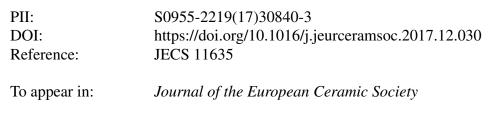
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ACCEPTED MANUSCRIPT

Amorphous fine-diameter SiC-based fiber from a boron-modified

polytitanocarbosilane precursor

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Abstract:

An amorphous SiC-based fiber was successfully prepared by the preceramic polymer route from a boron-modified polytitanocarbosilane. It was found that the addition of titanium and boron had adverse effect on melt-spinning, while the tensile strength of the obtained SiC-based fibers increased with the contents of titanium and boron increasing. It is worth mentioning that the decomposition of Si-C-O phase and the resultant β -SiC crystallization were retarded by the incorporation of titanium and boron into the SiC-based fiber.

Keywords: Amorphous; SiC fiber; Fine-diameter; Preceramic; Polycarbosilane

1. Introduction

Continuous fine-diameter silicon carbide (SiC) fiber has been identified as excellent reinforcements for high temperature ceramic matrix composites, because of Download English Version:

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