

Formation of Nanostructured Surface Layers of a Material with TiNi-Based Shape Memory by Diffusion Metallization

Authors : Zh. M. Blednova, P. O. Rusinov

Abstract : Results of research on the formation of the surface layers of a material with shape memory effect (SME) based on TiNi diffusion metallization in molten Pb-Bi under isothermal conditions in an argon atmosphere are presented. It is shown that this method allows obtaining of uniform surface layers in nanostructured state of internal surfaces on the articles of complex shapes with stress concentrators. Structure, chemical and phase composition of the surface layers provide a manifestation of TiNi shape memory. The average grain size of TiNi coatings ranges between $60 \div 160$ nm.

Keywords : diffusion metallization, nikelid titanium surface layers, shape memory effect, nanostructures

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