CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

Methodology is an important element where it specifically describes the method to achieve the objectives of this research. Methodology is used in order to make sure the progress of the project will follow the flow from the beginning until the end of the project.

In this project, there are four major stages that have been involved. They were:

- i. Mould design
- ii. Material preparation
- iii. Material processing
- iv. Samples testing

The flow of process for this project is illustrated in a methodology flow chart (See Figure 3.1). Flowchart is a visual representation of the sequence of the project. The flowchart shown will give the whole picture of this project from the initial step until the final step.

Mould design

-design the mould by using drawing software; AutoCAD. Then, produce the mould by machining operations.

Recycled material preparation

-produce dog bone specimen in a lot quantity that to be crushed later in order to obtain recycled material via injection moulding process.

Crushing process

-the dog bone specimens produced earlier are crushed via crushing machine.

Mixing process

-recycled HDPE will be mixed with pure HDPE according to percentage stated at below.

- 100% pure / 0% recycled
- 90% pure / 10% recycled
- 70% pure / 30% recycled
- 50% pure / 50% recycled
- 30% pure / 70% recycled
- 10% pure / 90& recycled
- 0% pure / 100% recycled



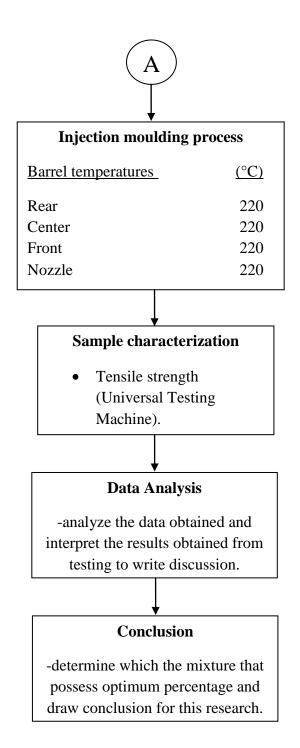


Figure 3.1: Flowchart that illustrate on experimental methodology.