

Construction of Green Aggregates from Waste Processing

Authors : Fahad K. Alqahtani

Abstract : Nowadays construction industry is developing means to incorporate waste products in concrete to ensure sustainability. To meet the need of construction industry, a synthetic aggregate was developed using optimized technique called compression moulding press technique. The manufactured aggregate comprises mixture of plastic, waste which acts as binder, together with by-product waste which acts as fillers. The physical properties and microstructures of the inert materials and the manufactured aggregate were examined and compared with the conventional available aggregates. The outcomes suggest that the developed aggregate has potential to be used as substitution of conventional aggregate due to its less weight and water absorption. The microstructure analysis confirmed the efficiency of the manufacturing process where the final product has the same mixture of binder and filler.

Keywords : fly ash, plastic waste, quarry fine, red sand, synthetic aggregate

Conference Title : ICGCSE 2018 : International Conference on Green Concrete and Sustainable Environment

Conference Location : Sydney, Australia

Conference Dates : December 03-04, 2018