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Effect of Treated Peat Soil on the Plasticity Index and Hardening Time

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Abstract : Soil Stabilization has been widely implemented in the construction industry nowadays. Peat soil is well known as one of the most problematic soil among the engineers. The procedures need to take into account both physical and engineering properties of the stabilized peat soil. This paper presents a result of plasticity index and hardening of treated peat soil with various dosage of additives. In order to determine plasticity of the treated peat soil, atterberg limit test which comprises plastic limit and liquid limit test has been conducted. Determination of liquid limit in this experimental study is by using cone penetrometer. Vicat testing apparatus has been used in the hardening test which the penetration of the plunger is recorded every one hour for 24 hours. The results show that the plasticity index of peat soil stabilized with 80% FAAC and 20% OPC has the lowest plasticity index and recorded the fastest initial setting time. The significant of this study is to promote greener solution for future soil stabilization industry.

Keywords : additives, hardening, peat soil, plasticity index, soil stabilization
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