



New Advances in Light Metal Alloys for Additive Manufacturing

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Message from the Guest Editors

Additive manufacturing is unlocking design and geometrical constraints typical of traditional manufacturing, leveraging the production of complex and lightweight structures. This evolution involves a shift in the way in which a component is designed to the idea of using the smallest amount of material, and to optimize it to be built in a layer-upon-layer way. When it comes to metal, the particular processing conditions taking place inside additive manufacturing machines give rise to peculiar microstructures and unique mechanical properties.

Light alloys are of particular interest for additive manufacturing and represent some of the largest amounts of metallic materials processed by additive layer manufacturing (Ti-6Al-4V being the most widely 3D printed alloy in the world to date), with the exception of magnesium, which is slowly but remarkably taking its first steps in this field of research.

- additive manufacturing
- light alloys
- mechanical properties
- microstructural characterization
- process parameters
- powder metallurgy
- corrosion properties and surface finishing
- modeling and simulation





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Message from the Editor-in-Chief

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