Special Issue

Mechanical Properties and Oxidation Behavior of Protective Coatings

Message from the Guest Editors

Surface modifications with protective coatings are applied to achieve advanced material characteristics, such as superior mechanical properties, chemical stability, oxidation resistance, and corrosion resistance. Distinct structures, such as multilayered, nanocomposite, and amorphous structures, are utilized in versatile protective coatings. Nitride, carbide, oxide, and boride films are the most familiar materials used as protective coatings. Moreover, protective coatings with multicomponent alloys, such as high-entropy alloys and thin-film metallic glasses are attracting the interest of researchers worldwide. Strengthening mechanisms, including solid-solution strengthening, grain refining, the Hall–Petch effect, and residual stress effect are widely discussed. Oxidation behavior is associated with the lack of grain boundaries and the formation of an inert surface oxide layer. This Special Issue, entitled "Mechanical Properties and Oxidation Behavior of Protective Coatings", welcomes all original research and critical review articles on the relevant topics.

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Message from the Editor-in-Chief

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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