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Obtaining a layered composite material by impregnating titanium plates with
aluminum alloy

ABSTRACT

Bachelor's thesis: "Obtaining a layered composite material by impregnating titanium plates with aluminum alloy."

The thesis investigates the process of forming a layered composite material based on titanium and aluminum alloy, obtained by impregnating titanium plate stacks with molten aluminum. The aim of the work is to determine the influence of time and temperature on the formation of the layered composite material and to define the optimal values.

Object of research – the process of obtaining a layered titanium-aluminum composite material using the rare-phase method.

Subject of research – the structure and physico-mechanical properties of the layered titanium-aluminum composite material obtained by the rare-phase method.

During the execution of the thesis, a series of samples were prepared and subjected to impregnation with molten aluminum alloy under different technological parameters. A microstructural analysis of the samples was carried out.

Microstructure analysis was performed to establish the effect of time and temperature on the thickness of the interlayer. Theoretical physico-mechanical properties.

Keywords: COMPOSITE MATERIAL, LAYERED COMPOSITE, TITANIUM, ALUMINUM ALLOY, REINFORCEMENT, MATRIX