

EFFECT OF THE COMPOSITION OF Ni(II) AND Co(II) COMPLEXES ON ELECTRODEPOSITION OF THE METALS FROM CITRATE BATHS.

Berezina S., Sharapova L., Shtyrlin V.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The addition of amino compounds to citrate nickel plating baths facilitates plating by raising the nickel current efficiency due to a postulated formation of Ni(II) heteroligand complexes. This paper reports the electrodeposition of nickel and cobalt with the composition and nature of complexes in citrate and citrate-glycinate baths. The systems Ni(II)-H//3Cit; Ni(II)-H//3Cit-HGly and CO(II)-H//3Cit; and CO(II)-H//3Cit-HGly were studied as to complex formation and electrodeposition over a range of pH at an approximately 1:1 ratio of the original complexant concentrations to those of the coordinated entities. The plating rate was found to be a function of the composition of the complex in solution.
