

INFLUENCE OF ANNEALING ON RELAXATION PROCESSES IN CLASSICAL, AMORPHOUS ALLOYS

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In this work, the influence of annealing on relaxation processes of Fe-based, amorphous alloy, was investigated. Samples in the form of ribbons were produced by rapid quenching of liquid alloy onto rotating, copper wheel. In order to perform the relaxation process the investigated $\text{Fe}_{61}\text{Co}_{10}\text{Y}_8\text{Ni}_1\text{B}_{20}$ alloys were subjected to annealing at 700 K for 1 h, and then in 770 K for 3,5 h. Structure of the samples was examined by X-ray diffraction measurements (XRD). It was found, that the material in the as-cast state and after thermal treatment was amorphous. The relaxation process in amorphous alloys is connected with conglomeration of structural defects in amorphous materials, which are related with the presence of point and linear defects. Because of absence of direct, analysis method of the structural defects in amorphous alloys, it was necessary to use indirect method (according to the Kronmüller's theory) which involves the analysis of the approach to ferromagnetic saturation.

9.7 cm

13.4 cm

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