

# **EFFECT OF DIFFERENT COOLING RATE AFTER SOLUTION TREATMENT ON THE AGING BEHAVIOR OF 7050ALUMINUM ALLOYS**

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## **ABSTRACT**

Effect of heat treatment on hardness change of 7050 aluminum alloy has been studied. Solution treatment for 2 hours at 475°C followed by different cooling rates (water, oil and brain quenching). Aging behavior of 7050 aluminum alloy were investigated by microstructure evolution and hardness tests conducted at different cooling rates. Large differences in the hardening are observed with different cooling rates and aging temperature and time. Brain quenched specimens shows the maximum hardness after 40min aging at 165°C. The microscopic observation of these heat treated alloy were investigated and showed interesting difference in precipitated phases.

**KEYWORDS:** 7050 Aluminum Alloys, Aging Treatment, Cooling Rate, Microstructure, Precipitation Hardening