FINAL YEAR PROJECT REPORT

BACHELOR OF ENGINEERING (HONS) (MECHANICAL)

FACULTY OF MECHANICAL ENGINEERING

MARA INSTITUTE OF TECHNOLOGY

SHAH ALAM

DESIGN OF PLASTIC INJECTION MOULD

OF A DRAINAGE FILTER

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ABSTRACT

The objective of the project is to design a drainage filter mould for plastic injection. A case study was carried out in relation to all design activities. In the course, material selection, method of design, and time required for the design processes were identified. Cost estimation, method of manufacturing, dimensioning and design concepts were also incorporated.

UniGraphics software was used to design the mould where all concept of the design were translated to the drawing. The complete mould design can be applied in mass production. However, modifications to the original design manufacturing method and process would yield a better result.

ACKNOWLEDGEMENT

In the name of Allah, the most Gracious and Merciful

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May Allah bless of us,

Thank you.

Aishah Bte Taha
Zulkefli B. Abu Bakar

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1.0 INTRODUCTION

1.1 Basics of Mould

Injection mould is the mechanism into which the hot plasticized material is injected and maintained under pressure while it cools into a commercially acceptable shape. When the plastic material has sufficiently solidified, the machine opens, separating the two halves of the mould. The plastic pieces are then ejected.

Basically, mould has two sets of components;

i) the cavities and the cores

ii) the base which the cavities and cores are mounted

Figure 1.1a to Figure 1.1c show typical layouts and description of parts in the mould, including the cavities and cores.

The mould, which contains one or more cavities, consists of two basic parts: a stationary mould half on the side where the plastic is injected, and a moving half on the closing or ejector side of the machine. The separation between the two mould halves is called the parting line. In some cases, the cavity is partly in the stationary and partly in the moving sections.