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(57) Abstract :
ABSTRACT OF THE INVENTION PERFORMANCE OF STEEL FIBER REINFORCEMENT CONCRETE ON PAVEMENTS INVOLVING NANO SILICA AND ZEOLITE The present invention relates to performance of steel fiber reinforcement concrete on pavements involving nano silica and zeolite. Nano-Silica and Zeolite were included in different dosages and the optimum combination of the above two materials (Nano-Silica -1% and Zeolite- 10%) has been obtained through trails from the viewpoint of workability and strength. Steel fibers have been added in varying volume fractions of 0.5%, 1.0% & 1.5%. Tests have been performed on cubes, cylinders, and prism specimens to evaluate the impact of steel fibers on various hardened and durability parameters of the ternary blended concrete. The test results clearly exhibit that inclusion of steel fibers significantly influences the material characteristics of the ternary blended concrete which includes compressive strength, indirect tensile strength, flexural strength, elasticity modulus, water absorption, Sorptivity and porosity. Nano silica and zeolite supplied the voids in the micron size of cement particle and formed a denser concrete which enhanced the improvement of the concrete. Figure of abstract: FIG. 1

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