

Table of Contents

Preface

Committees

SECTION I – ADVANCES IN DEPOSITION, SURFACE MODIFICATION AND CHARACTERIZATION

3-D Static and Time-Depending Modelling of DC and RF Thermal Plasmas for Industrial Applications

V. Colombo, E. Ghedini and P. Sanibondi 1

Ti–Si–C Films Formed by Dual Beam Ion Assisted Deposition

A. Twardowska, B. Rajchel and L. Jaworska 11

A Comparison between Conventional Thermal Treatment and Excimer Laser Irradiation Performed on Alumina/PEEK Composite Coatings

M.F. de Riccardis, V. Martina, D. Carbone, P. Rotolo, A. Caricato, G. Leggieri, L. Pilloni, L. Tapfer, R. Giorgi and E. Salernitano 17

Application of SEM/TEM to Tests on Pt Distribution in Al_2O_3 Films Obtained by Oxidising FeCrAl Steel Foil Coated with Pt-Al Nanofilms

K. Reszka, J. Rakoczy and J. Morgiel 23

A Chemometric Study of Alumina/PEEK and Hydroxyapatite/PEEK Suspensions Prepared for Electrophoretic Deposition of Multifunctional Coatings

V. Martina, M.F. de Riccardis and D. Carbone 29

Effect of Methane Flow Rate on the Microstructural and Mechanical Properties of Silicon Carbide Thin Films Deposited by Reactive DC Magnetron Sputtering

E. Baskurt, T. Tavşanoğlu and Y. Onüralp 35

ESR Study of Elements Added-DLC Films Deposited by PBII and RF-CVD Methods

N. Moolsradoo, H. Sato and S. Watanabe 41

SECTION II – PROTECTIVE COATINGS IN OXIDIZING AND HARSH ENVIRONMENTS

Development of Advanced Coatings for ITER and Future Fusion Devices

J. Matějíček and P. Chráska 47

Mechanical and Surface Properties of Chemical Vapor Deposited Protective Aluminium Oxide Films on TA6V Alloy

D. Samélor, M. Aufray, L. Lacroix, Y. Balcaen, J. Alexis, H. Vergnes, D. Poquillon, J.D. Béguin, N. Pébère, S. Marcellin, B. Caussat and C. Vahlas 66

Oxidation Behavior of Thermal Barrier Coatings on Copper Substrates

J. Schloesser, M. Bäker, J. Rösler and R. Pulz 74

Overview: How to Quantify the Capability of Yttrium Silicates to be Used as an Environmental Barrier Coating

E. Courcot and F. Rebillat 80

Influence of Inorganic Sealant in Hot and Cold Erosive Wear in Plasma Sprayed Alumina Coating

J. Vicenzi, A.S. Takimi, R.B. Fonseca, A. Locatelli, C.F. Malfatti and C.P. Bergmann 86

Corrosion Resistance of Titanium Aluminide Layers on Two Phase ($\alpha+\beta$) Ti6Al4V Titanium Alloy

R. Sitek, J. Kaminski, M. Pisarek, H. Matysiak and K.J. Kurzydlowski 92

Slurry Coating of Environmental Barrier Coating (EBC) on Silicon Carbide Based Material

F. Bezzi, P. Fabbri, A. Brentari, C. Mingazzini, E. Burresi, L. Beaulardi and S. Sangiorgi 100

SECTION III – THIN FILMS AND COATINGS FOR TRIBOLOGICAL AND MULTIFUNCTIONAL APPLICATIONS

Advanced Ceramic Tribological Layers by Thermal Spray Routes

R. Gadow, A. Killinger, A. Rempp and A. Manzat 106

Effect of Phases on the Frictional Properties of Electroless Ni-B Nano-Composite Coating	120
S. Pal, V. Jayaram, S.K. Biswas and Y. Riddle	
Damping Properties of Hard Coatings for Engine Applications	126
P.J. Torvik	
Advances in the Field of New Smart Thermal Barrier Coatings	136
L. Pin, F. Ansart, J. Fenech, P. Lours, J.P. Bonino, J. Snieszewski and Y. Le Maoult	
Anti-Bacteria Behaviors of TaN-Cu and TaN-Ag Nanocomposite Thin Films	142
J.H. Hsieh, T.H. Yeh, C.S. Chiou, C.T. Huang and C. Li	
Easy-to-Clean Coatings on Glass and Glazed Surfaces	150
M. Piispanen, T. Kronberg, S. Areva, J. Pimenoff and L. Hupa	
Hydrogen Effect on Structure and Mechanical Properties of ZnO Films Deposited in Ar/H₂ Plasma	156
R. Bartali, V. Micheli, G. Gottardi, I. Luciu and N. Laidani	
Optimisation of the Ceramic Phase for Ceramizable Silicone Rubber Based Composites	162
Z. Pędzich and J. Dul	