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| Titolo | Advanced Materials for the Conservation of Stone // edited by Majid Hosseini, Ioannis Karapanagiotis |
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| ISBN | 3-319-72260-3 |
| Edizione | [1st ed. 2018.] |
| Descrizione fisica | 1 online resource (XII, 332 p. 124 illus., 89 illus. in color.) |
| Disciplina | 620.14 |
| Soggetti | Ceramic materials Coatings Tribology Corrosion and anti-corrosives Nanotechnology Cultural property Ceramics Corrosion Cultural Heritage |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references at the end of each chapters and index. |
| Nota di contenuto | Superhydrophobic coatings for the protection of natural stone. - Advanced Conservation Methods for Historical Monuments -- The protection of marble surfaces: the challenge to develop suitable nanostructured treatments -- A hybrid consolidant of nano-hydroxyapatite and silica inspired from patinas for stone conservation -- Compatible Mortars for the Sustainable Conservation of Stone in Masonries -- Inorganic Nanomaterials for the Consolidation and Antifungal Protection of Stone Heritage -- Nanomaterials for the consolidation of stone artifacts -- Testing efficiency of stone conservation treatments -- Challenges of alkoxy silane-based consolidants for carbonate stones: from neat TEOS to multi-purpose hybrid nanomaterials -- Analytical investigations and advanced materials for damage diagnosis and conservation of monument's |

stucco -- Nanotechnology for the Treatment of Stony Materials' Surface against Biocoatings -- Preserving Cultural Heritage Stone: Innovative Consolidant, Superhydrophobic, Self-Cleaning and Biocidal Products -- Antimicrobial properties of nanomaterials used to control microbial colonization of stone substrata -- Advanced and novel methodology for scientific support on decision making for stone cleaning -- Index.

Sommario/riassunto

This book identifies novel advanced materials that can be utilized as protective agents for the preservation of stone. The innovative solutions to stone conservation presented here result in increased sustainability, reduced environmental impact, and increased social and economic benefits. It provides an overview of recent trends and progress in advanced materials applied to stone protection. It also explores the scientific principles behind these advanced materials and discusses their applications to different types of stone preservation efforts. Essential information as well as knowledge on the availability and applicability of advanced nanostructured materials is also provided, with focus placed on the practical aspects of stone protection. The book highlights an interdisciplinary effort regarding novel applications of nanostructured materials in the advancement of stone protection. It provides insight towards forthcoming developments in the field. Advanced nanostructured materials are designed and developed with the aim of being chemically, physically, and mechanically compatible with stone. Advanced materials for stone conservation that are characterized by several functional properties are considered in this book. These include the physico-chemical, protective, and morphological properties, eco-toxicity, and mechanisms of degradation. The authors present a thorough overview of cutting-edge discoveries, detailed information on recent technological developments, breakthroughs in novel nanomaterials, utilization strategies for applications in cultural heritage, and the current status and future outlook of the topic to address a wide range of scientific communities. Provides a basis for advanced materials technology assessments applied to stone conservation; Presents a thorough overview of cutting-edge discoveries and detailed information on recent technological developments, the current status, and future outlook; Covers environmental impact, sustainability, social effects, and economic benefits; Addresses a wide range of global scientific communities that develop and apply advanced materials for conservation purposes.
