ABSTRACT

The present experimental investigation is to study the mechanical properties of Hybrid Fiber Reinforced Concrete and the specimens were tested for 28 days. The concrete composite comprises of hooked end, crimped steel fibers and polypropylene fibers in different percentage. The hooked end, crimped steel fibers and polypropylene fibers were added 0.5% by volume of concrete. The hooked end steel fibers and crimped steel fibers were added at 0.38 % with polypropylene fiber at 0.12% by volume in the hybrid form also. The total volume fraction was maintained as 0.5% by volume of concrete. The flexural strength and impact strength were studied at 28 days. The test results revealed that the flexural and impact strength of fiber reinforced concrete were increased than control concrete at 28 days. Among all the fiber reinforced concrete mixes considered in this investigation, the maximum flexural and Impact strength of fiber reinforced concrete is observed in the mix HE1PP1 (0.38 % hooked steel + 0.12% PP) at 28 days. The maximum flexural at 28 days is increased up to 40.73% in the mix HE1PP1 than control concrete at 28 days. The impact Resistance of concrete at first crack and ultimate failure were found to be increased by 104% and 207.69% in the mix HE1PP1 than control concrete at 28 days respectively.