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## Phase Equilibria in the Ni-Mn-Sb Alloy System

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### Abstract

Phase equilibria and ordered phase regions in the Ni-Mn-Sb system at 700 and 900 °C and the martensite phase region at room temperature were determined mainly by the diffusion triple method. It was confirmed that single-phase region of the ordered bcc phases exists in a wide composition range of a central part at both 700 and 900 °C and that the region is divided into two regions of half-Heusler  $CI_b$  and full-Heusler  $L2_1$  at 700 °C, while the  $CI_b$  phase is missing at 900 °C. The  $B2 + L2_1$  phase separation was also confirmed in a certain composition range near Ni-50%Mn, and the iso- $M_s$  (= RT) line in the  $L2_1$  phase region was also estimated to be located from 12 to 16 at.% Sb.

### Keywords

Phase diagram; Ni–Mn–Sb; martensitic transformation; magnetic shape memory; order–disorder transition; Heusler alloy

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