ABSTRACT:

Concrete is the most popular binding material that is being used for many years and is serving the purpose of binding very effectively. Concrete doesn't represent a single material. It is the combination of binding material, aggregates, and water. Concrete has many applications in design and construction industries. It has become indispensable and very popular because of its accessibility and ease of manufacturing. Even though numerous binding materials have been invented in the construction industry, the usage of this wonderful material has not decreased but has been increasing every day. But in the recent days, the manufacture of concrete ingredients is posing many problems. For example, the manufacturing of cement1 on a huge scale is increasing the environmental pollution. The concrete industry is trying constantly to find the alternate materials for cement. Fly ash has been used as the alternate material for their placement of cement for many years. Apart from these materials, for replacement, many innovative materials are also been used as replacement materials in the recent construction works. Some of the replacement materials are the rice-husk ash, silica fume, Ground Granulated Blast furnace Slag (GGBS) etc., These replacement materials are been used in case of high strength concrete also. In my study, I have used Groundnut shell Ash (GNSA) as a partial replacement of cement. The use of agricultural waste products such as groundnut shells as a replacement for cement could reduce the cost of construction and helps take care of energy and disposal problems.

Experimental studies were performed on Conventional concrete with replacement of cement with groundnut shell ash is done. The Compressive Strength Test, Split Tensile test and Flexural Strengthof concrete with 0%, 15% replacement of cement with ground nut shell ash cured in normal water for 3,7, and 28 days are done. From Compressive strength test and the Split tensile strength tests,it is observed that up to 15% replacement there is increase in strength and after 15% after replacement there is decrease in strength shows that 10% replacement of cement shows better results.

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