



Robust Joining and Assembly Technologies for Ceramic Matrix Composites: Technical Challenges and Opportunities

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Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 188 mm. Language: English . Brand New Book ***** Print on Demand *****. Fiber reinforced ceramic matrix composites are under active consideration for use in a wide variety of high temperature applications within the aeronautics, energy, process, and nuclear industries. The engineering designs require fabrication and manufacturing of complex shaped parts. In many instances, it is more economical to build up complex shapes by Joining simple geometrical shapes. Thus, joining and attachment have been recognized as enabling technologies for successful utilization of ceramic components in various demanding applications. In this presentation, various challenges and opportunities in design, fabrication, and testing of high temperature joints in ceramic matrix composites will be presented. Various joint design philosophies and design issues in joining of composites will be discussed along with an affordable, robust ceramic joining technology (ARCJoinT). A wide variety of ceramic composites, in different shapes and sizes, have been joined using this technology. Microstructure and mechanical properties of joints will be reported. Current status of various ceramic joining technologies and future prospects for their applications will also be discussed.



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