

1. Record Nr.	UNINA9910298648103321
Autore	Fauchais Pierre L
Titolo	Thermal Spray Fundamentals : From Powder to Part // by Pierre L. Fauchais, Joachim V.R. Heberlein, Maher I. Boulos
Pubbl/distr/stampa	New York, NY : , : Springer US : , : Imprint : Springer, , 2014
ISBN	0-387-68991-5
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (1587 p.)
Disciplina	620.1064 620.11 620.11223 621.89
Soggetti	Tribology Corrosion and anti-corrosives Coatings Fluid mechanics Manufactures Tribology, Corrosion and Coatings Engineering Fluid Dynamics Manufacturing, Machines, Tools, Processes
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 at the end of each chapters.
Nota di contenuto	Overview of thermal spray -- Basic concepts of combustion and thermal plasma -- Flame or plasma - partivcle interactions -- Combustion spraying systems -- Cold spray -- D.C. plasma spraying -- R.F. induction plasma spraying -- Wire arc spraying -- Plasma transferred arc depositon (PTA) -- Nano- or finely-structured coatings -- Conventional deposit formation -- Surface preparation -- Process diagnostics and on-line control -- Coating characterizations -- Powder, wire and rods production and characteristics -- Process integration -- Industrial applications of thermal spraying technology.
Sommario/riassunto	This book provides readers with the fundamentals necessary for understanding thermal spray technology. Coverage includes in-depth discussions of various thermal spray processes, feedstock materials,

particle-jet interactions, and associated yet very critical topics: diagnostics, current and emerging applications, surface science, and pre and post-treatment. This book will serve as an invaluable resource as a textbook for graduate courses in the field and as an exhaustive reference for professionals involved in thermal spray technology. This book also: Provides a complete overview of the relationship between process parameters and coating properties Covers both the qualitative material of the fundamental physics principles involved, and at the same time provides sufficient quantitative information for prediction of effects of process parameter changes Includes the latest thermal spray technology developments, including new d.c. plasma and wire arc spray torch developments, r.f. induction plasma spraying, combustion based spray technologies and cold spray, particle-jet interactions and process diagnostics and on-line control methods as well as a review of current and in-development industrial applications.

---