

## **SURFACE STRUCTURE, COMPOSITION AND HARDENABILITY OF CU-10NI-2AL ALLOY DEVELOPED IN A MAGNETRON SPUTTERING SYSTEM**

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### **ABSTRACT**

Experiments have been made to examine changes in surface structure and composition as well as hard enability of the Cu-10Ni-2Al alloy due to different treatments in argon magnetron sputtering and different heat treatments. Furthermore, hysteresis behavior of the given alloy in dry argon atmosphere at two different gas pressures was investigated. The results showed that sputtering times and annealing temperatures were greatly affected these changes. Presence of aluminum in the alloy was found to increase its hardness compared to that of the Cu-10Ni alloy. Scanning electron microscopy, X-ray diffraction, energy-dispersive X-ray spectroscopy as well as Vickers microhardnesstester were used in this study.

**KEYWORDS:** Cu-Ni-Al Alloys, Surface Structure, Magnetron Sputtering; Energy Dispersive Spectroscopy, Vickers Hardness