or complex surfaces, inside or outside and complicated shapes, which would otherwise be very difficult or impossible to machine, forge or fabricate, can usually be cast.
- ✓ Weight saving – as the metal can be placed exactly where is required, large saving in weight is achieved.
- ✓ Production of prototypes – the casting process is ideally suited to the production of models or prototypes required for creating new design.
- ✓ Wide range of properties and versatility – casting offer the most complete range of mechanical and physical properties available in metals and as such fulfill a large majority of service requirements.