Ductility of Fiber Reinforcement Self-Compacting Concrete Incorporated With Cement Replacement Materials

By

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CERTIFICATION OF APPROVAL

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Approved by,

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UNIVERSITI TEKNOLOGI PETRONAS

TRONOH, PERAK

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CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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ABSTRACT

The concrete is the man-made material which is well-known and enormously utilized by the whole world. This matter leads to crucial problems related to its design and expectation to finally gain an economic cost of the product for both short and long duration. The concrete need to be also environmental friendly during its fabrication process .

In order to fulfill the society requirements, concrete's performances have frequently rise from one time to another. The effort from various researchers have developing concrete's achievement throughout many aspects. Also, a lot of research and studies have been done touching the mixing of additive super–plasticizers in the concrete for passing the minimum water content in achieving a good workability of a concrete. As a result from the studies, high performance of concretes which have high durability were generated.

To enhance the concrete performance, straight type steel fiber is used. The fibers will improve some characteristics and properties of the concrete. Five mixtures of concrete with different percentage of volume fraction (0, 0.5, 1.0, 1.5 and 2.0) of straight type fibers will be investigated in this studies.

The hardened properties of the concrete will be determined by some experiments conducted like compression strength, flexural strength, tensile strength of the concrete. The V-funnel, and slump test also will be conducted to access the fresh properties like workability and flowability of the concrete. The result will indicate the increase strength of the concrete.

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