

## Evaluation of Eco Cement as a Stabilizer of Clayey Sand

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**Abstract :** With the advent of green technology and the concept of zero energy buildings, there is an emerging trend in the utilization of indigenous materials like soil as a construction material. However, fine soils like clays and sand have undesirable properties and stabilization of these soils is essential before it is used to develop a building unit. Eco cement or Ground Granulated Blast Furnace Slag (GGBS), a waste byproduct formed during the manufacture of iron has cementitious properties and has the potential of replacing cement which is the most common stabilizer used for improving the geotechnical properties of soil. This paper highlights the salient observations obtained by the investigations into the effect of GGBS as a stabilizer for clayey sand. The index and engineering properties of the soil on the addition of different percentages (0%, 2%, 4%, 5% & 6% of the dry weight of the soil) of GGBS are tested to arrive at the optimum binder content. The criteria chosen for evaluation are the unconfined compressive strength values of different soil- binder composition. The test results indicate that there are significant strength improvements by the addition of GGBS in the soil, and the optimum GGBS content was determined as 5%. Moreover, utilizing waste binders for developing an ecofriendly, less energy induced building units as well as for stabilizing soil will also contribute to the solid waste management, which is the current environmental crisis of the world.

**Keywords :** eco cement, GGBS, index properties, stabilization, unconfined compressive strength

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