



Advances in Selective Laser Melting of Light Alloys

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Additive manufacturing processes by laser micro-fusion on a powder bed now open the door to new degrees of freedom, both in terms of part design and in terms of reducing tooling costs or choosing materials. With the starting material being metal powder atomized with gas, its origin and its size are parameters to be taken into account in relation to the conditions of implementation on the machines. For identical operating parameters, this study aims to compare the characteristics of parts produced with two different powder granulometries coming from two different manufacturers. At the same time, the results obtained with two different laser micro-fusion machines will also be presented.

The characterization of the parts will be done from the control samples serving as a reference. The properties measured will be: the roughness, the metallographic structure showing the metallurgical health of the parts as well as the porosity rate. Finally, the development of standardized tensile specimens will complete this study. Based on the literature, a comparison will of course be made with the same similar alloy but transformed on other machines.





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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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