

Improvement of Performance for R. C. Beams Made from Recycled Aggregate by Using Non-Traditional Admixture

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Abstract : The aim of this work is to use an environmental, cheap; organic non-traditional admixture to improve the structural behavior of sustainable reinforced concrete beams contains different ratios of recycled concrete aggregate. The used admixture prepared by using wastes from vegetable oil industry. Under and over reinforced concrete beams made from natural aggregate and different ratios of recycled concrete aggregate were tested under static load until failure. Eight beams were tested to investigate the performance and mechanism effect of admixture on improving deformation characteristics, modulus of elasticity and toughness of tested beams. Test results show efficiency of organic admixture on improving flexural behavior of beams contains 20% recycled concrete aggregate more over the other ratios.

Keywords : deflection, modulus of elasticity, non-traditional admixture, recycled concrete aggregate, strain, toughness, under and over reinforcement

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