

# Magnetocaloric effect in amorphous and partially crystallized $\text{Fe}_{80}\text{Zr}_7\text{Cr}_6\text{Nb}_2\text{Cu}_1\text{B}_4$ alloy

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In the present work the microstructure and thermomagnetic properties of  $\text{Fe}_{80}\text{Zr}_7\text{Cr}_6\text{Nb}_2\text{Cu}_1\text{B}_4$  ribbon in the as-quenched state and after the accumulative annealing in the temperature range 600 K – 800 K for 10 min were studied using vibrating sample magnetometry and Mössbauer spectroscopy. The second order phase transition from ferro- to paramagnetic state is observed and the Curie temperatures are placed just below 273 K. The maximum value of the magnetic entropy change ( $\Delta S_M$ ) observed in the vicinity of the Curie point is equal to 0.85J/(kg K) for the alloy in the as-quenched state. The second, low intensity maximum noticeable near 180 K could be related to supplementary magnetic phase transition. It was confirmed by Mössbauer studies and magnetic measurements performed for zero-field-cooled (ZFC) and field-cooled (FC) regimes.