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Effects of Thermomechanical Treatment on the Microstructures and Mechanical Properties of Al-Mg-Si Alloy

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Abstract : In this paper we studied the effect of deformation in the thermomechanical treatment on the microstructure and age hardening behavior in an Al - Mg- Si aluminum alloy. Transmission electron microscopy is used in order to follow the distribution and the morphology of the hardening precipitates. The maximum of hardness increases and is shifted to low time with an increase of the deformation. The coarsening and the density of the precipitates are more significant when the alloy is more deformed

Keywords : Al- Mg- Si alloys, thermomechanical treatment, artificial ageing, Precipitation