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**USE OF REFINED MODELS IN CALCULATION PROBLEMS OF SSS PLATES with RIGID base AND AREAS OF REFINEMENTS**

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***Research Methodology.*** *For the research of stress-strain state (SSS) of multilayered plates with rigid base, the refined structural-continual models of unflexural symmetrical SSS have been offered. The developed refined continual models take into account the deformations of transverse shear and transverse compression in high iterative approximation. The system of differential equations and system of equations for boundary conditions have been obtained by the variation method of Lagrange. The solution of the system of differential equations has been obtained by the method of Euler using double trigonometric Fourier series.*

***Results.*** *The borders of application of the refined models depending on the physical mechanical characteristics of the plate have been studied. The calculations confirm the efficiency and accuracy of the proposed method of modeling unflexural SSS, which allows one to obtain the solutions qualitatively and quantitatively close to three-dimensional ones.*

***Novelty.*** *The design diagram of a transversely loaded plate is formed by supplementing it with a symmetric one about the contact surface of the foundation. The doub­le-thickness plate becomes loaded bilaterally symmetrically about its mid-surface. In such a way, only unflexural deformations can be modelled, which reduces the number of unknowns and the general order of differentiation of the resolving system of equations.*

***Practical Significance.*** *The suggested method of modelling can be used in solving practical problems of real multilayer design of structural elements, including the calculation of SSS of road clothes of road bridges, overpasses, roads on rocky bases and so on.*