BENSELER

SELECTIVE LASER MELTING

Selective laser melting, a form of additive manufacturing, is used to build up components layer by layer based on 3D data. Compared to conventional manufacturing methods, SLM has the advantage that the development and manufacture of complex and cost-intensive tools and moulds is no longer necessary. The SLM method is suitable for both **prototyping and volume production** and can be applied in the automotive industry as well as the aerospace, medical technology and mould making sectors and in special purpose machinery manufacture.

SELECTIVE LASER MELTING

PROCESS FLOW

With SLM, metal in powder form is applied to a base plate and locally melted by a fibre laser. The plate is lowered after each layer and the cycle starts anew. This is done automatically based on the pre-generated data of the desired 3D model. Once the excess powder has been removed, the finished component separated from the base plate and freed of the supporting geometries, it can be put to use immediately or further machined according to requirements.

CHARACTERISTICS

- high specific densities (> 99 %) of the processed material
- mechanical properties of SLM components comparable to, or in some cases better than those of conventional mechanically machined parts
- reduction of product development time by eliminating tool and mould making steps
- great geometrical freedom
- close-contour cooling for injection moulding and die casting tools possible
- reduction of storage costs through on-demand component manufacture possible

LOCATION:

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