

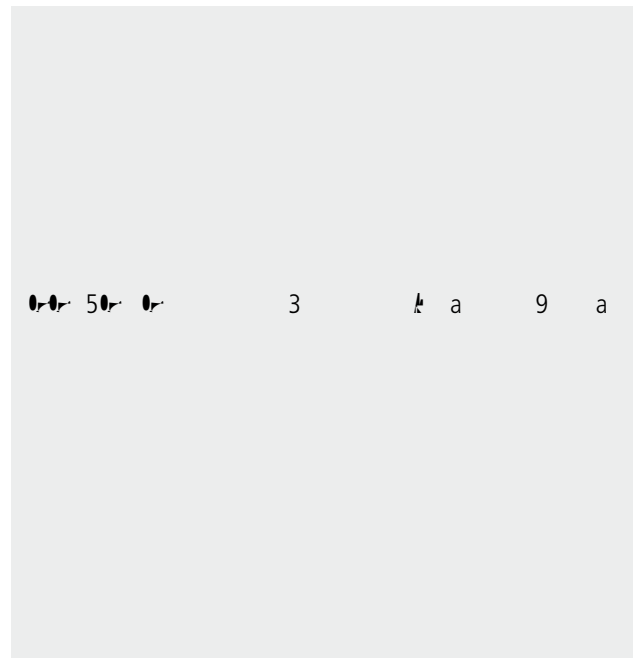
Corrosion phenomena on aluminium alloys spontaneously mitigated in natural seawater

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Abstract: This paper reports on the corrosion behavior of aluminium alloys in natural seawater. The study shows that corrosion phenomena on these alloys are spontaneously mitigated in natural seawater. The results are discussed in terms of the electrochemical and microstructural characteristics of the alloys. The study is based on electrochemical measurements, scanning electron microscopy (SEM), and energy-dispersive X-ray (EDX) analysis. The results show that the corrosion rate of the alloys is significantly lower in natural seawater compared to artificial seawater. This is attributed to the formation of a protective layer on the surface of the alloys, which is more stable and less porous than the layer formed in artificial seawater. The study also shows that the corrosion rate of the alloys is influenced by the alloy composition and the microstructure. The results are discussed in terms of the electrochemical and microstructural characteristics of the alloys.

INTRODUCTION

The corrosion of aluminium alloys in natural seawater is a complex phenomenon that involves the interaction of various factors, including the alloy composition, the microstructure, and the environmental conditions. The study of this phenomenon is important for the development of corrosion-resistant materials for marine applications. This paper reports on the corrosion behavior of aluminium alloys in natural seawater. The study shows that corrosion phenomena on these alloys are spontaneously mitigated in natural seawater. The results are discussed in terms of the electrochemical and microstructural characteristics of the alloys.



a ma a

RESULTS

a a a 95% al al a a am l mm a al a
m a 95% a a 3 a a al m a mm
am l l mm a l l a am l

Fig. 3



DISCUSSION

l a m a am l m 3 a la l lla a 8
a al a a a l l a ma a a a a 83
a a a a a a a al
ma l a al l a a 9
al a l a a a al a a a a a
a m a a a al 8
8 ± 5 m l
a am l mm a al a a
a l m a al a
8 m l m
a mm l a 8 m
l la a m a a
a a k a a
ma
a am l mm a al a a
a a l m 3 a
a l a 8 m l

BIBLIOGRAFIA

- m a a a k a a l m a a a a 5 a l m m a l l
a a 3 3 3 3 0 3
l l a a a l m m a l l a a a a l a 9 0 5
0 8
- 3 k a k a m a l k a a l m m 3 ± 999
l l k a l k k a k a k a l k k U a
a a l m m a l l a l k a l m l m a a 3 3 0 9
- 5 a k a a a a m a a a a a a m a a 0 3 a l m m
a l l 35% a l m a a a 3 3 3 3 3 3 8 0 8
- 6 a a l l a a a a m k a m a l a a l a m a
a l l a l 3 0
a a a a a m l l a l a a a a l l l
m a a 59 9 99 0 8
- 8 a a a l l a l a l a a a l m a
5 3 533 0 0
- 9 a l a m a a m l l a a
l l l a a a a l a a l l a a a 3 5 0 5
0 a m a l m a a m a a m a l a a l
- l m 5 5 0 8
a a a a a a a l k a l a l m m a l l l
m a a 8 8 85 0
- a a l a a a l a a a a a a
a l a a a a l a a l & l 3 5 0
- 3 l a a m a a k a a k a a a a m l a l a a l l m
m a l m a l a m a l l l m a a 5 3 85 3 0 0 0 0
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- m m a a
- 5 a m a l l a a a a a l l a l a l m a l l l
a a l l l a a a l a a a a l m a a 5 8 53 0 8
- 6 a m a l a a l l l l l l a m a a l a l
l m a l m l 3 5 0