The Influence of Process Operations on the Structure of High-Purity Aluminum when Manufacturing Cold Cathode

A.M. Minaev, L.N. Tyalina, V.A. Pruchkin, A.P. Korolev, D.M. Mordasov, I.S. Filatov

Tambov State Technical University, Tambov

Key words and phrases: aluminum oxide; atomic force microscopy; cold cathode; electron emission; grain growth; highpurity aluminum; microstructure; plastic deformation.

Abstract: The problems of forming cathode structure after various degrees of cold plastic deformation, time-temperature heating conditions and thermal oxidation have been studied. The influence of process operations on the quality of the structures of aluminum and its oxide has been assessed.