

Tribological Properties and Corrosion Resistance of Cold-Sprayed Coatings

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Message from the Guest Editors

Dear Colleagues,

Cold gas dynamic spraying, or simply cold spraying, is a solid-state coating technology that has been gaining more and more popularity since it was patented at the end of last century, not only among people working in the thermal spray industry for coating and repairing purposes, but also as an additive manufacturing process that allows building up bulk metal parts layer by layer.

The scope of the present Special Issue focuses on recent studies. Wear studies may include sliding friction, abrasion, erosion, cavitation, and fatigue performance. Studies on corrosion may include wet corrosion and high-temperature corrosion/oxidation. The following concepts affecting such properties are revised:

- Single or multiphase materials deposited by means of cold spray;
- Influence of different deposition parameters as well as spraying gun systems;
- Influence of different powder morphologies;
- Analysis of residual stresses and how they can affect the resulting properties;
- Effect of post-deposition treatments;
- Computer modeling, simulation to predict coating properties, performance, durability, and reliability in service environments.



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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

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