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Experimental Study On Light Weight Concrete Using Leca

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Abstract : This report presents experimental study on effect of partial replacement of coarse aggregate (Jelly) by Light weight coarse aggregate (LECA) . LECA is also more or less similar to properties of Jelly. LECA is used in concrete to minimize the demand of coarse aggregate(Jelly) and also in design of concrete structures, self weight occupies very large portion of total load coming on the structures critically in cases such as weak soils and tall structures. also impressive benefits in lessening density of concrete ,thus contributing towards economy of work. The light weight concrete gives low density than conventional concrete and has better thermal insulation comparatively. Main intention of carrying out this project is to compare the weight of concrete and strength properties viz. cube compressive strength, split tensile strength cylinders and flexural strength of light weight concrete against conventional concrete by partially replacing natural aggregates by LECA by 20%, 40%, 60%, 80% and 100%. Lightweight aggregate has been effectively utilized for well more than two millennia and use of lightweight total adds to the maintainable advancement by moderating energy, bringing down transportation prerequisites, boosting outline and construction proficiency and expanding the service life of the item it is utilized as a part of with expanding concern over the intemperate abuse of common aggregates, lightweight aggregate delivered artificially is a feasible new resource of structural aggregate objects.
Keywords : LECA, Compressive strength, Tensile strength, Flexural strength.

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