

Serbian Ceramic Society Conference
ADVANCED CERAMICS AND APPLICATION IV
New Frontiers in Multifunctional Material Science and Processing

Serbian Ceramic Society
Institute for Testing of Materials
Institute of Chemistry Technology and Metallurgy
Institute for Technology of Nuclear and Other Raw Mineral Materials
School of Electrical Engineering and Computer Science of Applied Studies

PROGRAM AND THE BOOK OF ABSTRACTS

Serbian Academy of Sciences and Arts, Knez Mihailova 35
Serbia, Belgrade, 21-23. September 2015.

Book title: Serbian Ceramic Society Conference - ADVANCED CERAMICS AND APPLICATION IV: Program and the Book of Abstracts

Publisher:

Serbian Ceramic Society

Editors:

Prof.dr Vojislav Mitić

Prof.dr.Olivera Milošević

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Technical Editors:

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Printing:

Serbian Academy of Sciences and Arts,
Knez Mihailova 35, Belgrade

Edition:

140 copies

Photos : Jewelry - Zvonko Petković

Sculptures - Dragan Radenović

Ceramics - Ruža Nikolić

CIP - Каталогизација у публикацији -
Народна библиотека Србије, Београд

666.3/.7(048)

66.017/.018(048)

SERBIAN Ceramic Society Conference - Advanced Ceramics and Application (4; 2015 ; Beograd) Advanced Ceramics and Application : new frontiers in multifunctional material science and processing : program and the book of abstracts / IV Serbian Ceramic Society Conference, Belgrade, 21-23. September 2015. ; [organized by] Serbian Ceramic Society ... [et al.] ; [editors Vojislav Mitić ... et al.]. - Belgrade : Serbian Ceramic Society, 2015 (Belgrade Serbian Academy of Sciences and Arts). - 106 str. ; 30 cm Tiraž 140.

ISBN 978-86-915627-3-1

а) Керамика - Апстракти б) Наука о материјалима - Апстракти с)

Наноматеријали - Апстракти

COBISS.SR-ID 217500428

The effect of Hot Isostatic Pressing on the MT sample densities

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Mechanically activated powders (0, 10, 40, 80 and 160 minutes) were formed by isostatic pressure 300 MPa to cylindrical green bodies (ϕ 12 mm). First set of samples was sintered at 1300 °C for 30 min in air (heating rate 10 °C/min, cooling rate 5 °C/min). These samples were re-sintered at 1200 °C for 20 h in air (heating rate 20 °C/min, cooling rate 10 °C/min). Samples reached almost 90 % TD.

The second set of samples was sintered at 1400 °C for 30 in air (heating rate 10 °C/min, cooling rate 5 °C/min). Relative densities increased up to 93 % TD. The samples of absence of open porosity (MTO-10, 40, 80 and 160) were post-sintered by pressure assisted technique Hot Isostatic Pressing (HIP) at 1200 °C for 2 h in argon atmosphere with pressure 200 MPa. The samples increased densities up to 96 % TD for sample MT-160. Electrical measurements were performed in the microwave field of frequency.