

Title of Article: Effects of Steel Slag Addition on the Plasticity, Strength and Permeability of Lateritic Soil.

Author(s): I.I. Akinwumi, L.B. Adeyeri and O.A. Ejohwomu

Outlet: Proceedings of Second International Conference of Sustainable Design, Engineering and Construction, Texas, American Society of Civil Engineers.

Date:

Abstract: An investigation into the effect of adding pulverized steel slag (an industrial waste product) on some geotechnical properties of a lateritic soil. The soil is A-7-6(5) according to AASHTO classification systems. 5%, 8% and 10% steel slag content (SSC) each by dry weight of soil, was used to stabilize the soil while evaluating the specific gravity, consistency limits, compaction, permeability, uncured and cured strength of the soil. The results obtained show that the increase in SSC decreased the OMC up to 8% SSC but increased the maximum dry unit weight. The increase in SSC reduced the soil plasticity and swell potential and it increased the permeability, cured and uncured strength of the soil. 8% SSC was observed to be the optimum content, based on results of uncured strength of the soil.