

# STUDY THE WEAR CHARACTERISTICS OF AL2O3 REINFORCED NI-BASED NANOCOMPOSITE COATING SYNTHESIZED USING ELECTROLESS DEPOSITION TECHNIQUE

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**E**lectroless Ni-based- $\text{Al}_2\text{O}_3$  nanocomposite coatings have found wide range of applications due to their high hardness and wear resistance. The present work investigate the influence of electroless deposition process parameters on the morphology, microhardness and wear behavior of electroless  $\text{Al}_2\text{O}_3$  reinforced Ni-based nanocomposite coating. Four parameters, namely concentration of nickel sulphate, concentration of  $\text{Al}_2\text{O}_3$  nanoparticles as a second phase particles, and deposition time on the morphology, microhardness and wear resistance of electroless  $\text{Al}_2\text{O}_3$  reinforced nanocomposite coating were considered in this study. The compositional, microstructural, phase structure and morphological analysis were conducted using EDS-X-Ray analysis, X-Ray diffraction analyzer, and scanning electron microscope respectively. While wear behaviour was investigated using reciprocating wear test machine.

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