

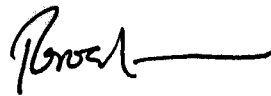
**OPTIMIZATION OF INJECTION MOULDING PARAMETERS USING
CADMOULD SIMULATION SOFTWARE FOR COVER FOG LAMP**

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This Final Year Project Report entitled “**Optimization of Injection Moulding Parameters Injection Moulding Parameter Using Cadmould Simulation Software for Cover Fog Lamp**” was submitted by Mohammad Marzuki Bin Ashari, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Polymer Technology, in the Faculty of Applied Science, and was approved by:



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ABSTRACT

OPTIMIZATION OF INJECTION MOULDING PARAMETERS USING CADMOULD SIMULATION SOFTWARE FOR COVER FOG LAMP

This study was conducted to optimize injection moulding parameter using Cadmould simulation software for Cover Fog Lamp. Cover Fog Lamp parts for model MYVI SE2 (D96T) is simulate by using Cadmould. Cadmould is CAE software that uses to simulate plastic flow during injection moulding process. Cover Fog Lamp is made by using Polypropylene materials grade OX544M2AM4 BUB6UV producing by company name Colouring and Compounding Sdn. Bhd. In this study, the parameters chosen were filling time, packing time, and cooling time. This parameter was varied and their effect on shrinkage and warpage was simulated. Based on this study, it was found that the increasing of filling time (injection speed), packing time, and cooling time will minimize the shrinkage. Besides that, the defect such as sink mark that detected using Cadmould simulation appears on the actual process. The dimension of part that determine by using simulation is almost same to the actual dimension. This simulation process also detected unbalance filling that occurs in the actual process. Generally, it can be concluding that the CAE simulation technique was useful to optimize the injection moulding parameter in order to obtained perfect parts.

CHAPTER 1

INTRODUCTION

1.1 Background

This study was carried out with the cooperation of company named HICOM Teck See Manufacturing Sdn.Bhd. Incorporated in 1991; HICOM Teck See Manufacturing Malaysia Sdn. Bhd. is part of DRB-HICOM group of companies. With 586 employees, HTS are the leading manufacturer of precision plastic injection moldings for the Malaysian automotive industry. This company made part for car such as PROTON, PERODUA, NISSAN, TOYOTA and NAZA. The products include large part such as bumper until medium size part such as cover fog lamp.

Injection moulding is manufacturing technique for making parts from thermoplastic or thermoset plastic material. Nowadays, the injection moulding becomes most common and important processing to produce plastic product such as automotive parts, electronic component, electric parts, household goods, and many more. The reason injection moulding becomes common processing plastics part manufacturing because it can produce simple or complex part, high quality product, and high speed manufacturing.