

ABSTRAK

Lapisan fondasi jalan merupakan lapisan antara tanah dasar dan lapis perkerasan jalan. Lapisan ini memerlukan material dengan kualitas bagus agar mampu menahan beban transportasi yang melewati jalan. Pada pengerjaan lapisan fondasi jalan, stabilisasi tanah semen merupakan material yang biasa digunakan. Tujuan penelitian ini adalah untuk mengetahui pengaruh penggunaan Matos *Soil Stabilizer* terhadap stabilisasi tanah semen yang digunakan untuk lapisan fondasi jalan. Variabel ditinjau terhadap sifat mekanis tanah dengan menggunakan kadar Matos sebanyak 0%, 1%, 2%, 4%, dan 8% ditambah semen sebagai pengikat sebanyak 5%, serta perbedaan masa pemeraman 0, 7, 14 hari terhadap sifat mekanis tanah. Hasil menunjukkan semakin banyak penggunaan Matos mampu meningkatkan nilai kepadatan kering tanah (γ_d), CBR rendaman dan tanpa rendaman, kuat tekan bebas tanah (q_u), sudut geser tanah (ϕ), kohesi tanah (c), dan koefisien konsolidasi tanah (C_v). Penggunaan Matos juga mampu menurunkan kadar air optimum tanah serta indeks kompresi tanah (C_c).

Kata kunci : Stabilisasi Tanah, Matos, *Soil Stabilizer*, Sifat Mekanis.

ABSTRACT

The road foundation layer is the layer between the subgrade and the road pavement. This layer requires high-quality materials to withstand the transportation loads passing through the road. In the construction of the road foundation layer, soil stabilization with cement is commonly used. This research aims to determine the effect of Matos Soil Stabilizer on the cement-stabilized soil used for the road foundation layer. The variables considered in terms of soil mechanical properties are using Matos at 0%, 1%, 2%, 4%, and 8% in addition to cement as a binder at 5%, as well as different curing periods of 0, 7, 14 days on the soil's mechanical properties. The results show that increasing the use of Matos can enhance the dry density (γ_d) of the soil, soaked and unsoaked CBR (California Bearing Ratio), unconfined compressive strength (q_u), soil friction angle (ϕ), soil cohesion (c), and soil consolidation coefficient (C_v). The use of Matos can also reduce the optimum water content of the soil and the soil's compression index (C_c).

Keywords : Soil Stabilization, Matos, Soil Stabilizer, Mechanical Properties