EFFECT OF PALM FIBER USE ON CLAY SOIL WITH DIRECT SHEAR TEST

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Abstract.

The purpose of this study is to determine the physical properties of soil in Battang District, Wara Bara Village, Palopo City and analyze direct shear testing on clay soil with the addition of palm oil fiber with the addition of 0%, 2.5%, 5%, and 7.5% and 10% palm fiber variations. The test methods carried out are the physical properties of soil and mechanical soil properties. The physical properties tests carried out include testing moisture content, specific gravity, atterberg limits and grain gradients, while mechanical properties tests are direct shear tests. The results of the physical properties of the soil show that the soil is a clay soil. and the results of the direct shear test for kohes tilapia at point 1 of the 0% variety were obtained at 0.045 Kg/cm² and continued to increase until the 10% variety became 0.093 kg/cm², the shear angle of tilapia obtained at the 0% variety was 10.343° and continued to increase until the 10% variety was 19.776°. Meanwhile, at point 2, indigo is obtained at 0% variety of 0.050 Kg/cm² and continues to increase until the 10% variety is 0.096 Kg/cm², the shear angle tilapia obtained at 0% variety is 11.775° and continues to increase until the 10% variety is 22.206°. Thus the addition of palm fiber can increase the kohes indigo (c) and also increase the indigo shear in the direct shear test.

Keywords: Clay Soil, Direct Shear, Palm Fiber