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Enhancing the Strength properties of Recycled Aggregate Concrete by Experimental Investigation

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Abstract : Recycling is the act of processing the used material for use in creating new product. The usage of natural aggregate is getting more and more intense with the advanced development in infrastructure area. In order to reduce the usage of natural aggregate, recycled aggregate can be used as the replacement materials. Recycled aggregate are comprised of crushed, graded inorganic particles processed from the materials that have been used in the constructions and demolition debris. Aggregate Replacing method, which is effective in reducing both cost and environmental impact from the view of concrete waste generated by the demolition of large scale buildings ¹. And it was found that RCA replacement by 30% (RCA30%) of NA does not lead to any significant difference in strength and stiffness compared to concrete containing 100% NA in concrete. However, observed for RCA30% which must be considered in structural design. The scope of this project is to determine and compare the strength of concrete by using different percentage of recycled aggregates. In this project we are going to replace the Recycled Concrete Aggregate of 40%, 50% and 60%, and also we are decided to add Steel Fibre with Recycled Concrete Aggregate in order to increase the Compressive Strength, Split Tensile Strength and Flexural Strength of Concrete.

Keywords : Recycled Aggregate Concrete, Steel Fibre, And Special Concrete.