

Abstract Submitted
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Vacuum Compatibility of Laser Sintered Metals with Post-processing W.F. RIVERA, C.A. ROMERO-TALAMAS, E.M. BATES, W. BIRMINGHAM, University of Maryland Baltimore County — We present the results of the outgassing rate of selective laser sintered parts using the throughput method; this method gives the outgassing rate per unit area of the parts by taking the difference in pressure and multiplying it to the known conductance, and dividing it by the surface area of the sample. The samples undergo post-processing: the technique we are investigating is plasma vapor deposition, which turns the target material (silicon, copper, etc.) into a stream of charged particles creating a smooth and uniform layer onto the substrate. Plasma vapor deposition homogenizes the surface morphology of the sample, reducing the surface area and developing a surface layer which should decrease the outgassing rate and make it impermeable to gasses and unreactive to chemisorption. The outgassing data is compared for each sample before and after post-processing.

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