# MECHANICAL PROPERTIES OF TIRE REPLACED CONCRETE

KHADIJAH HAMZAH

B. Eng (Hons) (Civil) MARA UNIVERSITY OF TECHNOLOGY 2007

## MECHANICAL PROPERTIES OF TIRE REPLACED CONCRETE

By

### KHADIJAH HAMZAH

Report is submitted as the requirement for the degree of **Bachelor Engineering (Hons) (Civil)** 

UNIVERSITY TEKNOLOGI MARA APRIL 2007

#### **DECLARATION**

I Khadijah Binti Hamzah, 2004355249 confirm that the work is my own and that appropriate credit has been given where reference has been made to the work of others.

(15/5/2007)

#### ACKNOWLEDGEMENT

Allhamdullilah, first of all I would like to thank the Almighty Allah who gave me strength to complete final year project. Deep appreciation is extended to my supervisor, Mr. Arreshvhina Narayanan for his willingness to advise and motivate throughout the process of preparing and completing this project.

Special thanks are addressed to employee of UiTM's Penang for their friendliness, support, comment and help, all of which lent to the completion of this final year project.

Last but not least, the most important acknowledgement is owed to my beloved family and everyone that helped me to finish this report. Thank you for their understanding, support and expectations, which have been a constant source of strength.

A bunch of thanks are also dedicated to those who were directly and indirectly involved in this report.

#### ABSTRACT

This thesis present on the mechanical properties of tire replaced concrete. The effect on replacement of coarse aggregate by rubber tire was investigated in this study. Three different contents of rubber tire chips were used: 10%, 20% and 30%. There are three test has been undertaken which are workability test, compression test and flexural test in order to examine the mechanical properties of tire replaced concrete, cubes with dimension  $150 \times 150 \times 150$  mm were used for compressive strength and prisms with dimension  $50 \times 50 \times 250$  mm were used for flexural strength. The result on specimen which contained rubber tire was compared to control specimen result. The incorporation of these rubber tires in concrete exhibited a reduction in compressive and flexural strength according to the percentage of tire replaced.