9.7 cm

Temperature dependence of saturation magnetostriction measured for $Fe_{81}Si_{3.5}B_{13.5}C_2$ amorphous films by a bending method based on the Villari effect.

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Magnetostriction measurements were performed at different temperatures for $Fe_{81}Si_{3.5}B_{13.5}C_2$ METGLAS® films using a strained substrate technique. The magnetostriction constant was deduced from magnetic properties measured using a vibrating sample magnetometer (VSM). The film strain was varied using a range of curved sample holders. From the change of magnetic anisotropy field as a function of controlled strain, the saturation magnetostriction constant can be determined with sufficient accuracy. The temperature dependence of magnetostriction of METGLAS® $Fe_{81}Si_{3.5}B_{13.5}C_2$ from 9 to 287K is reported. It is suggested that a single-ion mechanism of magnetostriction is dominant in this amorphous alloy.

13.4 cm

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