

ABSTRACT

STUDY OF BEARING CAPACITY ON SOFT SOIL USING ISS 2500 (*IONIC SOIL STABILIZER*) AS A SUBGRADE

By

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Soil conditions in some coverage area will not have the same characteristics with the others, there has a good bearing capacity and those that bad. Soil with a significant swelling potential (high plasticity) is known as soft soil. Road sections which built on the subgrade with low bearing capacity ($\text{CBR} < 6 \%$) is generally faster suffered damage mainly in the rainy season. To overcome this, needed an available alternative treatment, among others, with the addition of chemicals (chemical stabilization) and one of them using the ISS 2500 (Ionic Soil Stabilizer).

Soil samples that tested in this research is the soft soil are derived from Rawa Sragi, Belimbing Sari village, district Jabung, East Lampung. Variation of solution concentration used in the ISS 2500 is 0.5 ml, 0.8 ml, 1.1 ml and 1.4 ml with the same curing time for 7 days and soaking for 4 days. Based on the examination of the physical properties of original soil, AASHTO classify soil samples in group A-7 (clay soil) and subgroup A-7-5, while the USCS soil samples classify as fine-grained soil and belonging to CH group.

As a results of laboratory research showed using the ISS 2500 as stabilizing agent can improve the physical and mechanical properties of soft soil. On physical examination, such as specific gravity and Atterberg limits decreased after stabilization. While the mechanical testing, the use of ISS 2500 is effective enough in increasing the bearing capacity of soft soil. From the test results of CBR soaked or unsoaked, soil that has been stabilized with a mixture of the ISS 2500 can be used as a subgrade for road construction due to CBR value $\geq 6 \%$.

Keywords: ISS 2500, stabilization, soft soil, CBR.