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Plasma electrolytic treatment of products after selective laser melting

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Abstract

The aim of the work was to study the possibilities of plasma electrolytic treatment for cleaning surfaces of metal products obtained by the SLM-technology. We found that the most effective cleaning from the large alloy particles occurs in the "hydrodynamic" mode, when the occurrence of hydrodynamic pulses observed. Further smoothing of irregularities eliminated by a stable burning of discharge in vapor shell. Analysis the morphology of the surface of difficult specialized products, such as crown conical gears, after plasma hydrodynamic treatment showed efficiency and advantages in comparison to conventional methods of final cleaning such as shot blasting.

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