ABSTRAK

Tanah residu adalah tanah sisa dari pelapukan batuan yang kemudian diendapkan di atas batuan induknya (tufa piroklastik). Kekuatan geser tanah merupakan gaya tahanan internal yang bekerja per satuan luas massa tanah untuk menahan keruntuhan atau kegagalan sepanjang bidang runtuh dalam massa tanah tersebut. Dalam penelitian ini untuk mendapatkan parameter tersebut digunakan alat *unconfined compression strength* (UCS) dengan variasi jumlah pemadatan 10, 20, 30, 40, 50 kali tumbukan dan variasi kadar air 25%, 30%, 35%. Hasil dari penelitian ini didapatkan nilai kuat geser maksimum terdapat pada jumlah pemadatan 40 kali tumbukan dengan variasi kadar air. Nilai kuat geser pada penambahan kadar air 25% sebesar 2,11 kg/cm^2, kadar air 30% sebesar 2,46 kg/cm^2, kadar air 35% sebesar 2,5 kg/cm^2. Sedangkan pada variasi pemadatan 50 kali tumbukan dengan variasi kadar air. Nilai kuat geser pada penambahan kadar air 25% sebesar 1,85 kg/cm^2, kadar air 30% sebesar 1,46 kg/cm^2, kadar air 35% sebesar 0,72 kg/cm^2. Hal ini disebabkan sampel tanah dalam keadaan kadar air optimum tanah akan lebih sensitif ketika dipadatkan. Jika tanah dipadatkan dengan tingkat pemadatan yang tinggi/lebih besar dari pemadatan maksimumnya, maka nilai qu dan c_u menurun. Daya dukung tanah residu hasil pelapukan batuan tufa Lampung dapat digunakan sebagai konstruksi jalan raya (*Subgrade*).

Kata Kunci : Daya Dukung, Kuat Geser, Pemadatan Tanah, Tanah Residu, *Unconfined Compression Strength Test*.

ABSTRACT

Residual soil is formed by the remnants of weathering rock precitipated on its parent material (pyroclastic tuff). Shear strength denotes an internal resistance force that works per unit area of soil mass to resist collapse or failure along the plane of collapse in the soil mass. This study used Unconfined Compression Strength (UCS) test with the variations in the amount of compression 10, 20, 30, 40, 50 times and variations in water content 25%, 30%, 35%. The result of this research showed that the maximum of shear strength value is on the amount of compaction 40 times with variations in water content. The shear strength value on the addition of 25% water content is 2,11 kg/cm^2, 30% water content is 2,46 kg/cm^2, 35% water content is 2,5 kg/cm^2. Whereas, in the variation of compaction 50% times with variations of water content. The shear stregth value on the addition of 25% water content is 1.85 kg/cm^2, 30% water content is 1.46 kg/cm^2, 35% water content is 0,72 kg/cm^2. This is due to soil sample in the optimum water content will be more sensitive when it is compacted. If the soil is compacted on a high compression/greater than the maximum compaction, thus the value of qu and c_u decrease. Bearing capacity of residual soil from the weathering of volcanic tuff rocks of Lampung can be utilized for a highway construction (subgrade).

Key words : Bearing Capacity, Shear Strength, Soil Compaction, Residual Soil, Unconfined Compression Strength Test.