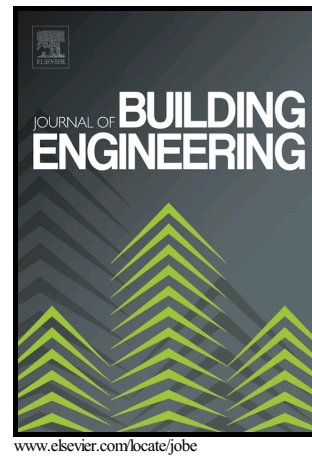


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## Behaviour of cement stabilized treated coir fibre-reinforced clay-pond ash mixtures

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## Abstract

In a comprehensive laboratory study, different tests namely, standard Proctor tests, unconfined compressive strength (UCS) and split tensile strength (STS) tests were performed for evaluating the compaction and strength behaviour of the cement-stabilized, and sodium hydroxide treated coir fibre reinforced clay-pond ash mixtures. The treated coir fibres and pond ash of 0.5-1.5% and 10-30%, respectively, were added to the stabilized cement (2% and 4%) clayey soil. A series of compaction tests were carried out for studying the compaction characteristics. The cylindrical specimens of dimension 38.1 and 76.2 mm were prepared at desired densities and cured for 7, 14, and 28 days, after which they were, subjected to a series of unconfined compressive strength and split tensile strength tests. The investigation showed that the dry unit weight of the mixtures decreases and water content increases with the addition of pond ash and fibres. The inclusion of fibres and pond ash in the

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