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Effect of heat treatment on residual stress and wear resistance of CX stainless steel manufactured by Selective Laser Melting

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Abstract

CX stainless steel specimens have been fabricated via Selective Laser Melting (SLM) technology. However, no research has been carried out on the residual stress and wear resistance of SLM CX steel. To fill this research gap, a type of heat treatment was applied to investigate the effect of heat treatment on the residual stress and wear resistance of the SLM CX steel. Low residual stress and good wear performance of the heat-treated SLM CX steel samples can be obtained compared to the as-built state. The results highlight that appropriate heat treatment can enhance the wear resistance of the SLM CX steel.

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