

# **Metals: Advances in Research and Application**

**2011 Edition**

**Q. Ashton Acton, PhD  
General Editor**

*SCHOLARLY EDITIONS™*

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## CHAPTER 3 ALLOYS

Publisher contact information for the journal *Surface and Interface Analysis* is: John Wiley & Sons Ltd., the Atrium, Southern Gate, Chichester PO19 8SQ, W Sussex, England. (2010 MAY 25)

### **University of Mentouri, Constantine: Effect of pre-aging and maturing on the precipitation hardening of an Al-Mg-Si alloy**

“The effect of pre-aging and maturing at room temperature on hardening response of an Al-Mg-Si alloy is investigated using differential scanning calorimetry (DSC), hardness measurements (Hv) and scanning electron microscopy (SEM). Two experimental conditions are examined,” scientists in Constantine, Algeria report.

“First, natural aging for different times (3 weeks and 1 month) followed by artificial aging at 180 degrees C as function time. Second, pre-aging at temperatures in the range 75-100 degrees C followed by artificial aging at 180 degrees C after natural aging for the same periods. The present results indicate that the effect of the pre-aging just after the heating and quenching is used in order to correct the undesirable effect of aging at room temperature. However, during the artificial aging, the alloy hardening becomes faster,” wrote T. Abid and colleagues.

The researchers concluded: “Aged samples which have already undergone pre-aging and maturing reveal the better hardening response.”

Abid and colleagues published their study in the *Journal of Alloys and Compounds* (Effect of pre-aging and maturing on the precipitation hardening of an Al-Mg-Si alloy. *Journal of Alloys and Compounds*, 2010;490(1-2):166-169).

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The publisher’s contact information for the *Journal of Alloys and Compounds* is: Elsevier Science SA, PO Box 564, 1001 Lausanne, Switzerland. (2010 APR 2)

