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Mechanism of Reversion in an Aluminum-4% Copper Alloy*

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Abstract

The reversion in an aluminum-4% copper alloy was investigated with resistivity measurement. Special emphasis was put on the initial part of reversion (the smallest reversion time was 0.5 sec).

A resistivity maximum was found during reversion after low temperature aging of 1000 min at 70°C (the slow reaction region). The time for the resistivity maximum depends on the previous aging conditions, and may indicate the stability of G-P zones.

The activation energy for reversion was found to vary with reversion time from 1.0 eV to 1.3 eV. The variation is interpreted with vacancy concentration in equilibrium with small dislocation loops.