

عنوان مقاله:

Forming limit curves and mechanical properties for AA6061 sheet after solution treatment and during ageing

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خلاصه مقاله:

This paper aims to examine the influences of heat treatment on forming limit diagrams and mechanical properties of aluminum alloy AA6061 sheets with thicknesses of 1.5 mm. The uniaxial tensile and the micro-hardness tests are employed to specify the mechanical properties and their variations. The Nakazima test is performed to characterize the strain forming limits of this aluminum alloy. Comparison between the results of micro-hardness and forming limit diagrams indicates that by increasing the temperature up to the peaked ageing temperature, the strength of the alloy is increased, but the forming limits are decreased, and after the peaked aged in over the aged state, the strength is decreased and the forming limits are increased. The peaked-aging is touched in this specific alloy after 4 hours heat treatment at 180 °C.

کلمات کلیدی:

Mechanical properties, Ageing, Forming limit curves, Solution, Sheet

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