

1. Record Nr.	UNINA9910349513903321
Titolo	Handbook of Advanced Ceramics and Composites [[electronic resource]] : Defense, Security, Aerospace and Energy Applications // edited by Yashwant Mahajan, Johnson Roy
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-319-73255-2
Disciplina	620.14
Soggetti	Ceramics Glass Composites (Materials) Composite materials Aerospace engineering Astronautics Energy security Politics and war Engineering—Materials Structural materials Ceramics, Glass, Composites, Natural Materials Aerospace Technology and Astronautics Energy Security Military and Defence Studies Materials Engineering Structural Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	CERAMIC MATERIALS FOR DEFENSE APPLICATIONS -- CERAMIC MATERIALS FOR BALLISTIC ARMOR APPLICATIONS -- TRANSPARENT AND OPTICAL CERAMICS FOR DEFENSE AND AEROSPACE -- ADVANCED CERAMICS AND CERAMIC MATRIX COMPOSITES FOR NUCLEAR APPLICATIONS -- CERAMICS, CMCs AND PMCs FOR AERONAUTICS AND

SPACE APPLICATIONS -- INTERMEDIATE AND HIGH-TEMPERATURE
CERAMIC MATERIALS -- MATERIALS FOR SUSTAINABLE ENERGY
APPLICATIONS -- CERAMIC COATINGS AND THEIR PROCESSES FOR
CRITICAL APPLICATIONS.

Sommario/riassunto

This handbook presents an authoritative account of the potential of advanced ceramics and composites in strategic applications, including defense, national security, aerospace, and energy security (especially nuclear energy). It highlights how their unique combination of superior properties such as low density, high strength, high elastic modulus, high hardness, high temperature capability, and excellent chemical and environmental stability are optimized in technologies within these fields. The handbook is organized according to application type. It allows readers to learn about strategies that have been used in different fields and to transfer them to their own. The book addresses a wide variety of ceramics and their composites, including PZT ceramics, carbon nanotubes, aerogels, silica radomes, relaxor ferroelectrics, and many others. .
