

**"Determining of bearing capacity of piles on the basis on static pile load testing made in limited range."**

Dissertation takes the issue to predict behaviour of pile during static pile load testing, in order to determine a settlement in a relationship to load in case when range of static pile load test is limited to a certain limit.

Introduction and literature study contain a review of classical theories of bearing capacity of piles e.g.  $t$ - $z$  curves or Mindlin theory, and some so far used methods of interpretation and prediction of load settlement curve e.g. Chin- Koendner or Mazurkiewicz methods.

Analysis of the literature leads to a conclusion that interaction between piles and surrounding ground is still an actual problem. In author's opinion the best possible way to check pile foundation is to carry static load test. Problem is often of interpretation of the test results.

Static load test is made for three main purposes:

- As a part of scientific research, in aim to extend knowledge about interaction between pile and ground
- As a part of preliminary tests, to help to optimize foundation design
- As a proof test

Taking the above into consideration author wants to check a possibility of using a new method of interpretation of static pile load test based on settlement prediction by using the Meyer Kowalow equation for static tests with limited range.

The main study with the aim of prediction settlement-load curve was made by using a Meyer Kowalow equation, published in 2009. The main assumption of MK Method is that load settlement curve has two asymptotes: horizontal and vertical. In the author's opinion the vertical asymptote of MK equation is terminal capacity of the pile and cannot be exceeded. Author carried out a series of static pile load tests and compared result from the test with applied numerical model proposed by Meyer-Kowalow.

In order to verify the studies detailed description was developed computer model to support design of the pile foundation especially interpretation of static load test by using MK method. The paper presents the detailed assumptions of the program and the practical implementation issues. The developed model can be a source of information for further analysis of load-settlement curve behaviour and can be helpful for civil engineers in the design procedure of pile foundation and its behaviour.

In the final part of the study author compares the results of the analysis with other methods of static pile load tests interpretation and draws conclusions.