



Corrosion and Corrosion Protection of Additively Manufactured Alloys

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Message from the Guest Editors

Metal additive manufacturing (MAM), a process by which complex multifunctional metal parts are produced in a layer-by-layer fashion, is considered one of the enabling technologies for Industry 4.0. This technology has attracted a great deal of attention in recent years and has found numerous applications in such industries as medical implants, energy, aerospace, and automotives because it allows near net-shape manufacturing of geometrically complex parts. It has also shown great potential for applications in repair.

Due to the special conditions associated with MAM, a very fine microstructure with unique directional growth features far from equilibrium is generally obtained. This distinctive microstructure, together with defects originating from the MAM process, is known to greatly influence the performance and corrosion behavior of these materials. Therefore, this Special Issue focuses on the complex relationship between the microstructure, post-thermal treatments, and defect characteristics of MAM processes such as surface roughness, porosity, and internal residual stresses on the corrosion behavior of additively manufactured (AM) metal parts.





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Message from the Editor-in-Chief

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