STUDY ANALYSIS OF EXPANSIF SOIL EXPERIENCE WETTING AND DRYING CYCLES REPEATEDLY

Compiled by:

Adi Prayitno
3112 040 511

Supervisor:

Prof. Dr. Ir. Indarto, DEA
NIP. 19501011 198203 1 002

ABSTRACT

In this research, the expansive soil testing focuses on development pressure and the percentage of development. The experiment was conducted in laboratory with test method development consolidated (consolidated - the swell test) by SNI 03-6795-2002. This study was conducted using samples that had been taken from the area Citraland Surabaya. Undisturbed sampling at a depth of -3m and -5m. Samples were tested by means of consolidometer (oedometer) Soil Testing Laboratory in Civil Engineering Diploma ITS. Tests carried out on disturbed conditions (undisturbed) and the condition of the sample had experienced wetting and drying cycles were repeated for respectively depth. From this study it can be concluded that the soil contained in Surabaya Citraland an expansive clay soil that has a high development potential with soil data obtained from the results of the study are as follows: For atteberg value -3m depth limit has a value LL = 95.37 %, and IP = 74.99 %, while the depth -5m has a value LL = 98.16 % and IP = 76.51 %, and IP. In development testing performed in two trials, to a depth of 3m
- 2 trial 1 and trial swelling pressure values obtained in cycle 1 0,21 kg/cm² s/d 0,22 kg/cm² with swelling potential value of 13,60 % s/d 10,40 % and a decrease in cycle 7 of 0,14 kg/cm² s/d 0,15 kg/cm² with swelling potential value of between 3.67 % s / d 3.84 %. For cycle 1 experiment 1 and experiment 2 - 5m depth values obtained swelling pressure of 0,22 kg/cm² s/d 0,28 kg/cm² with swelling potential value of 12,00 % s/d and 13,20 % decrease in cycle 7 of 0,13 kg/cm² s/d of 0,16 kg/cm² with swelling potential value of 4,00 % s/d 4,04 %.

**Keywords**: Swelling, expansive clays, Consolidated - swell test, swelling pressure, swelling percent