

ABSTRACT

Concrete is a mixture of cement sand and coarse aggregates. The three components are mixed in different proportions to obtain various classes of concrete. In this view, the use of natural resources to make concrete has high environmental impact. This precedent sets a condition that affects the environment and balance of things. It is therefore imperative to keep developing ways that will put to best use the existing resources to obtain maximum production. The purpose of this research is to examine and check the behaviour of concrete when a percentage of metal is included in the mixture. Metals are generally good ductile elements and would have the capacity to carry tensile loads. Aluminium was incorporated in the mix design as a partial replacement of coarse aggregates to study the effect on fresh concrete characteristics as well as the properties of the hardened concrete. A series of tests on fresh and hardened concrete were performed and analysis done comparing the partial replacement with the ordinary concrete mix. The samples that contained scrap Aluminium had reduced compressive strength compared to the control samples. The tensile properties and slump value were optimum for the 10 % replacement sample. The addition of metal definitely affects the performance of concrete mixes