

PRODUCTION OF HIGH Z SiAlON-TiN COMPOSITES WITH CRYSTALLINE INTERGRANULAR PHASE

Oğuzhan Demir¹, Nurcan Çalış Açıkbaş¹ and Ferhat Kara²

¹ *Bilecik University, Faculty of Engineering, Department of Mechanical and
Manufacturing Engineering, Bilecik*

² *Anadolu University, Faculty of Engineering and Architecture, Department of
Materials Science and Engineering, Eskişehir*

² *MDA Advanced Technology Ceramics Co., Organize Sanayi, ATAP, Eskişehir*

Corresponding author's e-mail: oguzhan.demir@bilecik.edu.tr

Abstract. Previous studies showed that z value has very effective parameter on mechanical and chemical properties of SiAlON ceramics. Change in z value affects significantly chemical resistance and mechanical strength of SiAlONs. Therefore z value plays a dominant role with respect to chemical and mechanical properties of the SiAlONs. It is difficult to obtain crystalline intergranular phase with high z (≥ 0.5) SiAlON, so that very limited studies are existing in the literature. In this study, relationship between z value and intergranular phase crystallisation and its coalescence behaviours were investigated by using different dopant systems (Y:Sm:Ca, Yb:Sm:Ca, Er:Sm:Ca) with varying amount of intergranular phase. Particular emphasis will be given to relationship between z value and intergranular phase crystallisation.

Keywords: SiAlON, z value, crystal phase chemistry, microstructure, coalescence



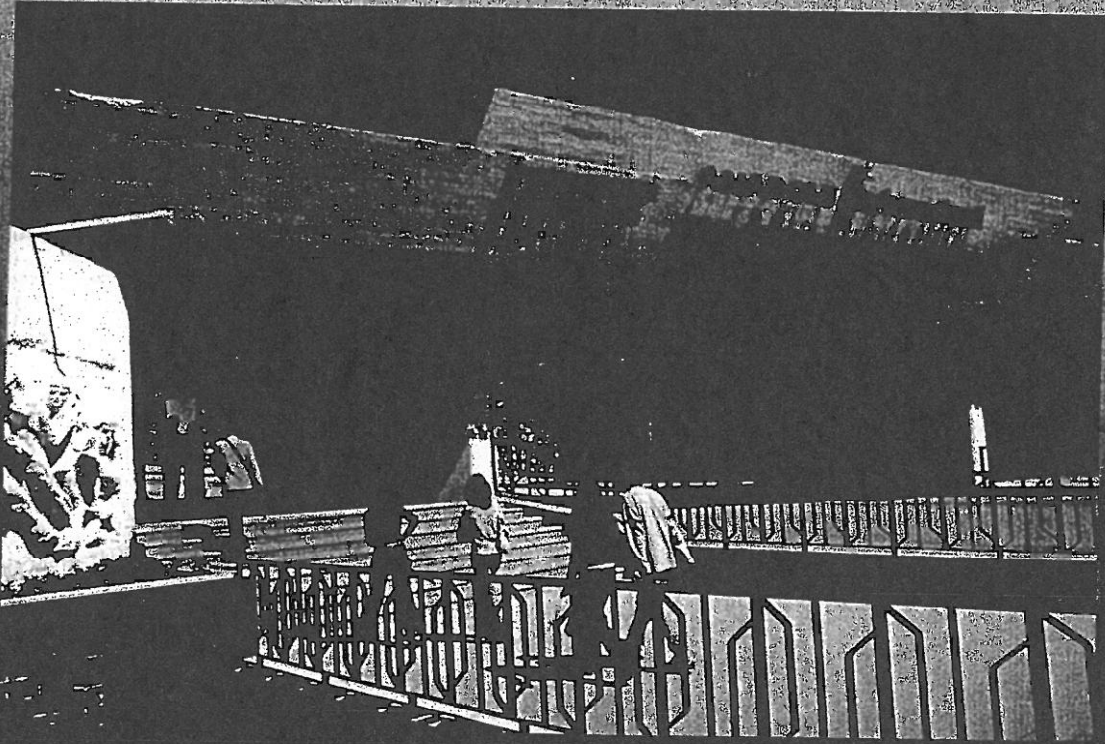
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16:00 POSTER SESSION/POSTER

- P21 "The Characterization of Some Gray Ceramic Findings", A. İSSİ
- P22 "Influence of Calcination Temperature and Concentration on Luminescent Properties of $\text{CaAl}_2\text{O}_4:\text{Eu}^{3+}$, R^+ ($\text{R}=\text{Y}, \text{Dy}, \text{Nd}$) Nanophosphors Prepared by Combustion Method", O. SERINDAG, Y. Z. HALEFOĞLU
- P23 "Investigation of Effect of Titanium Dioxide on Optical Transmission and Crystallization of $\text{TiO}_2\text{-SiO}_2\text{-Na}_2\text{O}$ Glass at Silica Soda Ratio", M. GHAMARI
- P24 "Ceramizable silicone rubber composites", Z. PEDZICH, M. ZARZECKA- NAPIERALA, D. M. BIELINSKI, R. ANYSZKA
- P25 "Zeolite (Clinoptilolite) Composite Cements", B. YILMAZ, E. TASCI
- P26 "Production of High Z SIALON- TiN Composites with Crystalline Intergranular Phase", O. DEMİR, N. ÇALIŞ AÇIKBAŞ, F. KARA
- P27 "Production and Characterisation of Fe-Mn Black Pigments for Porcelain Tile Bodies", B. TANIŞAN, S. TURAN
- P28 "New Ceramic Materials Based on High Amount of Pretreated Bottom Ashes From Municipal Solid Waste Incinerator", E. KARAMANOVA, F. ANDREOLA, L. M. SCHABBACH, B. RANGUELOV, L. BARBIERI, A. KARAMANOV
- P29 "CaO-MgO-SiO₂ Glass-Ceramic for LTCC Substrate Application", A. KILIÇ, O. ADDEMİR, V. GUNAY
- P30 "Effect of the Process Type on Photocatalytic Properties for Paint Application" G. DEMİR, M. GÜRBÜZ, B. ATAY, A. DOĞAN