
Problem of Designing Thermal Protection Constructions

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We consider the two-criterion approach to the problem of choosing the thickness multilayer thermal protection structures in the two-dimensional formulation. The method consists of two stages. In the first phase we solve the problem of choice of the layer thicknesses in the design of thermal protection dimensional setting by minimal temperature deviation in the calculated maximum allowable points. In the second stage is solved two-criterion problem of designing thermal protection in a two-dimensional setting. In this case, as one criterion used smoothness profile thickness distribution as well as a second sum of squared deviations from the interpolated layer thicknesses found in the first stage the optimal values obtained from the solution of one-dimensional problems in the reference points.

Keywords: *multilayer thermal protection, design, two-criterion optimization.*

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