

Effects of Crushed Waste Aggregate from the Manufacture of Clay Bricks on Rendering Cement Mortar Performance

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Abstract : This paper reports an experimental work that aimed to investigate the effects of clay brick waste, as part of fine aggregate, on rendering mortar performance. The brick, in crushed form, was from a local brick manufacturer that was rejected due to being of-standard. It was used to replace 33.33 %, 50 %, 66.66 % and 100 % by weight of the quarry sand in mortar. Effects of the brick replacement on the mortar key properties intended for wall plastering were investigated; these are workability, compressive strength, flexural strength, linear shrinkage, water absorption by total immersion and by capillary suction. The results showed that as the brick replacement level increased, the mortar workability reduced. The linear shrinkage increases over time and decreases with the introduction of brick waste. The compressive and flexural strengths decrease with the increase of brick waste because of their great water absorption.

Keywords : clay brick waste, mortar, properties, quarry sand

Conference Title : ICCESE 2016 : International Conference on Civil, Environmental and Structural Engineering

Conference Location : Prague, Czechia

Conference Dates : March 30-31, 2016