UTILIZATION OF RICE HUSK ASH AND MUD CLAY FOR THE PRODUCTION OF NON-CEMENTED BLOCK

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ABSTRACT

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This study was conducted to test and assess the potential of RHA and mud clay as supplementary material in block production. It aimed to test the physical and mechanical properties of the blocks produced, determine the optimum proportion based on the evaluation and to assess if the block is suitable as an irrigation wall.

Blocks were made with different proportions of two (2) treatments in this study, the blocks with 10% RHA and 90% clay, and 20% RHA and 80% clay, each having two (3) replicates, for a total of six (6) experimental units. The study was laid out following TTEST. Blocks produced have a dimension of 19 cm, 7.5 cm and 5 cm in length, width and height, respectively. The block samples were subjected to the different tests to determine their physical, mechanical properties and optimum proportion as an irrigation wall.

Results showed that in terms of water absorption and density, the bricks with 10% RHA and 90% clay obtained optimum proportion, having 24% water absorption and 702.53 kg/m^3 density. While, the firing shrinkage percentage was found that all the three treatments passed the optimum proportion. However, the lowest firing shrinkage was asses to be lowest in blocks with 20% RHA and 80% clay accounting to 0.889%. Meanwhile, the blocks with 10% RHA and 90% clay obtained the highest compressive strength va

of 3.68 MPa. Therefore, it was concluded that 10% RHA and 90% clay was best among the treatments as an irrigation wall.

Keywords: RHA, mud clay, irrigation wall, blocks

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