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Characterization and Optimization on The Tribological Properties of Nip-Tin-GC3N4 Electro Less Coatings

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Abstract: *This research focuses on the comprehensive characterization and optimization of Tribological properties exhibited by NiP-TiN-gC_3N_4 electro less coatings. The study delves into the microstructural analysis, compositional examination, and mechanical behavior of these composite coatings through advanced techniques such as SEM, TEM, XRD, EDX, and mechanical testing methodologies. Tribological evaluations were conducted to scrutinize the coatings' frictional performance, wear resistance, and hardness under varying operational conditions.Furthermore, an iterative optimization process will be employed to find the influencing factors on Tribological properties including deposition conditions and component ratios, aiming to enhance specific Tribological characteristics. It is expected that the findings elucidate the intricate correlation between coating composition, deposition parameters, and resultant Tribological properties.*

Keywords: Tribological.

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