Study on High Performance Green Concrete Incorporating Zeolite

Arvind saravan R[1], Annadurai [2]

1 Research scholar, Department of civil Engineering, SRM institute of science & Technology kattankulathur Tamil Nadu,
2 Professor, Department of civil Engineering, SRM institute of science & Technology kattankulathur Tamil Nadu,
arvindsaravan@gmail.com

ABSTRACT

Concrete is the single most and widely used building material around the globe. It is a heterogenous composite that consists of a combination of readily Basic materials. The reason behind the enormous use of concrete in construction lies in itself .It is versatile ,reliable and sustainable in nature because of its strength ,rigidity durability ,mouldability ,efficiency and economy .Basic materials like cement, fine aggregate and coarse aggregate are unavailable or scarce .To meet the global demand of concrete in the future it is necessary to use alternative materials in construction which can fully or partially replace basic materials without affecting the fresh and hardened properties of concrete .Global warming and environmental destruction have become the major issue in recent years .The major principle of global warming is Carbondioxide .Green concrete made with concrete wastes produces less energy in its production and produces less carbon dioxide than normal concrete .It improves strength ,workability and durability of the structures. Zeolite is a type of natural Pozzolanic material which is used as an alternative to improve the durability of concrete. It is a crystalline solid structure made up of silicon, aluminum and oxygen that forms a form work. Zeolite is available in powder and in sand form. It has a good Pozzolanic activity and ability to absorb carbon dioxide from the atmosphere. Cement and fine aggregate have been partially replaced by zeolite. Using of zeolite in concrete can prevent bleeding, segregation and minimize cracking. Due to this zeolite products have been successfully applied to overcome some construction difficulties in engineering practices

Keywords: *zeolite, carbon dioxide, durability ,Pozzolanic, Bleeding*