ADVANCED DIPLOMA IN MECHANICAL ENGINEERING
MECHANICAL ENGINEERING DEPARTMENT
SCHOOL OF ENGINEERING
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DESIGN AND FABRICATION OF AN EXTRUSION TEACHING AID RIG

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MEI 1996

DECLARATION

This thesis is submitted to the School of Engineering , MARA Institute of Technology in partial fulfillment of the requirement for the Advanced Diploma in Mechanical Engieering.

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ABSTRACT

Extrusion Machine is one of famous machine that use a factory in Malaysia.

Hot Extrusion Machine is most used at factory in Malaysia.

It is used primarily to manufacture semifinished products such as bars , tubes or profile sections.

The main advantage over other processes ,such as rolling or bar drawing ,is that practically any desired cross-sectional shape can be produced , that is , not only solid sections but also hollow sections with differently shaped inner and outer contours where required.

CHAPTER 1

1.0 INTRODUCTION

Extrusion is the process of forcing a heated billet to flow through the die opening of desired shape.This process is used to produce long,straight, semi-finished metal products of constant cross section ,such as bars, solid and hollow sections,tubes,wires and strips.There are basically three variations of extrusion,depending on the lubrication technique used.In the nonlubricating extrusion process a flat-face die is used and the material flows by internal shear and causes a dead- metal zone to form in front of the extrusion die.In the lubricated extrusion a suitable lubricant is present between the extruded billet and the extrusion tooling ,i.e. the container and the die. The third and most recently developed technique is hydrostatic extrusion , in which a fluid film between the billet and the tooling exerts pressure on the deforming billet. Hydrostatic extrusion is used only in unusual applications for extruding special alloys,composites or clad materials,where adequate lubrication cannot be easily provided by conventional lubrication techniques.For all practical purposes,hydrostatic extrusion can be considered to be a special advanced version of the lubricated extrusion process.