

1. Record Nr.	UNINA990009913430403321
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Titolo	Treaties and Subsequent Practice / edited by Georg Nolte
Pubbl/distr/stampa	Oxford : Oxford University Press, 2013
ISBN	978-0-19-967919-5
Descrizione fisica	393 p. ; 24 cm
Disciplina	341.37
Locazione	FGBC
Collocazione	X L 183
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
2. Record Nr.	UNINA9910688302003321
Titolo	Mechanics of Functionally Graded Materials and Structures / / edited by Farzad Ebrahimi
Pubbl/distr/stampa	London : , : IntechOpen, , 2020
Descrizione fisica	1 online resource (126 pages) : illustrations
Disciplina	620.1
Soggetti	Functionally gradient materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	The Functionally Graded Materials (FGM) concept originated in Japan in 1984 during the spaceplane project, in the form of a proposed thermal barrier material capable of withstanding a surface temperature of 2000

K and a temperature gradient of 1000 K across a cross section 10 mm. The materials can be designed for specific function and applications. FGMs offer great promise in applications where the operating conditions are extreme. For example, wear-resistant linings for handling large, heavy, abrasive ore particles; rocket heat shields; heat exchanger tubes; thermoelectric generators; heat-engine components; plasma facings for fusion reactors; and electrically insulating metal/ceramic joints. They are also ideal for minimizing thermomechanical mismatch in metal-ceramic bonding. This book is a result of contributions of experts from the international scientific community working in different aspects of functionally graded materials and structures and reports on the latest research and development findings on this topic through original and innovative research studies. Through its six chapters, the reader will have access to works related to processing, characteristics, modeling, and applications of functionally graded materials and structures. The book contains up-to-date publications from leading experts and the edition is intended to provide valuable recent information to the professionals involved in functionally graded materials and structure analysis and applications. The text is addressed not only to researchers, but also to professional engineers, students, and other experts in a variety of disciplines, both academic and industrial, seeking to gain a better understanding of what has been done in the field recently, and what open problems are in this area.

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