Special Issue

Stress-Corrosion Cracking in Materials

Message from the Guest Editors

Stress corrosion cracking (SCC) takes place due to the synergistic action of the environment on a susceptible material under tensile loading. SCC promotes the formation of cracks that can propagate, owing to the combined action of stress and environment, with a risk of rupture of structural components even at loads much lower than the tensile strength. Many alloys can exhibit SCC phenomena in unique environmentsAluminum alloys—mainly age-hardening alloys—are susceptible to SCC and corrosion fatigue in the presence of chlorides. Copper alloys suffer SCC in ammonium salt environments. Although several studies have been conducted in recent years, a full understanding of such phenomena is far from being reached. In addition, new joining and manufacturing technologies of materials and their effect on the material properties (friction stir welding, additive manufacturing, etc.) open the theme of qualification for the specific environment and application. The aim of this Special Issue is to give an up-to-date overview of the SCC of materials, covering all its aspects. Full papers, short communications, and reviews are welcome.

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Message from the Editorial Board

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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