



Thermal Spray Processes: The Evolution of Equipment, Technology and Feedstock

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Message from the Guest Editors

Dear Colleagues,

Thermal spraying is one of most versatile technologies in coatings deposition. Its attractiveness results from its high efficiency of deposition of a broad range of materials, including ceramics, metals, and alloys. In the last few years, new emerging spray technologies, mainly cold spraying and thermal spraying with liquid feedstocks, have become of increasing interest. The torches used to spray use cold or warm gases accelerated in a De Laval nozzle; hot gases or plasmas being heated by gas combustion or by an electric arc. The evolutions in torches design include the ways of feedstock injection and methods of gas heating. The use of liquid feedstock, such as suspensions and solution precursors, enabled the achievement of new coating architectures and the achievement of promising mechanical or thermophysical properties. On the other hand, development of metal-cladded ceramic powders paves the way to obtain cermet coatings with the use of the cold spray technique.

The proposed Special Issue invites the authors of papers that are active in the development of these new thermal spray processes, as well as on the design of new concepts for feedstock





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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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