

Review paper: Performance of rice husk ash as a material for partial cement replacement in concrete

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ABSTRACT

The construction industry had approached a critical limit which led to the increase of cement production. The production of cement would cause a broader environmental implication. Cement production is a major source of carbon dioxide emission. Carbon dioxide gas contributes about 63.33% of global warming since the production of one ton of cement would emit about one ton of carbon dioxide to the environment. To mitigate this issue, the research community has investigated the use of waste materials that possess similar chemical properties with cement content as a material for partial cement replacement. The use of rice husk ash has shown to be a contending candidate in the literature. Therefore, this paper attempts at reviewing the performance of rice husk ash as partial cement replacement. It could be observed from the literature that concrete with 5% up to 15% of rice husk ash showed an equivalent performance to ordinary concrete in compressive, flexural, and tensile strength. Thus, rice husk ash can be used as a material replacement in concrete and reduces pollution that originates from cement production and open burning of rice husk.

KEYWORDS

Rice husk ash; Performance; Partial cement replacement; Concrete

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