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Formation of cracks in the selective laser melting of objects from powdered stainless steel 17-4 PH

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Abstract

In the work, the process of selective laser melting of thick-walled objects of molds for wax models of 17-4PH steel powder on a ProX 300 was studied. The microstructure of the surface has been studied, the formation of cracks has been revealed and the possible reasons for their formation and propagation have been proposed. Analysis of selective laser melting of thin-walled objects revealed no cracks. To prevent the occurrence of cracks, it is necessary to warm the working platform to 200 °C.

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