

THE USEFULNESS OF CONSTRUCTION AND DESTRUCTION WASTE AS RECYCLED AGGREGATES IN CONCRETE

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ABSTRACT:

Worldwide, a high proportion of generated total solid waste is Construction and Demolition Waste (CDW), the majority of which ends up in landfills. It has been proposed that this type of waste has potential for being recycled and reused as aggregates in production of fresh concrete, particularly for basic usage. The present study explores how feasible it is to produce concrete with Recycled Aggregate Concrete (RAC) derived from CDW combined with rubber, glass, and flakes. To this end, the study provides a general discussion of the engineering properties of RAC and investigates how the properties of fresh and hardened concrete are affected by the recycled material. To make it more impervious, RAC was subjected to treatment. According to the findings, concrete of satisfactory quality could be produced with the recycled material derived from a site-tested concrete specimen. Furthermore, the properties of compressive and flexural tensile strength varied depending on the differences in size of RAC components, but with regard to compressive strength, the recycled material in the freshly produced concrete was similar to normal concrete.