

# SELECTIVE LASER MELTING ADDITIVE MANUFACTURING: AlSi10Mg POWDER CHARACTERIZATION

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## ABSTRACT

*Defining the properties of the powder used for metal-based additive manufacturing (AM), is a necessary condition for the industry to be able to confidently select a suitable powder and produce consistent parts with known and predictable properties. This article reports results for AlSi10Mg powder properties assessment. The particle size, morphology, phase and chemical composition were characterized. The powder microstructure was observed using light and electron microscopy. It is shown that the AM process has negligible influence on the powder batch characteristics. Samples representing two types of new powder (from different batches) as well as a used one maintained their initial properties. An ongoing research will correlate the powder properties to the AM end product.*

**KEY WORDS:** Laser melting, additive manufacturing, metal powders.

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