

# STRUCTURAL CHANGES IN DEFORMED SOFT MAGNETIC Ni-BASED METALLIC GLASS

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Amorphous alloys exhibit excellent soft magnetic and good mechanical properties. Thus the understanding of structural relaxation is quite important not only for technical applications of metallic glasses but also for knowing the nature of their structure. Structural relaxation is associated to changes in the short-range order within the amorphous structure and it manifests itself by decrease in enthalpy and by changes in many structural sensitive physical properties upon thermal treatment, e.g. the Curie temperature. The changes in enthalpy associated with structural relaxation in Ni-Si-B amorphous metallic glass were measured using differential scanning calorimetry. Plasticity in metallic glasses is accommodated through the formation of shear bands, facilitated by the creation of free volume during the deformation. The shear bands creating during inhomogeneous plastic deformation influence the structural relaxation process in the amorphous ribbon.

9.7 cm

13.4 cm

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