EQUATIONS OF NONLINEAR SOIL DAMAGE BASED ON RESULTS OF TESTING OF LATERALLY LOADED PILE MODELS

Results of testing of laterally loaded pile models demonstrate that the “load –to-displacement” dependency has a nonlinear character. This dependency may be regarded as linear within the interval of (0.2…0.3) Pul only. Tests were performed in a box with displacement indicators and power equipment. The pile model length was 200 mm, and its diameter was 40 mm. A hollow steel tube was used as the material for tested piles.

Based on the analysis of testing results, a pattern of the non-linear damage of the base was formulated. According to the pattern, the increase of the load intensity (damage factor $m = Ph/Pul$) involves an increase in the damage of the continuity, or the rebuff ability of the soil foundation.

Key words: nonlinear, damageable model, solid state, rebuff ability.

References