

## CORRELATION BETWEEN MECHANICAL PROPERTIES AND STRUCTURAL CHANGES OF THE CAST PdAu5 ALLOYS DURING THERMOMECHANICAL TREATMENT

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Influence of thermomechanical treatment on microstructure and hardness, tensile strength and elongation of the cast Pd-5at%Au alloy was investigated. The HV, Rm and A were determined in the function of annealing temperatures and deformation degrees. By testing Pd-5at%Au alloy mechanical and structural characteristics in the function of deformation degrees, it was noticed that increasing of the degree of cold plastic deformation leads to an increase in HV and Rm while the values of A decrease, that is, it comes to strengthening. From the presented results of testing the effect of annealing temperature of PdAu5 alloy (deformed by the degree of deformation ( $\epsilon = 80\%$ ) at a constant annealing time (15 minutes)), it is noticed that the values of hardness and tensile strength decrease sharply at a temperature of 650 °C. A further increase in the annealing temperature leads to a continuous, slight decrease in the values of hardness and tensile strength, which is a consequence of the enlargement of the structure, ie the appearance of secondary recrystallization. The maximum value of relative elongation is observed at an annealing temperature of 750 °C.

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