

BRASSWARE COTTAGE INDUSTRY IN KUALA TRENGGANU  
PERMANENT MOULD DESIGN AND DIVERSIFICATION

PRESENTED TO:

THE DEPARTMENT OF MECHANICAL ENGINEERING  
SCHOOL OF ENGINEERING  
MARA INSTITUTE OF TECHNOLOGY

IN FULLFILMENT OF THE REQUIREMENT FOR THE  
ADVANCE DIPLOMA IN MECHANICAL ENGINEERING

PRESENTED BY:       OSMAN BIN AB. RAHMAN  
                          MOHD. FAUDZIR BIN ABU. BAKAR

SUPERVISED BY:    EN. ABDULLAH SUHAIMI BIN MOHAMMED

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## ACKNOWLEDGEMENT

IN THE NAME OF ALLAH, THE BENEFICIENT, THE MERCIFUL, wē glorify Allah and blessing on salute the noble prophet his companions and those who follow Him in upholding the cause of the right religion.

The completion of this project report would have been impossible without the encouragement and proper guidances from lecturers and individual concerns.

We wish to express our gratitude to them especially tō our project advisor Encik Abdullah Suhaimi bin Mohammad for his guidances, advices and ideas throughout the project and also goes to our lecturer Mr.D.H.Peiris.

Lastly,we would like to thank those who have contributed and gave unlimited help in either direct or indirect during the completion of this project.

## Preface

This project is the proceeding of the former final year project in December 1982. " study on the brassware cottage industry in Kuala Trengganu, problem identification and improvement of the process and the quality" by En.Azman Muda and En. Ab.Rahman Mat Yusoff.

The purpose of this project is to find out the possibilities of solving the problem arised in the existing process. There are few possibilities suggested by the writer in the previous report and one of them is by permanent mould casting.

What is permanent mould ?

It is a metal mould, consisting of two or more parts which is used in repeating processes for a batch of production.

In this project, the writer will briefly describe the existing process and the problem faced in the industry. And the main content of the project is on the permanent mould design.

In permanent mould design, we first carried out the testing and analysis of the suitable material for making mould. We found out that the most suitable mould material for brass is cast iron. The detail of the experiment will be described in Chapter 3. The most important part is to observe and analyse the characteristic of mould material (cast iron) and cast material (brass). Here, the application of mould coating is also introduced.

## Introduction

First section of this chapter will generally discuss on the existing method. It includes the development and the techniques used.

The idea is to give some basic knowledge on the existing process. This basic knowledge hopefully will give some idea on how or why the permanent mould is important. The main objective of this project is to develop the technology such that the industry can be established in other areas, other than state of Trengganu.

Due to lack of basic technical knowledge and some other factors, there are few problems arised in this industry which will be described at the end of the chapter.

### 1.1 The existina process

The production of brassware in this industry is done by mean of lost-wax sand casting. The casting operation is similar to the normal casting operation where the pattern is made of wax.

When the mould is ready, the pouring of molten metal is performed. In the melting process the producer has to depend on his experience and knowledge that is passed from generation to generation. This method is proved to be quite accurate. (i.e. by distinguishing the colour of the flame, refer to 1.2)

During the pouring process, the metal filled the mould cavity which is covered by moist sand. The application of clay is necessary to seal leaks.