

ABSTRACT

The aim of this study is to explore the possibility of recycling waste materials of brick aggregates (BA) and demolition concrete aggregates (DCA) in the self-compacting concrete (SCC), by studying these fresh and hardened properties. A reference mixture based on natural aggregates (NASCC) and six mixtures incorporating recycled brick aggregates (BASCC), recycled demolition concrete aggregate (DCASCC) and combination of recycled brick and demolition concrete aggregates (BDASCC), as replacement of natural aggregates have been prepared. Slump flow, L-box, and sieve stability were performed to assess the fresh properties of the prepared mixtures. Compressive strength, splitting tensile strength and flexural strength of the concrete were determined for the hardened properties. The obtained results are very interesting, suggesting a possible use of brick aggregate and demolition aggregate concrete in formulation of SCC, and can lead to new concrete with satisfactory physical mechanical properties.