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Influence of Recycled Glass Content on the Properties of Concrete and Mortar

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Abstract : The effect of replacement of fine aggregates with recycled glass on the fresh and hardened properties of concrete and mortar is studied. Percentages of replacement are 0–25% and 50% of aggregates with fine waste glass to produce concrete and percentage of replacement of 100% to produce mortar. As a result of the conducted study, the slump flow increased with the increase of recycled glass content. On the other hand, the compressive strength and tensile strength of recycled glass mixtures were decreased with the increase in the recycled glass content. The results showed that recycled glass aggregate can successfully be used with limited level for producing concrete. Mortar based on glass shows a compressive strength with 50% lower than that of control mortar.

Keywords : compressive strength, concrete, mortar, recycled glass
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