

عنوان مقاله:

Electrochemical Corrosion Behavior of Friction Stir Welded AA6061 in NaCl Solution

محل انتشار:

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تعداد صفحات اصل مقاله: 4

نویسندگان:

Amin Rabiei Baboukani - *Advanced Materials Research Center, Faculty of Materials Engineering, Najafabad Branch, Islamic Azad University, Najafabad, ۸۵۱۴۱۴۳۱۳۱, Iran*

Saeid Akhavan - *Isfahan University of Technology, Department of Materials Engineering, Isfahan, ۸۴۱۵۶۸۳۱۱۱, Iran*

Mohammad Rezvani - *Isfahan University of Technology, Department of Materials Engineering, Isfahan, ۸۴۱۵۶۸۳۱۱۱, Iran*

Ahmad Saatchi - *Department of Material Engineering, University of Wisconsin-Madison, WI ۵۳۷۰۶, USA*

خلاصه مقاله:

In the present study, electrochemical corrosion behavior of FSW welding investigated for 6061 aluminum alloy in different area such as HAZ, TMAZ and STIR in 3.5% NaCl solution. Corrosion behavior of weld areas is evaluated by polarization and electrochemical impedance tests. According to the polarization curves, corrosion current density in HAZ area is lower than TMAZ, STIR and base metal and the corrosion potential moved to the more noble values. The corrosion current density and corrosion potential for HAZ area is 60nA/cm² and -0.680V respectively. Electrochemical impedance test confirm polarization test. Based on Nyquist curves, there is a time constant for the double layer at the interface of the solution and the substrate. The EIS values obtained that HAZ area has highest charge transfer (resistance 5.64E+5).

کلمات کلیدی:

AA6061 , Corrosion , Friction Stir welding , Polarization , EIS

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