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USE OF PLASTIC BOTTLE FIBERS IN CONCRETE

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ABSTRACT:- Because of drying, shrinkage and other causes of change, micro-cracks are developed in conventional concrete before structure is loaded. As a structure is loaded, these micro-cracks open up and are propagated leading to inelastic deformation in concrete. Fibers used in the reinforced concrete transfer the load to internal micro-cracks. Various laboratory test such as specific gravity, normal consistency, initial setting time for cement and specific gravity, bulk density, surface moisture for aggregates and slump cone and compression test for M20 grade concrete were performed. Plastic bottle fibers were mixed at the time of mixing by 0%, 2%, 3.5% and 5% in concrete of mix design 1:1.5:3. The result we got are strength improving, so the plastic bottle fibers can used as strength improving fibers in fiber reinforced concrete.

Keywords—fiber reinforced concrete; plastic bottle fibres.

