

ABSTRACT

Soil is very important in civil engineering construction. The poor engineering properties of local soil provides difficulties for construction and therefore its need to improve their engineering properties. The soil is categorized into different types such as sand, silt, clay, loam etc. In India there are many soils like alluvial soil, black soil, red soil, laterite soil etc. For this project, we have chosen red soil due to the local availability. We are also using lime because it has high binding strength, durability, setting time and flexibility. We have studied the impact of lime and coconut fiber to improve the strength of soil. The coconut fiber waste is an environmental property. Coconut fiber is cheaper, hard in structure and it is elastic enough to twist without breaking. Coconut fiber have high tensile strength when it is wet and it is used in highway projects.

In the present study a soil sample was subjected to laboratory investigation the soil is mixed with the lime (10%), coconut fiber (0.5%,1%,1.5%) for preparation of the soil blocks. The above admixtures provide innovative ideas to improve its mechanical properties. From the experimental studies it was observed that the plastic limit is maximum at 1.5%, liquid limit test maximum at 0.5% it is continuously decreases at 1%,2%, optimum moisture content and from the CBR test strength is increased at 0.5% and decreased for 1%, 1.5% of soil.