

ABSTRACT

Concrete is the most versatile material due to the persistent and continuous demands made on concrete. Engineers are continually pushing the limits to improve its performance with the help of innovative chemical admixtures and supplementary cementitious materials like fly ash, silica fume granulated blast furnace slag and steel slag etc, the use of large quantity of cement produce increasing co2 emissions and consequence the greenhouse effect.

Nano technology is the one of the most promising areas of science. The use of nano materials in the concrete is new revolution. Nano materials like nano silica, silica fume, nano titanium oxide, carbon nano tubes, nano alumina etc. Which are presently used in concrete to modify its strength properties. In the present study, strength properties such as compressive strength test, slump cone test of grade of M25 concrete with the use of nano silica [1%, 2%, 3%] as partial replacement of cement were studied. It was an experimental study that concrete composite with superior properties can be produced using nano silica.

Keywords: concrete, nano technology, nano silica, strength properties, grade of concrete, chemical admixture, nano materials.