

# **MECHANICAL PROPERTIES OF STRUCTURE LIGHT WEIGHT CONCRETE USING STYROFOAM AS A COARSE AGGREGATE REPLACEMENT AND SUGAR CANE BAGASSE ASH AS AN ADDITIVE**

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In this research work, styrofoam structure light weight concrete is prepared by partial replacement of natural coarse aggregate by styrofoam and by using sugar cane bagasse ash as an additive. Different mixes containing 0, 10 and 20% styrofoam and 10% bagasse ash are prepared. Tests are conducted for workability, flexure, modulus of elasticity and compressive strength of the mixes. The study concluded that mix which contain 10 mm size styrofoam aggregate and 10% ash as an additive give the highest strength as compare to other types of mixes after 28 days. Moreover the workability of the concrete is reduced by increasing the percentage of styrofoam as it makes the concrete mix rubbery and harsh to compact and place. Increasing the percentage of styrofoam results in decrease in flexure, compressive strength and modulus of elasticity.

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