

## Critical Parameters of Metal Laser Sintering with its Impact on Geometrical Accuracy of a Component

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3D printing of metallic powders is a relatively new but increasingly used technology in a wide range of sectors. Design engineers are responding flexibly to new opportunities for production and components for 3D printing and are designing with respect to the advantages and limitations of this technology. Through the additive method of production, we can produce very specific components with complex shapes, both internal and external, which cannot be produced by conventional methods, thereby opening up new possibilities both in functional components and in their design.

This paper deals with the influence of critical parameters of metal laser sintering of metallic powders, particularly tool steel, on the geometrical accuracy of a component. Based on selected critical parameters, a component was designed that was printed on different devices and subsequently evaluated in terms of accuracy, surface quality and material properties.

**Keywords:** Metal laser sintering; critical parameters; geometrical accuracy, DLMS, tool steel

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