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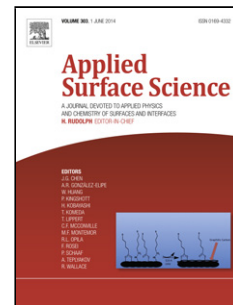
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Inhibition of the Cu65/Zn35 brass corrosion by natural extract of camellia sinensis**Tambi Ramdé^{1,2*}, Stefano Rossi², Caterina Zanella²**

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Abstract

In this work, the corrosion inhibition of brass was studied using natural plant extract, camellia sinensis, in 0.1M Na₂SO₄ solutions with pH 7 and pH 4. Electrochemical techniques (potentiodynamic polarization, electrochemical impedance spectroscopy) and scanning electron microscopy (SEM) were applied to study the brass corrosion behavior in presence and absence of the extract. The results indicated that the extract is a very effective corrosion inhibitor for brass corrosion process in both the acidic and neutral media by virtue of adsorption. The inhibition effect increases by time as demonstrated by the EIS monitoring for 120 hours. In the blank solution the corrosion process leads to the formation of a dark oxide patina at pH 7 and induces localized corrosion morphology at pH 4. The extract presence can avoid both the dark patina and the pits formation.

Keywords: natural extract / corrosion inhibition / brass / cultural artifacts conservation/ electrochemical analysis /

1. Introduction

In Burkina Faso, lot of cultural objects and statues is made of copper and copper alloys. Brasses are widely used for the casting of decorative items, generally used for outdoor

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