

Reinforcement of Very Porous Sic Ceramics Prepared by SHS by Adding Nanometric Sic Powder in the Reactive Compact

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Highly porous SiC ceramics ($\approx 80\%$) were prepared by a process that involved heating at $15^\circ\text{C}/\text{min}$ and SHS between silicon and carbide. The addition of 1 to 10 weight % of nanometric SiC powder in the starting mixture facilitated the reaction between the reactants and improved the mechanical resistance of the final product. An increase in the amount of SiC added had no influence on the relative pore volume but led to a decrease of the average pore size, which can be modulate from 10 to 1 μm .