ABSTRAK

Stabilisasi tanah merupakan salah satu upaya untuk memperbaiki sifat-sifat tanah guna meningkatkan daya dukung, peningkatan daya dukung ini merupakan aspek yang sangat penting dalam bidang insfrastruktur seperti konstruksi *sub-grade* pada perkerasan jalan. Namun, jika melihat kondisi lapangan, banyak hal yang mempengaruhi kondisi tanah seperti perubahan cuaca dan iklim. Stabilisasi tanah pada penelitian ini menggunakan campuran kapur, abu sekam padi dan serat plastik. Pengaruh cuaca dan iklim disimulasikan dengan pemberian siklus basah-kering di laboratorium guna mengkaji kuat tekan dari tanah yang telah distabilisasi. Perbandingan kapur dan abu sekam padi yang digunakan adalah 1:1, dengan kadar kapur sebesar 18%. Sedangkan, kadar serat yang digunakan sebesar 0,4%. Benda uji dicetak pada kondisi OWM (*Optimum Wett Moisture Content*) dan diperam selama 28 hari. Hasil menunjukkan siklus basah-kering memberikan pengaruh pada tanah stabilisasi. Nilai kuat tekan bebas (q_u) berkurang sebesar 48% dari benda uji tanpa siklus ke siklus pertama, kemudian meningkat perlahan dari siklus pertama ke siklus keempat sebesar 44%. Dan nilai modulus sekan (E_{50}) yang didapat cenderung mengikuti perubahan nilai kuat tekan bebas akibat siklus basah-kering.

Kata-kata kunci : uji tekan bebas, stabilisasi kapur, kapur-abu sekam, serat plastik, kondisi basah.

ABSTRACT

Soil stabilization is one of efforts to improve soil property in order to increase soil's bearing capacity, this bearing capacity increasement is an important aspect in infrastructure sector such as sub-grade construction in road pavement. Even though if we observe the site condition, many aspect can affect the soil condition such as climate and weather change. Therefore, the climate and weather change should be simulated with laboratory wetting-drying cycle to study soil's bearing capacity from stabilized soil. Soil stabilization that chosen in this study is using a composite of lime, rice husk, and plastic fiber. Lime and rice husk ratio that used is 1:1, with 18% lime percentage. While fiber content that used is 0.4%. The speciment is molded in OWM (Optimum Wet Moisture Content) condition and cured for 28 days. The testing report confirm that wetting-drying cycle really has an impact to soil stabilization. Unconfined compressive strength value (qu) decreased in the amount of 48% from non cycle speciment to first cycle specimen, thereafter the value increased slowly from first cycle to fourth cycle in the amount of 44%. And modulus secant value (E_{50}) was obtain tend to following unconfined compressive strength value change as the affect of wetting-drying cycle.

Keyword: unconfined compressive strength, lime stabilization, lime-rice husk, plastic fiber, wet condition.