

Design of Porosity Level for Porous Si_3N_4 Ceramics Manufactured by Nitriding and Post-sintering of Si Powder Compact

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Abstract

Design of porosity level for the filter substrate manufactured by nitriding and post-sintering of Si powder compact was attempted and its validity was verified by comparison with measured values. Calculation and measurement are well matched in the specimens of as-nitrided and low temperature post-sintering, while few percent underestimated calculation in high temperature post-sintered specimens is ascribed to weight loss during the process.