

Abstract

Today, in a context of sustainable development, economic and environmental issues encourage, during earthworks, to promote local materials that sometimes have inadequate mechanical characteristics to be used. In the field of earthworks, these materials are currently deposited and substituted by materials with better mechanical characteristics. However, this practice is no longer in line with the requirements of sustainable development that require the maximum use of materials located in the right of way of infrastructure projects so as to achieve the goal "zero borrowing, zero deposit". The treatment of soils by mixing additives such as cement and lime is a potential solution to achieve this goal, since it allows to change the mechanical behavior and maneuverability of the soil to make them suitable for terracing.

The purpose of this project is to study the influence of the addition of filasse fibers on the mechanical properties of a fine soil. Samples were subjected to Atterberg's boundary marking tests, compaction tests, and shear tests. The filasse fibers will be added to the clay soil at 0, 0.5, 1, 1.5 and 2%. The samples were subjected to normal stresses of 100, 200 and 300 kPa.

Key words: Clay, fiber filasse, soil reinforcement, resistance, plasticity.