

Interactions between AlN and SiAlON Ceramics

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In the present study, interactions between AlN and SiAlON laminated couples were investigated after gas pressure (GPS) and spark plasma sintering (SPS) by scanning electron microscopy (SEM) and energy dispersive x-ray analysis (EDX). In the laminated couples sintered by GPS, a significant reaction zone (~ 100 μm) was observed at the interface. The reaction zone contained a high aspect ratio elongated polytypoid grains. In the laminated couples sintered by SPS, although a considerably thick reaction region (~100-200 μm) was also observed, no polytypoid grains were visible. The analysis of the interfacial regions by various microscopical techniques in order to determine distribution of the elements across the interface is discussed in detail.

POSTERS

Mechanical properties of α - and β -SiAlON composite ceramics using β -SiAlON powder

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SiAlON β -Phase glass-ceramic microstructures

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Fabrication of aluminum nitride ceramics from AlN and nano Y₂O₃ composite particles prepared by mechanical treatment

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Sintering shrinkage behaviour and mechanical properties of HfO₂-added Si₃N₄ ceramics

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Reaction bonded silicon nitride / silicon carbide and sialon / silicon carbide refractories for aluminium smelting applications.

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Fabrication and evaluation of AlN-SiC solid solutions with p-type electrical conduction

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Fabrication and mechanical properties of TiN nanoparticle dispersed Si₃N₄ ceramics from Si₃N₄-nano TiO₂ composite particles prepared by mechanical treatment

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AFM characterization of Sialon systems

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Effect of Milling on the Carbothermal Reduction of Oxide Mixture for (Ti,W)C-Ni Cermets

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Effect of second phase after heat treatment on the thermal conductivity of AlN Ceramics

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Synthesis of single-phase, hexagonal plate-like Al₄SiC₄ powder

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The oxidation behavior of ZrB₂-based mixed boride

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