

1. Record Nr.	UNINA9910298603303321
Titolo	Cold-Spray Coatings : Recent Trends and Future perspectives // edited by Pasquale Cavaliere
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-67183-9
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (VIII, 570 p. 343 illus., 161 illus. in color.)
Disciplina	621.89 620.11223
Soggetti	Coatings Tribology Corrosion and anti-corrosives Surfaces (Technology) Thin films Surfaces (Physics) Corrosion Surfaces, Interfaces and Thin Film Surface and Interface and Thin Film
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	Part I.Cold Spray Fundamentals -- Chapter 1.Fundamentals of Cold-spray Processing: Evolution and Future Perspectives -- Chapter 2.Cold Spray Applications -- Chapter 3.Coeval Cold Spray additive manufacturing variances and innovative contributions -- Chapter 4.Low Pressure Cold Spray (LPCS) -- Chapter 5.Structure –Properties Relations in High-Pressure Cold Sprayed Deposits -- Part II. Future Perspectives -- Chapter 6.Cold spray additive manufacture and component restoration -- Chapter 7. Advances in Titanium on Aluminium Alloys Cold Spray Coatings -- Chapter 8.Characterization, Deposition Mechanisms and Modeling of Metallic Glass Powders for Cold Spray -- Part III. Cold Spray Composites Coatings -- Chapter 9. Cold-Sprayed Metal Matrix Composites Coatings -- Chapter 10.Metal Matrix

Composite Coatings by Cold Spray -- Part IV. Wear Resistant Coatings -- Chapter 11. Tribological Coatings Prepared by Cold Spray -- Part V. Corrosion Resistant Coatings -- Chapter 12. Fundamentals of Corrosion Mechanisms in Cold Spray Coatings -- Chapter 13. Corrosion resistance of cold-sprayed coatings -- Chapter 14. High Temperature Oxidation Performance of Cold Spray Coatings -- Part VI. Mechanical Properties -- Chapter 15. Understanding Adhesion -- Chapter 16. Residual Stresses in Cold Spray Coatings -- Chapter 17. Porosity of Ni-based and Ti-based cold sprayed coatings -- Part VII. Biomedical Coatings -- Chapter 18. Fatigue properties and crack behavior of cold spray coatings -- Chapter 19. Cold Spray coatings for biomedical Applications.

---

## Sommario/riassunto

This book combines the contributions of experts in the field to describe the behavior of various materials, micromechanisms involved during processing, and the optimization of cold-spray technology. It spans production, characterization, and applications including wear resistance, fatigue, life improvement, thermal barriers, crack repair, and biological applications. Cold spray is an innovative coating technology based on the kinetic energy gained by particles sprayed at very high pressures. While the technique was developed in the 1990s, industrial and scientific interest in this technology has grown vastly in the last ten years. Recently, many interesting applications have been associated with cold-sprayed coatings, including wear resistance, fatigue life improvement, thermal barriers, biological applications, and crack repair. However, many fundamental aspects require clarification and description.

---