

INFLUENCE DES TRAITEMENTS THERMIQUES SUR LES PROPRIETES DE L'ALLIAGE D'ALUMINIUM 2XXX ET LE CHAMP DE DEFORMATION

B. CHAUCHE, K. MIMOUNI

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Abstract: The main objective of our work is to study the influence of the thermal treatment of structural hardening, we will choose Aluminum alloy (Al-Cu-Mg) of the series 2XXX, which is obtained in the form of thin plate (1.97 mm). The nuance, heat treatment history and alloy properties are unknown. The study was based on a complete characterization with the metallurgical and mechanical components ending in a correlation of the two to lead to the fracture facies. The results, based on scanning electron and optical microscopy, X-ray diffraction, tensile testing, micro hardness, and ICD, guided us to identify the influence of thermal treatments on the fracture behavior that can change from a brittle to the initial state and from a ductile to brittle to the treated state.

Keywords : thermal treatment, Aluminum alloy (Al-Cu-Mg)