

ABSTRACT

EFFECT OF COMPRESSIVE STRENGTH AND SHEAR STRENGTH SAMPLE ON DRY SIDE OF OPTIMUM AND WET SIDE OF OPTIMUM ON CLAY

By :

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Clay is a type of soil with low bearing capacity, water has very large influence on its physical and mechanical behavior. Clay in dry state relatively lack of water so that clay has a greater ability to absorb water compared to its wet state. Clay experiments in dry optimum state and wet optimum state is useful to know the soil bearing capacity in dry state and wet state.

Physical properties testing is done by giving water content, specific gravity, volume weight, atterberg limits, and sieve analyze tests. After testing soil physical properties, followed by soil compaction testing to obtain the optimum water content and dry weight of soil volume. From the optimum water content, can be determined the percentage of optimum wet and dry water content, after optimum water content, wet optimum, dry optimum are obtained the test followed by the core of this research unconfined compressive strength and direct shear tests.

From the results of research conducted that produces the value of unconfined compressive strength (q_u) and the value of cohesion (c) and the maximum shear strength soil in the wet optimum water content, dry optimum and optimum. In optimum conditions produce the highest value for the unconfined compressive strength, direct shear strength and cohesion values. This is because the optimum conditions the maximum soil density, so that the soil in a stable state. In dry optimum condition clay has unstable density, so the soil grain not bind to each other, whereas in optimum wet conditions, pressure on the grains of soil is very high, so that the soil has a high plasticity.

Keywords: Clay, Optimum water content, Dry Optimum, Wet optimum, Unconfined compression, Direct shear.