Corrosion Behavior of 7075-T6 Aluminum Alloy in the Presence of *Aspergillus Niger*

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Aspergillus niger is a fungus that can promote the corrosion of aluminum alloys. In this paper, the corrosion behavior of 7075-T6 aluminum alloy in the presence of *Aspergillus niger* was investigated with the corrosion weight-loss method, electrochemical tests, scanning electron microscopy (SEM), and inductively coupled plasma optical emission spectrometry (ICP-OES). The results showed that *Aspergillus niger* greatly promoted the corrosion behavior of 7075-T6 aluminum alloy, and the corrosion rate was 6-12 times that of the sterile system. The electrochemical results showed that the corrosion process of the aluminum alloy was promoted by *Aspergillus niger*, and a large number of corrosion pits appeared on the surface with increasing exposure time. The research results confirmed that *Aspergillus niger* can significantly promote the corrosion of aluminum alloys.

Keywords: *Aspergillus niger*; Aluminum alloy; Microbiologically influenced corrosion; Electrochemical characteristics

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