

THIXOTROPIC PROPERTIES OF SELECTED SOILS

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Thixotropy is an ability of soils to change from the solid to a liquid state when exposed to vibrations or mechanical disturbances. Interfering with a thixotropic soil structure can lead to changes in pore pressure what causes change in its plasticity index and, in severe cases, can trigger the soil to liquefaction. Thixotropic properties apply to soils which contain grains that are smaller than 0.002 mm.

The study presents initial results of cohesive soil tests carried out using an experimental research method and a device designed for this purpose. Samples collected for the research came from areas with documented occurrences of thixotropic soils (Biskupice, Czarnachowice, Sandomierz and Wawrowice). In order to perform a comparative analysis, there were also taken two samples of more cohesive soils (from Dąbrowa Tarnowska and Kolosy).

Executed tests has shown that the thixotropic character of soil can be confirmed or excluded by documenting thixotropic strengthening and observing soil flow in samples with constant moisture content and density at the same time.

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