The influence of thermomagnetic treatment on the magnetoelastic characteristics of $Fe_{61}Co_{19}Si_5B_{15}$ amorphous alloys

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Information about magnetoelastic properties of newly developed amorphous magnetic alloys is very important from practical point of view, especially in the case of high permeability materials such as $Fe_{61}Co_{19}Si_5B_{15}$ amorphous alloy. In the case of such materials, effect connected with the influence of external stresses on the magnetic properties of the alloy should be tested.This paper presents experimental results of the magnetoelastic properties of the $Fe_{61}Co_{19}Si_5B_{15}$ amorphous alloy, annealed without magnetic field as well as in the magnetic field. Such thermo-magnetic treatment generated anisotropy, which has significant influence on the total free energy of magnetic material. In the magnetoelastic investigation the compressive stress was applied to the ring core perpendicularly to the magnetizing field direction. Due to the fact, that cores with closed magnetic circuits were used, demagnetization didn't change the balance of total free energy in the material.