

Strength of concrete with ceramic waste and quarry dust as aggregates

Abstract

This research focuses on a study of the strength of concrete with ceramic waste as coarse aggregate and quarry dust as fine aggregate. The sources of ceramic waste and quarry dust are obtained from the industrial in Malaysia. Presently, in ceramics industries the production goes as waste, which is not under going the recycle process yet. In this study an attempt has been made to find the suitability of the ceramic industrial wastes and quarry dust as a possible replacement for conventional crushed stone coarse and fine aggregate. Experiment were carried out to determine the strength of concrete with ceramic waste coarse aggregate and quarry dust fine aggregate to compare them with the conventional concrete made (with crushed stone coarse aggregate). From the results show that compressive strength of concrete with quarry dust as aggregates is the highest with 30.82 MPa with density 2251.85 kg/m³. This show, ceramic waste and quarry dust can be alternative aggregate for comparable properties.

Keywords

Aggregates; Ceramic waste; Compressive strength; Quarry dust