

ABSTRACT

Compaction method is one of the soil tests in the laboratory to determine the characteristics of a soil before compaction in the field is carried out. Compaction testing produces compacting quantities and soil characteristics used to make compacting curves. The tool used for compacting testing uses the Proctor Standard.

This thesis aims to study the nature of clay mixture compaction with uniform sand. Examples of clay come from the villages of Sandang Rejo, Putat and Purwomartani that have different plasticity. The sand soil samples obtained from the UKRIM campus were filtered into three types of uniform sand namely Coarse Sand (escaped # 4, restrained # 20), Medium Sand (escaped # 40, restrained # 100) and Fine Sand (escaped # 60, held # 200) The proportion of clay in the mixture in this study was 60% and 80%. The mixed clay is the particle that passes the # 200 filter. The clay and sand are mixed dry. Compaction is based on the Proctor Standard. The results obtained from this thesis are combined with the results of research from Septian (2017) and Zendrato and Heriadi (2018) to obtain a comprehensive picture of the properties of mixed soil compacting.

The results of this series of studies show that the percentage of clay grains from 0% -30% in the mixture shows an increase in γ_d max and a decrease in w_{opt} while in the mixture with clay percentage higher than that range, γ_d max decreases and w_{opt} decreases. It can be concluded that the increase in the amount of clay in the mixture shifts the mixture of the compacting curve towards the clay compacting curve which is not mixed with sand. At 80% clay content, γ_d max mixture is higher compared to γ_d clay without pasi, which indicates that the sand content of 20% in the mixture increases γ_d max clay without mixture. In this study, the mixture with # 40 escaped clay particles which through the ripening process had γ_d max which was almost the same as the mixture of escaped clay particle # 200 caused by curing causing # 40 escaped clay particles to absorb water maximally. The method introduced by Gurtug et al (2002) for predicting γ_d max from the soil plastic limit suitable for Sandang Rejo and Putat Clay, but not suitable for Purwomartani Clay.

Keywords : Compaction, γ_d max, w_{opt} , ripening