

Abstract

Master dissertation Kuchyrka O.P. on "Physico-chemical conditions for the deposition on alloys and protective properties of coatings involving titanium, chromium, aluminum" - K: NTUU "Igor Sikorsky Kyiv Politechnic Institute", 2017, p 84, Fig. 20, Tables 11, literature - 53.

Diffusion coating based on chromium carbides receiving gas and powder methods compatible with the department staff MTO Engineering Physics faculty NTU "KPI". Corrosion tests were performed in solutions of 1,5% $C_6H_{10}O_4$, CH_3COOH 10%, 15% HNO_3 , 10% H_2SO_4 . Changes in the chemical composition of the coatings before and after corrosion tests were determined.

Established that studied in the Cr-Ti-Al coatings with barrier layers based on chromium carbides are promising in their practical use in metallurgical industries. Revealed that the coating also exhibit high protective properties in solutions of nitric, adipic and acetic acid, as evidenced by the results of micro-X-ray diffraction analysis and the results of corrosion studies.

Keywords: corrosion, complex diffusion coatings with barrier layers, polarization curve, micro-X-ray diffraction analysis, passive film, intermetallide, corrosion potential