STUDY ON THE ELECTROLESS PLATING

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APSTRACT

Electroless plating should not be confused with electrochemical displacement deposition, where basis metal dissolution is involved, or with homogeneous chemical reduction processes (e.g., silvering) where electroless deposition occurs indiscriminately over all objects in contact with the solution. This paper is concerned with the evaluation of the properties of heat treated electroless Ni-B-Co alloys. The effect of changing plating time on the coating thickness for the Ni-B and Ni-B-Co deposits are studied and the rate of plating is found high. Heat treatment for one hour at different temperatures of electroless Ni-B and Ni-B-Co coatings showed that minimum surface wear occurred at 700°C. The effect of heat treatment on the crystallisation behaviour of an electroless Ni-B-Co deposits were also studied, for as plated samples the X-ray diffraction patterns of Ni-B-Co alloys showed that unheated deposits all are microcrystalline. Well crystalline of Co & Ni and very well crystalline and grain growth of Ni_B have been noticed for deposit heat treated at 400°C for one hour, also around this temperature the maximum microhardness was achieved.

Key words: Electroless coating/Heat treatment/ Ni-B-CoCoating/Wear resistance.