# A Study of Soil Stabilization by Hydrated Lime at Kampung Kedaik Asal, Rompin, Pahang, Malaysia

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**ABSTRACT**
This study involves the clay sample which is taken from Kampung Kedaik Asal, Rompin site and evaluation of its properties in natural state and after stabilization. The main objectives of this paper is to estimate the optimum lime content (OLC) needed to stabilize the soil by using Eades-Grim pH Test, to determine the optimum moisture content (OMC) and maximum dry density (MDD) of the treated soil by Standard Proctor Test and also the strength value of the soil specimens with different percentages of lime content corresponding with different curing period by Unconfined Compressive Strength (UCS) Test. From this study, the optimum amount to stabilize the clay soil and minimum amount of lime required to stabilize the soil pH level to 12 is 5%. The results showed that addition of lime decreased the maximum dry density (MDD) and increased the optimum moisture content (OMC). Unconfined compressive test on 48 sets of samples has been carried out for 7, 14 and 28 days of curing with different lime contents such as 5%, 7% and 9%. The highest unconfined compressive strength (UCS) achieved is 321 $kN/m^2$ for clay stabilized with 9% lime content cured at 28 days. From the test results, it was found that the longer the immersion of curing period with higher lime content, the greater the compressive strength of the specimen.

**KEYWORDS:** Lime Stabilization; Maximum Dry Density; Optimum Moisture Content; Soil Improvement; Unconfined Compressive Strength

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