

UNIVERSITI TEKNOLOGI MARA

**SMALL SCALED PLASTICS
MOLDING EXTRUSION**

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Dissertation submitted in partial fulfillment
of the requirements for the degree of
Diploma
(Mechanical Engineering)

College of Engineering

Feb 2023

ABSTRACT

Plastic extrusion is a higher production technology that involves melting and molding a polymer material in a continuous process after adding the proper additives. Nowadays, most raw materials, such as aluminum, are relatively expensive due to the manufacturing procedures required. To save money, this Small Scaled Plastics Molding Extrusion will assist users in obtaining lower-cost raw materials to complete their projects using only crushed plastic. Extrusion of plastic profiles allows us to produce a large number of parts in a short amount of time at a low cost. Extrusion is a fast and efficient method of producing continuous shapes of varying lengths. With minimal waste, large quantities of products can be produced. Furthermore, the material used is heated and forced through a shaped cut in a metal plate during the plastic extrusion process, resulting in a continuous form that may be stretched and then cooled to set. Once cooled, these linear products can be trimmed to length to make plastic pieces. Extrusion of plastics is a high-volume manufacturing method that involves melting raw plastic and forming it into a continuous shape. Pipes, tubing, and door profiles are examples of items with a continuous profile that students can utilize to produce for their final year project for the next year. It is because of the project's low cost when they used this plastic molding. In future, students just need to find and collect used plastics and mold them so that they can use it to create something such as table, pipe, and chair for their project. Then, a small scale of extrusion molding is projected to shape at the end of the project. The size of the molding plastic extrusion product is determined by the equipment that we have set up.

ACKNOWLEDGEMENT

First and foremost, I want to express my gratitude to God for providing me the chance to pursue my diploma and for seeing me through this exhausting and difficult process. My gratitude and thanks go to my supervisor, Ts Dr Mohamad Farid Misnan and Sir Muhammad Amir Bin Mat Shah for being the best advisor for me to do this Final Year Project until I manage to do this Small Scaled Plastic Molding Extrusion machine. Not to forget Sir Fadzli, Sir Helmi and assistant engineer Mr Bakri, Mr Nabil, Mr Jamil and others who are really helpful in my project's fabrication, small scaled plastic molding extrusion.

Finally, I dedicate this dissertation to my parents for having the foresight and perseverance to send me to school. I dedicate this win to the two of you. Alhamdulillah. Furthermore, I would like to say thank you to all my friends who are very nice to me, help me to do the machining process and give some ideas to improve my project.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Materials or substances used in the primary production or manufacturing of things are known as raw materials. Steel, oil, corn, grain, gasoline, lumber, forest resources, plastic, natural gas, coal, and minerals are examples of raw materials. Direct raw materials are those that are used directly in the manufacturing process, such as wood for a chair. Extrusion is a fast and efficient method of producing continuous shapes of varying lengths. Plastic materials are changed from solid to liquid and then regenerated into finished products during the plastic extrusion process. To look at it another way, plastic is melted and then molded into the required shape. Plastic extrusion is the process of melting plastic in order to shape it into the required profile. Extrusions of plastic are utilized extensively in a variety of industries, including construction, manufacturing, transportation, retail, and events.

Plastic extrusion is a high-volume manufacturing technique in which a polymer material is melted and molded in a continuous process after being enhanced with the appropriate additives. Plastic profile extrusion enables us to make a large number of pieces in a short amount of time at a reasonable cost. Extrusion is a quick and effective way to make continuous forms of various lengths. Large quantities of products can be produced with minimum waste. In addition, other than can save cost, plastic extrusion also can help us to save our environment. User can only recycle used plastic to produce plastic extrusion molding in a short time. Indirectly, it can save energy and time to complete the process of extrusion as we do not need to keep repeat do the molding process.

1.2 Problem Statement

In its simplest form, a raw material is a natural resource that is used to produce goods, finished goods, or intermediate materials that are used as feedstock for upcoming