

**306-017**

**INFLUENCE OF THE ANODIZING VOLTAGE ON THE CORROSION RESISTANCE OF A 2524 AL ALLOY ANODIZED IN TARTARIC SULFURIC ACID (TSA) AND PROTECTED WITH A HYBRID SOL-GEL COATING**

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Corrosion is a major problem for high strength aluminum alloys. Thickening of the naturally formed oxide layer through anodizing is one of the main approaches to improve the corrosion resistance of these materials. Chromate anodizing is extremely efficient to produce anodized layers with good corrosion resistance and painting adhesion, however chromate based surface treatments must be banished from industrial use. In this work the corrosion resistance of aluminum alloy 2524 anodized in TSA bath and protected with a sol-gel coating was evaluated by means of electrochemical impedance spectroscopy (EIS) and salt spray test. The effect of anodizing voltage in the protection afforded by the layers was evaluated. Electric equivalent circuits fitting of the EIS data have shown that the anodized layer morphology plays an important role on the protection mechanism of the sol-gel layer. Salt spray tests highlighted the important role of the sol-gel distribution in the anodized layer.