

## عنوان مقاله:

A Study on the Effect of Cathodic Polarization in the Pitting Corrosion of AA5083-H321 Aluminum-Magnesium Alloy in a 3.5% NaCl Solution

## محل انتشار:

دهمین کنگره ملی خوردگی ایران (سال: 1386)

تعداد صفحات اصل مقاله: 11

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## خلاصه مقاله:

Cathodic protection of aluminum-magnesium alloy AAS083-H321 as a suitable material for construction of high speed boats, submarines, desalination systems etc., is one of the proposed methods for their protection against pitting corrosion. In this research, the cathodic polarization of this alloy has been studied in a 3.5% sodium chloride solution at -0.9, -1, -1.1 and -1.2 VSCB. The electrochemical behavior of the surmce was investigated by EIS and DC methods. Morphological changes on the surface and the cross section of the samples were studied using scanning electron microscope (SEM) and EDAX analyzer. The results showed that at all potentials. pits density on the surfilce increases with the decrease of cathodic potential. Decreasing the potential accelerates the non-ideal behavior of the double layer capacitance at the interfil.ce of the oxide layer/solution. This results from the deepening of pits during cathodic polarization of the above-mentioned alloys. Finally, cathodic protection of these alloys is impossible while they are in stationary conditions.

## کلمات کلیدی:

Corrosion, Sodium chloride solution, Cathodic protection, AluminumMagnesium Alloy AAS083-H321

## لینک ثابت مقاله در پایگاه سیویلیکا:

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