

**STUDY THE WORK OF ISOLATED FOOTING OF DIFFERENT
FORMS OF SOLES FOR EXPERIMENTAL- MECHANICAL
WORKSHOP**

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ABSTRACT

Relevance of work. Analysis of design solutions of foundations showed that one of the possible ways to reduce the cost when performing works of the zero cycle is to improve the calculation methods, foundation designs by changing the shape of the sole footing, the transition from traditional rectangular to other forms with greater rigidity and economy, the cancellation of expensive pile foundations.

A complex of factors acts on the basis and foundations: loads, temperature stresses and deformations, aggressive substances, disregarded movements of above-ground structures during redistribution of forces, etc.

It is not possible to take into account their influence to the full. Static and quasi-static loads (with the constancy of all other factors) often change in magnitude and direction. At the same time, one can distinguish the prevailing direction of them, i.e. To consider the action of forces in one plane.

Calculations are carried out on the basis of the foundation and on the material of the foundation. As a rule, the strength of the material is significantly underutilized. In this regard, methods are being developed to reduce the consumption of material for the construction of foundations. These include the use of foundations with a different shape of the sole, in particular trapezoidal, allowing several to equalize the maximum and minimum pressures with the eccentric force action.

The aim of the thesis is to identify the most optimal foundations of various shapes and designs under various loading conditions on the basis of comprehensive experimental and theoretical studies.

The research objectives include:

Experimental study of the nature of deformation and destruction of sandy bases and foundations under different forms and conditions of model loading;
Search for optimal design solutions of foundations;

The scientific novelty of the work is:

New data on the nature of deformation and failure of the base of various forms of foundations, which are the basis for the development of computational models;

Dependence of the bearing capacity and displacements of the base on the dimensions and shape of the foundation, loading parameters;

Recommendations for the optimal design of foundations;

Reliability of the Work is provided by using generally accepted hypotheses and assumptions, by probabilistic-static methods of processing the obtained data, by comparison with the results of other authors.

The practical significance of the work is:

- in obtaining new data on the nature of the interaction of the trapezoidal foundations with the sand base;

-in improving the existing methods of calculating the bases of various forms soles of the foundations;

-in the development of recommendations for the implementation of effective foundation designs.