

Effect of Cement–Locust Bean Waste Ash Blend on the Gradation and Plasticity Characteristics of Modified Lateritic Soil

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Abstract

A lateritic soil was treated with a blend of up to 4 % ordinary Portland cement (OPC) and up to 8% locust bean waste ash (LBWA) by dry weight of soil to investigate its effect on the gradation and plasticity characteristics of the modified soil. Test results generally show that the gradation and plasticity characteristics of the modified soil improved with higher concentrations of the OPC/LBWA blend. Based on Nigerian General Specification plasticity requirement, an optimal 1 % OPC/8 % LBWA blend can be used to modify the lateritic soil for use as a sub base material in road construction.

Keywords: Cement, Gradation, Lateritic soil, Locust bean waste ash, Modification, Plasticity

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