ABSTRACT

THE CORELATION OF LIQUID LIMIT AND PLASTICITY INDEX OF CLAY THAT STABILIZED WITH ISS 2500 TO COHESION VALUE IN DIRECT SHEAR TEST AND UNCONFINED COMPRESSIVE TEST

BY

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Along with the times, human need a better means and facilities. This make human have no choice but to build a building or civil structure upon improper area, for example, build it on clay area. The clay is a cohesive soil which often undergoing a swelling-shrinking event in its subgrade. So, it needed to to carried out the stabilization, one of which is using ISS 2500, and research of liquid limit and plasticity index to know about their relationship with its cohesion in-depth study.

The sample was taken from Margakaya village and Palputih village, District of Jati Agung, South Lampung and Blimbing Sari village, District of Jabung, East Lampung. The soil tested at original condition and mixed by ISS2500 with three variation of mixture, that is at 0,6 ml, 0,9 ml, and 1,2 ml. Mixing is conducted based on optimum moisture content of each kind of soil. Mechanical testing which is unconfined compressive test and direct shear test, using three sample for every soil and every mixture variation.

Test result show that the more volume of solution added into soil 1, soil 2 and soil 3, then it will increase value of soil cohesion (c), maximum stress (q_u), the ISS 2500 making clay has liquid limit (LL) between 42% - 47% .

Keyword : liquid limit, plasticity index, cohesion, direct shear test, unconfined compressive test