

عنوان مقاله:

WEAR BEHAVIOR OF COBALT CONTENT GRADED NCO/SC NANO-COMPASTE COATINGS ON AL SUBSTRATE

محل انتشار:

سومین کنفرانس بین المللی مواد فوق ریزدانه و نانوساختار (سال: 1390)

تعداد صفحات اصل مقاله: 7

نویسندگان:

S.M. LARI BAGHAL - *School of Metallurgy and Materials Engineering, College of Engineering, University of Tehran, Tehran, Iran*

A. AMADEH - *School of Metallurgy and Materials Engineering, College of Engineering, University of Tehran, Tehran, Iran*

M. HEYDARZADEH SOH - *School of Metallurgy and Materials Engineering, College of Engineering, University of Tehran, Tehran, Iran*

خلاصه مقاله:

Functionally graded (FG) Ni-Co/SiC nano-composite coatings were electrodeposited on Al substrate using a Watts bath containing 15 g/L SiC nano particles with gradual increasing of cobalt ion concentration into electroplating bath. For comparison, uniform composite coatings were also prepared at various concentrations of cobalt ions. The crystallographic texture and surface morphology of the coatings was studied by means of X-ray diffraction (XRD) and scanning electron microscopy (SEM), respectively. Microhardness and wear tests were used for investigation of hardness and wear resistance of coatings. The experimental results indicated that by increasing cobalt concentration in electrolyte from 0 to 60 g/L in FGC, the cobalt content in the deposit increased up to 45 wt.% whereas the grain size decreased. More uniform distribution of SiC particles in the deposit was also observed at higher cobalt concentrations. The microhardness of FG coatings increased from 250 to 450 HV from the interface to the outer surface. Functionally graded coating exhibited better wear resistance than uniform coatings

کلمات کلیدی:

Functionally graded coating, Ni-Co/SiC, Nano-composite, Wear

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/613155>

