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THE STRUCTURAL BEHAVIOUR OF PRECAST PRESTRESSED HOLLOW CORE SLABS SUBJECTED TO POINT LOAD

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"May Allah Bless Them All"

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ABSTRACT

The main purpose of this project is to study on the behaviour of Precast Prestressed Hollow Core (PHC) slabs subjected to a certain conditions and requirements.

A total number of two specimens of PHC slabs type S6/200 (according to Precast Technology Sdn. Bhd.), will be tested in heavy structural laboratory located at ITM. The research will be focus on the crack propagation, deflection, mode of failure, stress-strain at point load and punching shear surrounding the point load are satisfy under service load condition.

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1.0 INTRODUCTION

Precast Prestressed Hollow Core slab originated from the US in early 1950's when advances in long line stressing techniques and concrete production were greatly advanced. The units are especially advanced with regard to their high quality and low use of materials. The efficiency of the products is due to the prestressing and the low self-weight. This coincided with the development of 7-wire helical strand in 1951 - a form of reinforcement that could be stresses over large distances. The slabs are manufactured using the slip-forming (non-circular voids) or long line extrusion (circular voids) process in which the degree of prestress and depth of unit are the two design parameters. [2]

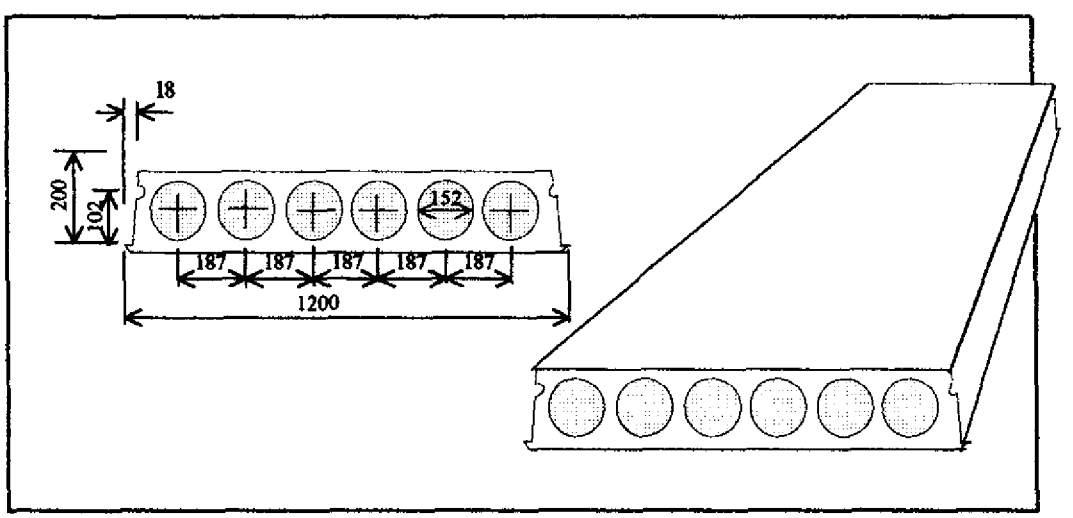

Figure 1.0: Typical hollow core unit