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Flexural Properties of Polyethylene Terephthalate Fibre Reinforced Concrete

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Abstract : Since the rapid swift of modern industrialization taking place globally, the issues developed in the tremendous shortages in the building construction materials and in the same mean time generation of indecomposable wastes are also increasing. The fabrication and usage of plastics, packed PET beverages bottles and the rate at which solid plastic waste are generated have increased considerably[1]. Plastics composition 12.3% of total waste formed, in that most of which is from redundant PET water bottles.

The concrete of M_{20} grades were selected for the study. The PET fibers were obtained from used beverage bottles, by melting the PET bottles at extract into a standard fiber. The fibers were added in the volume fraction of 0.5 %, 1.0 %. 1.5 % and 2.0%. The aspect ratio adapted was 15, 30 and 45.The concrete specimens were casted and tested after 28 days of curing. Based on the mechanical properties, optimum mix was selected and same was used to find out the flexural behavior of Reinforced concrete beam and results were discussed in the end.

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