

UTILITY EFFECT OF SOLID WASTES IN PROBLEMATIC SOILS

KE. A. PALANIAPPAN AND V. K. STALIN

Abstract

Problematic soils are characterized by their high compressibility, low shear strength and high swelling nature. In this paper, two types of swelling soils (Soil -1, LL = 62% and Soil – 2, LL = 43%) were selected and mixed with different percentage of solid wastes (Tannery Sludge and Marble powder waste), varying from 0, 10, 20, 30, 40, 50 and 60 to study the effect of solid wastes on index, compressibility and swelling characteristics of soils. Results show that the plasticity characteristics are decreasing with increasing percentage of wastes in both the soils. The swell potential and compressibility index of expansive clays decrease with increasing percentage of solid wastes. It is concluded that the tannery sludge and marble powder waste can be effectively used to control the compressibility and swelling of expansive soils, added advantage being utilization of solid wastes.

Keywords: Problematic soils, Tannery sludge, Marble powder waste, compressibility, swelling