

NUMERICAL MODELLING OF CONCRETE CONTAINING WASTE TYRE RUBBER AS PARTIAL REPLACEMENT OF FINE AGGREGATE

Name of Student : Kanwardeep Singh (1452810)

Deptt. : Structure

Guide : Jagbir Singh

Mode of Study : F. Time

ABSTRACT

Recycling of waste tyre rubber has turned into a major natural issue in all parts of the world. Every year large number of waste tyres is discarded throughout the world, showing an extremely serious threat to the nature. Various tasks have been conducted regarding the substitution of aggregates by waste tyre rubber, however rare information was found in literature on numerical analysis of concrete having waste tyre rubber. In this study, fine rubber was partially substituted with fine aggregates from 0% to 30% in multiples of 10%. The properties of concrete like compressive strength, flexural strength, split tensile strength and modelling in ANSYS was performed and the outcomes were investigated. The results showed that there was slight increase in the flexural and tensile strength of the specimens containing 10% fine rubber when compared to the control mix. Workability of concrete mix decreases with increase in the rubber content. The analytical result from ANSYS was obtained by the outcomes obtained from the experimental investigation and results were verified.