

Abstract

The bachelor thesis deals with the mechanical properties of marlstones from the Prackovice landslide area in the Central Bohemian Highlands, where the Dobkovičky landslide occurred in 2013 during the construction of the D8 highway, and where long-term creep movements of the slope are still taking place, threatening the operability of the highway. The aim of the thesis is a literature review of researched area, along with primary, and in particular, secondary compression. The practical part of the thesis is devoted to long-term laboratory tests of secondary compressibility (creep). The samples used for the laboratory measurements are reconstituted Cretaceous marlstones, which originate from a depth of 17-19 m, just below the shear surface of the landslide located at a depth of 16.5 m. The compressibility index C_c and the secondary compressibility index C_α were determined by measurements. The results were compared with previous measurements by Pospischal (2024), in which the marlstones indicate a different mechanical behaviour in the form of diffusion collapse. The results of my own measurements do not show diffusion collapse, which is probably due to the soil structure that is created during the preparation of the reconstituted sample. The measurements also confirmed the dependence of C_α on the applied stress.