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TITLE OF DIPLOMA THESIS:

THE TEST LOADS IN GEOTECHNICAL WORKS

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ABSTRACT

The subject of this thesis is the load tests in geotechnical works, especially in anchorages and piles. The load tests are imposed by Eurocode 7, as the soil is non - homogeneous and non - standard material; hence the soil parameters have a large range of values. Through the load test a reliable estimation of soil parameters can be produced, resulting in safe and economical design of the project. Chapters in the first section refer to the anchorages as well as their operation, construction and categorization. Afterwards, the ISO/DIS 22477-5 is presented in detail, which specifies the process of execution of load test in anchorages. The next chapter is dealing with the evaluation of the results according to Eurocode 7. The section of the anchorages is completed with the presentation of load tests carried out by the company GEOMEK S.A. in anchorages of a retaining wall. The section of piles has the same formation; initially there is a reference to the ways they operate, been constructed and categorized. Furthermore, the ISO/DIS 22477-1 is presented in detail, describing the process of execution of load test in piles. Subsequently the exploitation of the results by Eurocode 7 is discussed. The section of piles is completed with a presentation of a load test held by the company GEOGNOSI S.A. in the foundation piles of the abutment of bridge B530 at PATHE motorway. Chapter 11 presents the use of Bayesian approach in statistics, which aims to combine the results of load tests with additional data in order to update the values of soil parameters. The thesis ending with a presentation of the conclusions.

KEYWORDS

Load tests , anchorages , piles , construction management , control