Record Nr. UNINA9910830675903321 **Titolo** Advances in ceramic armor X: a collection of papers presented at the 38th International Conference on Advanced Ceramics and Composites. January 27-31, 2014, Daytona Beach, Florida / / edited by Jerry C. LaSalvia; volume editors, Andrew Gyekenyesi, Michael Halbig Pubbl/distr/stampa Hoboken, New Jersey:,: The American Ceramic Society:,: Wiley,, 2015 ©2015 **ISBN** 1-119-04060-4 1-119-04059-0 1-119-04061-2 Descrizione fisica 1 online resource (172 p.) Collana Ceramic Engineering and Science Proceedings, , 0196-6219; ; Volume 35, Issue 4 666 Disciplina Soggetti Ceramic materials Composite materials Armor Armor - Materials Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Advances in Ceramic Armor X; Contents; Preface; Introduction; TESTING METHOD FOR CERAMIC ARMOR AND BARE CERAMIC TILES; ABSTRACT; INTRODUCTION; Depth of Penetration test method; Projectile-ceramic interaction phases; Alternative test method; Estimation of the Dwelltime; EXPERIMENTS; Test series 1; Test series 2; Test series 3; RESULTS AND DISCUSSION: CONCLUSION: ACKNOWLEDGEMENT: REFERENCES:

EFFECTS OF NOVEL GEOMETRIC DESIGNS ON THE BALLISTIC PERFORMANCE OF CERAMICS; ABSTRACT; USE OF CERAMICS IN ARMOR:

BENEFITS AND LIMITATIONS; LARGE, COMPLEX-SHAPED CERAMIC

COMPONENTS FOR ARMOR

USE OF NOVEL DESIGNS IN METALLIC SYSTEMS AND APPLICABILITY TO CERAMICSFABRICATION AND BALLISTIC TESTING OF CERAMIC TILES

WITH NOVEL DESIGNS; SUMMARY AND CONCLUSIONS;

BALLISTIC CERAMIC AND COMPOSITE MATERIALS BY USE OF ATMOSPHERIC PRESSURE PLASMA; ABSTRACT: INTRODUCTION: EXPERIMENTAL; Material Preparation and Surface Treatment; Surface Characterization; Adhesion and Strength Testing; Ballistic Testing; RESULTS; Wettability and Surface Characterization; Ballistic Experiment; CONCLUSION; ACKNOWLEDGEMENT; REFERENCES EVALUATING THE ROCK STRIKE RESISTANCE OF TRANSPARENT ARMOR MATERIALSABSTRACT: INTRODUCTION: TEST METHODS & EQUIPMENT: Ballistic Aluminum Projectile: Dropped Aluminum Indenter: Ballistic Ceramic Ball; EXPERIMENTAL RESULTS; Ballistic Aluminum Projectile; Dropped Aluminum Indenter; Ballistic Ceramic Ball; DISCUSSION; Evaluation of Test Methods: RSR Trends in Materials: Effect of RSR Requirements on TA Designs; CONCLUSION; ACKNOWLEDGMENTS; REFERENCES: BALLISTIC DAMAGE OF ALUMINA CERAMICS - LEARNING FROM FRAGMENTS; ABSTRACT; INTRODUCTION; EXPERIMENTAL **DETAILS AND ANALYSIS TECHNIQUE** EXPERIMENTAL RESULTSDISCUSSION; SUMMARY; ACKNOWLEDGEMENTS; REFERENCES: CHARACTERIZATION OF SILICON CARBIDE MICROSTRUCTURE USING NONDESTRUCTIVE ULTRASOUND TECHNIQUES; ABSTRACT; INTRODUCTION; EXPERIMENTAL; RESULTS AND DISCUSSION; Pressure Variations; Temperature Variations; Dwell Time Variations; CONCLUSIONS; ACKNOWLEDGEMENTS; REFERENCES; DYNAMIC ELECTROMECHANICAL RESPONSE OF 4H AND 6H SINGLE CRYSTAL SILICON CARBIDE: ABSTRACT: INTRODUCTION: BACKGROUND: MATERIAL AND TEST METHODOLOGY; RESULTS AND DISCUSSION; SUMMARY; ACKNOWLEDGEMENT; REFERENCES ON MICROSTRUCTURE AND ELECTRONIC PROPERTIES OF BORON CARBIDEABSTRACT; INTRODUCTION; STRUCTURE DETERMINATION BY MEANS OF PHONON SPECTRA; Chain-free elementary cells; Phonons of isotopically pure boron carbides; COMPOSITION OF THE ELEMENTARY CELLS; HOMOGENEITY RANGE; ELECTRONIC PROPERTIES; CHARGE TRANSPORT; CONCLUSION; REFERENCES; ASSESSING THE CARBON CONCENTRATION IN BORON CARBIDE: A COMBINED X-RAY DIFFRACTION AND CHEMICAL ANALYSIS: ABSTRACT: INTRODUCTION: EXPERIMENTAL APPROACH; RESULTS AND DISCUSSION; CONCLUSIONS; **REFERENCES** THE EFFECT OF SiO2 AND B2O3 ADDITIVES ON THE MICROSTRUCTURE

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Sommario/riassunto

A collection of 14 papers from the Armor Ceramics symposium held during The American Ceramic Society's 38th International Conference on Advanced Ceramics and Composites, held in Daytona Beach, Florida, January 26-31, 2014.

AND HARDNESS OF HOT-PRESSED BORON CARBIDE