

EVALUATION AND OPTIMIZATION OF COATING THICKNESS IN NI-CR ELECTROPLATING ON MILD STEEL

CH. SIVA RAMA KRISHNA, K. S. RAGHURAM & D. AJAYKUMAR

Department of Mechanical Engineering, Vignan's Institute of Information Technology, Visakhapatnam, India

ABSTRACT

The aim of this investigation is to check the process parameters that affect Ni-Cr electroplating on Mild steel. To evaluate the process three of process factors were selected: the amount of voltage, the time that the voltage is applied, temperature of the process are the factors that were tested. The hypothesis for each factor was developed as: The relation between the time and the thickness of metal coated should be proportional up to 4.1 volts and later on decreases. For a certain time interval, when the thickness of Ni-Cr plating developed on the Mild steel is constant after 19 seconds of time. The thickness of metal deposited also depends almost linearly with respect to process temperature. After a series of experiment following were concluded: Time is proportional to surface thickness and surface thickness also increases with temperature.

KEYWORDS: Electrolyte, Surface Thickness, Time, Temperature, Voltage