1. Record Nr. UNINA9910734879303321 Autore Verma Akarsh Titolo Coating Materials [[electronic resource]]: Computational Aspects, Applications and Challenges / / edited by Akarsh Verma, Sushanta K. Sethi, Shigenobu Ogata Singapore:,: Springer Nature Singapore:,: Imprint: Springer.. 2023 Pubbl/distr/stampa **ISBN** 981-9935-49-0 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (419 pages) Collana Materials Horizons: From Nature to Nanomaterials, , 2524-5392 Altri autori (Persone) SethiSushanta K OgataShigenobu Disciplina 667.9 Soggetti Coatings Molecular dynamics Corrosion and anti-corrosives Surfaces (Technology) Thin films Nanotechnology Molecular Dynamics Corrosion Surfaces, Interfaces and Thin Film Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Chapter 1. Introduction to Coatings: Types and their synthesis --Chapter 2.Recent progress in computational techniques in various Coating materials -- Chapter 3. Self-clean Coatings -- Chapter 4. Anticorrosion and anti-fouling Coatings -- Chapter 5. Fire retardant or fire-resistive Coatings -- Chapter 6. Metal Coatings -- Chapter 7. Polymers in Coatings -- Chapter 8. Plastics in Coatings -- Chapter 9. Modern coating processes and technologies -- Chapter 10. Characterization for Coating materials -- Chapter 11. Molecular dynamics (MD) simulations in Coatings -- Chapter 12. Coarse-grain simulations in Coatings -- Chapter 13. Continuum mechanics-based

simulations in Coatings -- Chapter 14. Applications of Coating

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Sommario/riassunto

This book comprehensively reviews assorted types of coatings, their applications, and various strategies employed by several scientists and researchers to fabricate them. Exclusively, the recent progress in computational strategies that are helpful to optimize the best suitable coating formulation before one goes for the real-time fabrication has been discussed in detail. And this book is also intended to shed light on the computational modeling techniques that are used in the characterization of various coating materials. It covers mechanisms, salient features, formulations, important aspects, and case studies of coatings utilized for various applications. The latest research in this area as well as possible avenues of future research is also highlighted to encourage the researchers.