IMPACT OF CUTTLEFISH BONE ADDITIVE ON FOAM CONCRETE

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DECLARATION BY THE CANDIDATE

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This topic has not been submitted to any other academic institution or non – academic institution for any degree or qualification. I, hereby acknowledge that I have been supplied with the Academic Rules and Regulations for Under Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Foam concrete is a type of lightweight aerated concrete which does not contains any coarse aggregate and can be classified as aerated mortar. Foam concrete is produced by adding a pre-formed foam into a mortar mixture which the foam functions is to create an air voids in cement slurry. Foam is generated using foam generator by diluting the foaming agent with water and aerated them to form the foam. After the foam is produced, it will be mix with mortar proportions to become aerated mortar. The density of the mortar will be depends on the amount of foam added into a mortar mixture. Foam concrete can be designed with varies of density with the dry density range between 300 – 1850 kg / m3. In this study foam concrete is added with marine additive which is cuttlefish bone. Cuttlefish bone is believed to have a high calcium carbonate content which can enhance the early strength of foam concrete. With target density of 900 kg/m3 and 1800 kg/m3, total 42 cubes are prepared with each density having 1, 2, 3 and 4% of cuttlefish bone additive were added. The compressive strength of foam concrete were investigated and evaluation of the results with past study was compared and the results are reported.

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