

THIRTEENTH ANNUAL CONFERENCE

YUCOMAT 2011

Hunguest Hotel Sun Resort Herceg Novi, Montenegro,
September 5-9, 2011
<http://www.mrs-serbia.org.rs>

Programme and The Book of Abstracts

Organised by:
Materials Research Society of Serbia

under the auspices of
Federation of European Material Societies
and
Materials Research Society

Title: THE THIRTEENTH ANNUAL CONFERENCE
YUCOMAT 2011
Programme and The Book of Abstracts

Publisher: Materials Research Society of Serbia
Knez Mihailova 35/IV, 11000 Belgrade, Serbia
Phone: +381 11 2185-437; Fax: + 381 11 2185-263
<http://www.mrs-serbia.org.rs>

Editor: Prof. Dr. Dragan P. Uskoković

Technical editor: Aleksandra Stojičić

Cover page: Aleksandra Stojičić and Milica Ševkušić

Copyright © 2011 Materials Research Society of Serbia

Acknowledgment:



Printed in: Biro Konto
Sutorina bb, Igalo – Herceg Novi, Montenegro
Phones: +382-31-670123, 670025, E-mail: bkonto@t-com.me
Circulation: 250 copies. The end of printing: August 2011

P.S.A.3.

HYDROTHERMAL SYNTHESIS OF ZIRCONIUM SUBSTITUTED HYDROXYAPATITE

Z. Stojanović, M. Lukić, Lj. Veselinović, S. Marković, D. Uskoković
Institute of Technical Sciences of SASA, Belgrade, Serbia

Aim of work is to investigate an efficiency of hydrothermal treatment on formation of zirconium substituted hydroxyapatite $\text{Ca}_{5-x}\text{Zr}_x(\text{PO}_4)_3\text{OH}$. A set of trial was conducted to optimize process and find substitution limit. Molar ratio of $\text{Zr}/(\text{Ca}+\text{Zr})$ in precursor suspension was varied from 0 to 0.2 with step of 0.05. Powders were analyzed by means of techniques such as XRD, Fourier transform IR spectroscopy, ICP, laser - diffraction granulometry and SEM.

P.S.A.4.

COLD PLASMA TREATMENT OF POLYMERIC MATRIX COMPOSITES

S. Guzmán, F. Velasco, N. Encinas, A. Bautista
*Department of Materials Science and Engineering and Chemical Engineering,
Universidad Carlos III de Madrid, Leganés, Spain*

Atmospheric pressure plasma is a fast, clean surface treatment. It does not generate any environmental waste, and it is highly effective to improve adhesion properties through surface energy increase. This work studies the effect of plasma treatment on a glass fibre reinforced epoxy used in construction applications, as well as in the plain epoxy matrix.

Two plasma torch speeds were selected: 1 and 10 m/min. Contact angle measurements were carried out with water, glycerol and diiodomethane, both immediately after surface treatment and after 30 days. Data were analyzed using Owens-Wendt-Rabel-Kaelble (OWRK) method to calculate surface energies. A big effect on the polar part of the energy was found. A pull-off test is used to evaluate changes on adhesion.

Keywords: Composites, plasma treatment, surface energy, contact angle.