

**A STUDY ON MECHANICAL PROPERTIES OF
TIRE REPLACED CONCRETE USING
REBOUND HAMMER TEST AND SHRINKAGE
TEST**

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**B.ENG (HONS) (CIVIL)
UNIVERSITI TEKNOLOGI MARA
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REPLACED CONCRETE USING REBOUND HAMMER TEST
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By

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Report is submitted as
the requirement for degree of
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DECLARATION BY THE CANDIDATE

I Muhamad Izwan Bin Ahmad Fuad, 2004117753, confirm that the work is my own and the appropriate credit has been given where reference has been made to the work of others.

..... April 9, 2007

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ABSTRACT

Large quantities of waste tires are generated every year. The proper disposal of the tires creates an increasing problem that needs to be addressed. Many researchers have investigated the use of recycled tire products in several traditional Civil Engineering materials. The use of crumb rubber in Portland cement concrete has been the subject of many research projects over the last years. This study is focusing on the use of crumb rubber, a byproduct of the tire recycling process, in concrete mixtures. Different percentage of crumb rubber were fabricated and tested in rebound hammer test and shrinkage test. The main variable in the mixtures was the volumetric percentage of the crumb rubber. The experimental results indicate that although the surface hardness is reduced when crumb rubber is used, the shrinkage of the material greatly decreases. Moreover, concrete mixed with crumb rubber up to about 30% by cement weight is found to improve non-structural crack resistance.