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CHARACTERISTIC OF COMPRESSIVE STRENGTH TOWARDS MICROWAVE ABSORBER FOR LIGHTWEIGHT PALM OIL FUEL ASH CEMENT BRICK

SITI FAIRUZ FADHILAH BINTI MOHD NAIM

Faculty of Electrical Engineering

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ABSTRACT

The implementation of pozzolanic material in concrete construction is broadening, one of the latest addition to this Palm Oil Fuel Ash (POFA). This POFA which contains siliceous composition produces a stable and denser breeze block. The consummation of POFA in concrete will lessen the cost of concrete production and could lower the negative environmental effect. For this research, the effectiveness of POFA as a partial cement replacement in high-performance concrete in term of strength and absorption were investigated. In the beginning, concrete containing POFA as cement replacement of 10%, 20% and 30% had subordinate strength development than control concretes while at a later age of 28 days[1]. The POFA were replaced with a ratio of 10%, 20% and 30%. In this study the 20% of POFA will be used as a cement replacement then the specimen was cured using water for 7, 14 and 28 days[2]. The POFA gave a good compressive strength increasing within the time curing and concrete with 20% replacement of ground POFA had the highest strength[3]. While the characteristic of POFA cement can be proper simulate, modelling and analyses by using Computer Simulation Technology (CST). Then the strength of the brick will be tested using the automatic compression machine.The preeminent parameter such as reflection loss, dielectric properties and absorption performance will be observed in this project. The absorber will be measured by using X-band frequency range 8-12GHz. Absorber will characterize their electric permittivity and magnetic permeability and absorber are used in advance application especially to terminate stray or undesired radiation that could disturb in a system operation.To imply the application of absorber, the material that has been choosing must have the most amount of permittivity and the permittivity comes from the dielectric of pozzolan material. Pozzolan material is known as a natural rock or volcanic origin that contain silica (Si) and aluminum oxide (Al_2O_3)[4].

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INTRODUCTION

1.1 BACKGROUND OF STUDY

It is realized that there are a few things that effect to human well-being one of it is excessively presented to electromagnetic radiation. As should be obvious these days there are numerous media transmission towers were worked close to the school, the town even in a rustic place. This is on the grounds that individuals were occupied with having collaboration worldwide without the need to move. Electromagnetic radiation was classified in some recurrence for various client and there is some high recurrence that will offer impact to the human body in a long haul. Keeping in mind the end goal to conquer this issue, this paper was considered by utilizing biomass material to concoct some safeguard application that additionally can be utilized as a part of the foundation. With the expanding mindfulness about the earth, shortage of landfill space and because of its expanding cost this venture can likewise unravel on squander material that has been the signature issue and worries on the planet including Malaysia.

One of the way is making a brick cement by using a certain amount of Palm Oil Fuel Ash (POFA). Other else the reduction of cement content in concrete can also be achieved by utilization of supplementary cementations material such as fly ash, blast-furnace slag, natural pozzolans and biomass ash. Other than that, cement based composite with electromagnetic protection (CEP) have a unique properties that act as superior electromagnetic wave absorption, structure bearing capacity and unchanging structural rigidity. CEP also can be used to shield electromagnetic radiation from human body, purify environment electromagnetic pollution and prevent data leakage.