

## Nanophase Fiber Coatings by Electrophoretic Deposition for Ceramic Matrix Composites

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Control of the mechanical properties of the fiber-matrix interface in ceramic, fiber-ceramic matrix composites is critical for obtaining desired composite properties. Typically, adhesion between the fiber and matrix must be sufficiently weak to allow crack deflection around the fibers. This is generally accomplished with a fiber coating that either adjusts the adhesion between fiber and matrix or is itself sufficiently weak to provide a crack pathway. This work reports the initial development of such an interface coating prepared from electrophoretically deposited, nanoscale, silicon-carbide powder for silicon-carbide matrix, silicon carbide-based fiber systems.

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