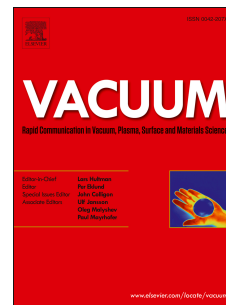


Accepted Manuscript

The influence of Ag contents on the microstructure, mechanical and tribological properties of ZrN-Ag films

Hongbo Ju, Dian Yu, Lihua Yu, Ning Ding, Junhua Xu, Xindi Zhang, Yan Zheng, Lei Yang, Xiaochen He



PII: S0042-207X(17)31114-4

DOI: [10.1016/j.vacuum.2017.10.029](https://doi.org/10.1016/j.vacuum.2017.10.029)

Reference: VAC 7658

To appear in: *Vacuum*

Received Date: 20 August 2017

Revised Date: 21 October 2017

Accepted Date: 22 October 2017

Please cite this article as: Ju H, Yu D, Yu L, Ding N, Xu J, Zhang X, Zheng Y, Yang L, He X, The influence of Ag contents on the microstructure, mechanical and tribological properties of ZrN-Ag films, *Vacuum* (2017), doi: 10.1016/j.vacuum.2017.10.029.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

The influence of Ag contents on the microstructure, mechanical and tribological properties of ZrN-Ag films

Hongbo Ju^{1,2}, Dian Yu¹, Lihua Yu¹, Ning Ding¹, Junhua Xu^{*1,2},
Xindi Zhang¹, Yan Zheng¹, Lei Yang¹, Xiaochen He¹

1. School of Materials Science and Engineering, Jiangsu University of Science and Technology, Mengxi Road 2, Zhenjiang, Jiangsu Province, 212003, China

2. YangziXinfu Shipbuliding Ltd. Lianyi Road 1, Jingjiang, Jiangsu Province, 214500, China

Abstract: A series of ZrN-Ag films with various Ag contents (Ag/(Zr+Ag), at.%) were deposited by reactive magnetron sputtering and their microstructure, mechanical and tribological properties at various testing temperatures were investigated by the energy dispersive spectroscopy (EDS), X-ray diffraction (XRD), X-ray photoelectron spectroscopy (XPS), transmission electron microscopy (TEM), nanoindenter and high temperature tribometer. The results showed that face-centered cubic (fcc) ZrN and fcc-Ag coexisted in the ZrN-Ag films. The hardness of the films, which was influenced by the fine-grain strengthening and the contents of soft Ag, initially increased gradually

Download English Version:

<https://daneshyari.com/en/article/8044664>

Download Persian Version:

<https://daneshyari.com/article/8044664>

[Daneshyari.com](https://daneshyari.com)