ABSTRACT

EFFECT OF MIXED CLAY WITH WASTE PLASTIC ACCORDING TO THE VALUE OF SOIL BEARING CAPACITY

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Soil is a basic component of which has an important role in civil works. Good soil is soil that has strong support high soil and soil properties were good, but not all soil has ideal conditions. Clay is one that has a poor bearing capacity and soil properties. One of soil reinforcement is done by using plastic waste, besides not easily rot also to reduce the increasing volume of plastic waste.

Soil samples tested were high plasticity types of clay taken from the village of Rawa Sragi, District Jabung, East Lampung Regency. Based on experiments that have been done shows that soil use are included in the category of soft clay of high plasticity with high PI values >11%. Based on and according to the AASHTO soil classification the soil is included in the group A-7 sub-group of A-7-5. In the standard proctor compaction test results and modified proctor, the addition of plastic waste is proven to increase the value of the maximum volume weight (γd), but the value of the optimum water content (ωopt) does not increase or decrease significantly. In testing of CBR without soaking the soil with a mixture of plastic waste and compaction standard proctor and modified proctor obtained optimum CBR value increase on the plastic content of 0.75% or an increase of 10.7143% of the original soil CBR for standard proctor compaction and 7.6923% of the CBR native soil for compaction modified proctor. The addition of waste plastics proved to increase the bearing capacity of the soil because of the greater value of CBR soil, the greater the value of the bearing capacity of the soil.

Keywords: Plastic, Clay, CBR, Soil Bearing Capacity