CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

In order to achieve the objectives of this research, the experimental works of research were conducted and presented in chapter. The experimental procedures included the preparation of specimens, casting and curing process, preparation and application of Carbon Fiber Reinforced Polymer (CFRP). All the details were elaborated in the following sections. Figure 3.1 presents the flowchart of the overall experimental works in this study.
Figure 3.1: Flow chart
3.2 PREPARATION OF SPECIMENS

All the preparatory works of specimen materials were conducted in Laboratory of FKASA.

3.2.1 Formwork

The traditional timber formwork was chosen by considering the economic criteria, lightweight and available sources in the FKASA laboratory. The main function of the formwork is allowing the reinforcement bar to fit in and withstand the weight of fresh concrete. The formworks are made by a combination of plywood act as concrete shuttering panels and wooden planks as an outside shutter. The quality of the plywood and wooden planks always been checked before cut into required shape and dimensions in order to prevent the formation of rough concrete surface and unwanted wastage. All the beams were cast simultaneously, a total of 4 timber formworks were assembled horizontally with an approximately constant length of 2530 mm and a rectangular section of 730 x 120 mm. The release agent (mould oil) was applied on the inner surface of the formwork in order to prevent the adhesion of concrete after hardened and ease for the formwork to be disassemble.

Figure 3.2: Formwork of beam specimen