

# A comparative studies of magnetocaloric effect in Ni-Mn-Cu-Ga and Ni-Mn-Pb-Ga alloys

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Effect of Pb substitution for Cu on magnetocaloric properties of Ni<sub>2</sub>Mn<sub>1-x</sub>Cu<sub>x</sub>Ga (x= 0.25, 0.27, 0.29) alloy was investigated experimentally. The magnetic measurements of Ni Mn Pb Ga alloys conducted at low field of 4 kA/m (50 Oe) showed that their Curie temperatures are above the room temperature (RT). The analysis of isothermal magnetic curves allowed the estimation of magnetic entropy change ( $\Delta S_M$ ). The highest calculated value of  $|\Delta S_M|$  was for alloys containing 6.25 at.% of Cu and Pb,  $\sim 16$  J/(kg\*K) and  $\sim 7.5$  J/(kg\*K) respectively. The adiabatic temperature changes ( $\Delta T$ ) measured near RT are  $\sim 0.4$  K.

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