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Studi eksperimental perilaku kompresibilitas tanah ekspansif yang distabilisasi dengan pasir dan kapur = Experimental study of expansive soil, stabilized with sand and lime

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Abstrak

Penelitian ini meninjau seberapa besar pengaruh campuran kapur dan pasir terhadap perilaku kompresibilitas terutama indeks pengembangan apabila mengalami kondisi loading-unloadingreloading. Tanah yang digunakan adalah tanah lempung ekspansif daerah Perumahan Eucalyptuss Lippo Cikarang dengan bahan stabilisasi 15% kapur hidup (CaO) dan 10% pasir dari daerah Cimangkok. Pengujian dilakukan dengan masa pemeraman selama 0 hari, 4 hari, dan 7 hari.. Hasil pengujian konsolidasi menunjukan bahwa proses stabilisasi mampu menurunkan Compression Indexs sebesar 21,03%, menurunkan Recompression Indexs sebesar 21,83%, menurunkan Swelling Indexs sebesar 40,38%. Hasil pengujian Swelling Pressure menunjukan bahwa proses stabilisasi mampu menurunkan nilai swelling potential sebesar 21,98% dan menurunkan swelling pressure sebesar 10,59%.

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The study reviewed the influence of lime and sand mixture on the compressibility behavior especially for the expansion index when the soil have loading-unloadingreloading conditions. We use an expansive clay soil at Eucalyptuss Lippo Cikarang housing with using 15% calcium oxide (CaO) and 10% sand from the area of Cimangkok as stabilizing materials. Test conducted by the curing for 0 days, 4 days, and 7 days. Test results showed that the stabilization process of consolidation can make compression index lower by 21.03%, recompression index lower by 21.83% and swelling index lower by 40.38%. Test results showed that the stabilization process can reduce the swelling potential of 21.98% and reduce swelling pressure by 10.59%.