ISSN 1734-8412

Journal of Achievements in Materials and Manufacturing Engineering

Published monthly as the organ of the World Academy of Materials and Manufacturing Engineering

Editor-in-Chief Prof. Leszek A. Dobrzański

Volume 44 • Issue 2 • February 2011

REGULAR ISSUE 2011

http://www.journalamme.org

Journal of Achievements in Materials and Manufacturing Engineering

PUBLISHED SINCE 1992
formerly as Proceedings on Achievements in Mechanical and Materials Engineering

Published monthly as the organ of the World Academy of Materials and Manufacturing Engineering

Journal of Achievements in Materials and Manufacturing Engineering
JAMME

Patronage

World Academy of Materials and Manufacturing Engineering

Polish Academy of Sciences, Committee of Materials Science, Section of Metallic Materials

International Federation of Heat Treatment and Surface Engineering

Association of Computational Materials Science and Surface Engineering

Institute of Engineering Materials and Biomaterials of Silesian University of Technology, Gliwice, Poland

Financial support

The efforts to achieve the financial support of the Journal in 2011 from the Ministry of Science and Higher Education in Poland have begun.

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The procedure of its registration in the databases of Compandex, CiteSeer, GetCited and Web of science has begun.

Journal Registration

The Journal is registered by the Civil Department of the District Court in Gliwice, Poland at number 279.

Publisher

INTERNATIONAL OCSCO WORLD PRESS

Gliwice 44-100, Poland
ul. S. Konarskiego 18a/366
e-mail: info@journalamme.org

Bank account:
Stowarzyszenie Komputerowej Nauki o Materiałach i Inżynierii Powierzchni
Bank name: ING Bank Śląski
Bank address: ul. Zwycięstwa 28, 44-100 Gliwice, Poland
Account number/ IBAN CODE: PL76105012981000002300809767
Swift code: INGBPLPW

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Selected materialographical photo

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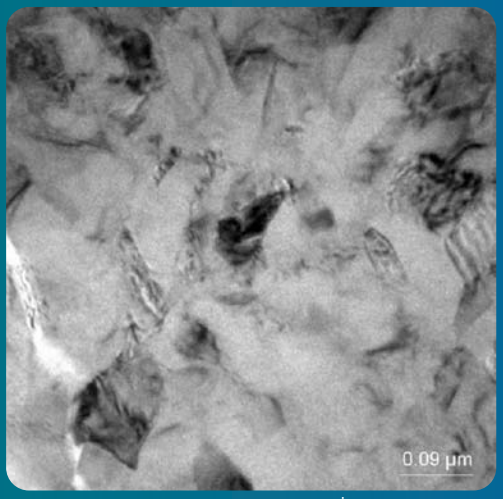

Authors: L.A. Dobrzański and L.W. Żukowska in the paper entitled "Structure and properties of gradient PVD coatings deposited on the sintered tool materials" on a **page 115** investigate the structure and properties of sintered tool materials, including cemented carbides, cermets and oxide ceramics deposited with single-layer and gradient coatings (Ti,Al)N and Ti(C,N), and determine the dependence between the substrate type, coating material or linear variation of chemical composition and the structure and properties of the obtained tool material. Results of the investigation of the influence of PVD coatings structure (single-layer or gradient) and kind on properties of coated tool materials. Coatings are characterised by dense, compact structure. The coatings were deposited uniformly onto the investigated substrate materials and show a characteristic columnar, fine-graded structure. The coatings deposited onto the investigated substrates are characterised by good adhesion and causes the increase of wear resistance. Gradient coatings are characterised by a linear change of chemical composition in the direction from the substrate to the coating surface. A more advantageous distribution of stresses in gradient coatings than in respective single-layer coatings yields better mechanical properties, and, in particular, the distribution of stresses on the coating surface has the influence on microhardness, and the distribution of stresses in the contact area between the coating and substrate has the influence on the adhesion of coatings. An analysis of the structure (SEM, TEM), an analysis of the mechanical and functional properties: surface roughness, microhardness tests, scratch tests, cutting tests were carried out. The Ti(C,N) and (Ti,Al)N gradient coating were investigated by XPS and AES method. X-ray qualitative phase analysis and the grazing incidence X-ray diffraction method (GIXRD) was employed to collect the detailed information about phase composition of investigated material's surface layer. Computer simulation of stresses was carried out in ANSYS environment, using the FEM method and the experimental values of stresses were determined basing on the X-ray diffraction patterns.