

11th International Conference on

ADVANCED MATERIALS & PROCESSING

September 07-08, 2017 | Edinburgh, Scotland

The performance of polypropylene fiber reinforced concrete: Mechanical properties

Noor Faisal Abas, Zakariah Abd. Ghani and Nur Dalila Zulkifli
Universiti Sains Malaysia, Malaysia

This paper investigated the mechanical properties of polypropylenes fibers on normal concrete. Effects of addition polypropylene fiber on concrete are studied. Polypropylene fiber act as additives by volume. This research are conduct with three different type of mixing where each of mix containing different percentage of polypropylene fiber that are 0.3%, 0.6% and 0.9%. Compression test, flexural test and water absorption test were carried out to determine the mechanical properties. All tests are conduct by using a standard method of testing. The different type of mixing has been tested with different aged 7, 14, 21 and 28 days. The overall specimen that was prepared to tests is 48 cubes and 32 prisms. From the data obtained, results show that slightly increase in compressive strength. But, the higher the fibers content, the lower its strength. This research indicated that 0.3% fibers have higher result in compressive test while 0.9% higher in flexural strength. The lowest percentage of water absorption test is 0.3% with 5.19% at 28 days.

Biography

Associate Professor Dr. Noor Faisal Abas is currently a senior lecturer at the School of Housing, Building and Planning, University Sains Malaysia, Penang, Malaysia. He has published his academic articles in indexed journals and presented many international and local papers in the field of engineering, building material and building construction. He is leading a few research projects on alternative building materials, cement replacement materials and fiber concrete. His area of expertise is building technology and construction material.

nfaisal@usm.my

Notes: