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عنوان مقاله:

Studying of Heat Treatment Influence on Corrosion Behavior of AA6061-T6 byTaguchi Method

محل انتشار:

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خلاصه مقاله:

In this paper, the Taguchi method has been applied to optimize the heat treatment parameters for thecorrosion resistance of 6061 aluminum alloy. The experimental design consisted of four parameters (agingtemperature, aging time, quenching environment and NaCl concentration), each at three levels. Tafelpolarization measurements were carried out to determine the corrosion resistance of the heat treatmentsamples. According to the mean of signal-to-noise ratio analysis, the corrosion resistance of AA6061-T6was influenced significantly by the levels in the Taguchi orthogonalarray. The optimized parameters forcorrosion resistance are 2 h for aging time, 200 °C for aging temperature, ice water for quenching mediaand environment with 0.5% for NaCl concentration. The percentage of contribution for each parameterwas determined by the analysis of variance. The results showed that the NaCl concentration is the mostsignificant parameter affecting the corrosion resistance of the AA6061

کلمات کلیدی:

Heat Treatment6061-T6 Aluminum AlloyTafel PolarizationAnalysis of Variance

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