

Special Issue

Surface Chemistry and Corrosion of Light Alloys

Message from the Guest Editor

Light alloys have attracted increasing scientific and technical interest during the last two decades. Corrosion and wear resistance of these alloys is one of the key points that limit its utilization in service. Although, the corrosion of metals begins on a portion of the surface film and then expands due to its breakdown, the influence of surface chemistry is generally considered less relevant than the composition or microstructure of the bulk material on their corrosion behavior. However, any attempt to improve the corrosion resistance of light alloys requires a profound understanding of the relationship between the composition, structure and the protective properties of the surface films and how these relationships are modified by surface and interface engineering or under different environmental factors. This Special Issue addresses the nature of the surface films formed on commercial light alloys, corrosion protection strategies and the changes in their chemical composition induced by exposure to aggressive environments, with the aim of elucidating the protective properties of these films.

Guest Editor

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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