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MAGDALENA OLSZEWSKA

**DETERMINING THE VALUE OF THE CONSOLIDATED
ORGANIC SOIL ELASTICITY MODULUS (CONSTRAINED
MODULUS) BASED ON FIELD MEASUREMENT**

Abstract

Excessive settlement of organic soils is a serious engineering problem. The exact calculation of the settlement, which will be similar to the real stage design, is important. To determine the necessary knowledge of the elasticity modulus (constrained modulus) is the compressibility of the organic soil. That will reflect the compressibility in the field.

Based on the literature review, the characteristics of organic soils, particularly peat, were described. The process of their formation, the Von Post classification scale, the basic physical properties of compressibility and a list of elasticity modules (constrained modules) based on data collected from across Poland was Described in the dissertation. The phenomenon of soil compressibility was described, taking into account the influence of the elasticity modulus (constrained modulus) on it. Subsoil subsidence is not disconnected with compressibility. Given the method of its determination and briefly describe the study of the settlement of embankments on organic soil in Poland and the world. Organic soil is highly compressible, so it is important to show models of soft soil.

Analyzing the effect of subsidence of the embankment on the organic substrate are taken into account the state of stress and strain in the soil. First of all, taking into account the influence of the triaxial state of stresses on the uniaxial state of strains. The results of these analyzes led to the creation of four mathematical models of varying complexity to determine the elasticity modulus (constrained modulus) of organic soils based on the settlement of the preload embankment. Numerical simulations were performed for these four models. On their basis, I chose the model used for experimental research.

The experimental research on the loading of the organic soil with the preloading embankment in Szczecin was described. Results from these studies were shown.

For the practical use of the models, the analyzes of two embankments at the Noteć test site were also carried out by the Department of Geotechnical Engineering of the Warsaw University of Life Sciences team. Author pointed to a model that can be used in practice.

The doctoral dissertation was summarized with conclusions and the program of further research.

