

# Calculation models of bearing capacity and deformation of soil foundations with vertical elements reinforced under regime cyclic loading

Ilizar Mirsayapov<sup>1</sup> \*, Irina Koroleva<sup>1</sup>

<sup>1</sup> Kazan State University of Architecture and Engineering, Russian Federation

\*mirsayapov1@mail.ru

## Abstract

Developed computational model of bearing capacity and deformation of soil foundations of the energy buildings with vertical elements reinforced under regime cyclic loading. The bearing capacity of reinforced vertical elements compressive force base in flow resistance consists of a triaxial compression in the middle zone and the shear resistance in the boundary zones. Deformation of reinforced vertical elements bases is calculated taking into account the joint deformation various zones by layering summation.