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DEPOSITION OF HYDROXYAPATITE AND TRICALCIUM PHOSPHATE COATINGS BY SUSPENSION PLASMA SPRAYING: EFFECTS OF TORCH SPEED

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Abstract

This research focuses on the deposition of hydroxyapatite (HA) and tricalcium phosphate (TCP) coatings produced by suspension plasma spraying (SPS) using in-house liquid feedstock suspensions. The work studied the effects of torch speed on the thickness, microstructure, and crystalline composition of the coatings. SPS allowed the deposition of HA and TCP coatings with thickness between 28 and 90 μm . The coatings presented lamellar microstructure with complex porosity between the splats. Micropores ranging from 0.2 to 6 μm and close mesopores, from 8 to 45 μm , had a spherical morphology and were homogeneously distributed within the coatings. Water evaporation during SPS allowed the

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