

## Advances in ceramic matrix composites

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### Abstrak

Ceramic matrix composites (CMCs) have proven to be useful for a wide range of applications because of properties such as their light weight, toughness and temperature resistance. Advances in ceramic matrix composites summarises key advances and types of processing of CMCs.

After an introductory chapter, the first part of the book reviews types and processing of CMCs, covering processing, properties and applications. Chapters discuss nanoceramic matrix composites, silicon carbide-containing alumina nanocomposites and advances in manufacture by various infiltration techniques including heat treatments and spark plasma sintering. The second part of the book is dedicated to understanding the properties of CMCs with chapters on finite element analysis, tribology and wear and self-healing CMCs. The final part of the book examines the applications of CMCs, including those in the structural engineering, nuclear and fusion energy, turbine, metal cutting and microelectronics industries.