

1. Record Nr.	UNINA9910462665403321
Titolo	Advances in powder metallurgy : properties, processing and applications // edited by Isaac Chang and Yuyuan Zhao
Pubbl/distr/stampa	Cambridge ; ; Philadelphia : , : Woodhead Publishing, , 2013
ISBN	1-62870-368-7 0-85709-890-X
Descrizione fisica	1 online resource (624 p.)
Collana	Woodhead publishing series in metals and surface engineering ; ; number 60
Altri autori (Persone)	ChangIsaac ZhaoYuyuan
Disciplina	671.37
Soggetti	Metallurgy Powder metallurgy Electronic books.
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	Cover; Advances in powder metallurgy : Properties, processing and applications; Copyright; Contents; Contributor contact details; Woodhead Publishing Series in Metals and Surface Engineering; Part I Forming and shaping of metal powders; 1Advances in atomisation techniques for the formation of metal powders; 1.1 Introduction; 1.2 Atomisation techniques; 1.3 Problems and advances in gas atomisation; 1.4 Problems and advances in water atomisation; 1.5 Centrifugal atomisation; 1.6 Other atomisation techniques; 1.7 Conclusion; 1.8 References; 2Forming metal powders by electrolysis 2.1 Background of electrometallurgy and powder metallurgy2.2 Principle and main technological prospects for the FFC Cambridge process; 2.3 Production of metal powders by the FFC Cambridge process; 2.4 Direct route from oxide precursors to alloyed powders; 2.5 Conclusions and future trends; 2.6 Acknowledgement; 2.7 References; 3Mechanochemical synthesis of nanocrystalline metal powders; 3.1 Introduction; 3.2 Mechanochemical processing; 3.3 The process; 3.4 Grain size and process variables; 3.5 Displacement reactions; 3.6 Consolidation; 3.7 Powder contamination; 3.8 Conclusions; 3.9 References

4 Plasma synthesis of metal nanopowders
4.1 Introduction; 4.2 Potential benefits and applications of metal nanopowders; 4.3 Electrical arc discharge synthesis of metal nanopowders; 4.4 Conclusions; 4.5 References;
5 Warm compaction of metallic powders; 5.1 Introduction; 5.2 Warm compaction process; 5.3 Properties of warm compacted parts; 5.4 Materials and applications; 5.5 Future trends and concluding remarks; 5.6 References;
6 Developments in metal injection moulding (MIM); 6.1 Introduction to metal injection moulding; 6.2 Powders for metal injection moulding
6.3 Binders for metal injection moulding
6.4 Mixing and feedstock analysis; 6.5 Injection moulding; 6.6 Binder removal (debinding); 6.7 Sintering; 6.8 Post-sintering; 6.9 Applications and design; 6.10 Conclusion; 6.11 References;
Part II Materials and properties;
7 Advanced powder metallurgy steel alloys; 7.1 Introduction; 7.2 Composition of advanced pressed and sintered steel components; 7.3 Manufacturing routes for sintered steel components; 7.4 Properties, microstructures and typical products; 7.5 Powder injection moulded steel components; 7.6 Powder metallurgy tool steels
7.7 Trends in ferrous powder metallurgy
7.8 Acknowledgements; 7.9 Further reading; 7.10 References;
8 Powder metallurgy of titanium alloys; 8.1 Introduction; 8.2 Powders; 8.3 Near net shapes; 8.4 Additive layer manufacturing and powder injection molding; 8.5 Spraying and research-based processes; 8.6 Future trends; 8.7 Acknowledgements; 8.8 References;
9 Metal-based composite powders; 9.1 Introduction; 9.2 Metal-based composite powder production; 9.3 Copper- and aluminium-based composite powder systems; 9.4 Other metal-based composite powders; 9.5 Applications; 9.6 Future trends; 9.7 References
10 Porous metals: foams and sponges

Sommario/riassunto

Powder metallurgy (PM) is a popular metal forming technology used to produce dense and precision components. Different powder and component forming routes can be used to create an end product with specific properties for a particular application or industry. Advances in powder metallurgy explores a range of materials and techniques used for powder metallurgy and the use of this technology across a variety of application areas. Part one discusses the forming and shaping of metal powders and includes chapters on atomisation techniques, electrolysis and plasma synthesis of metallic nanopow

2. Record Nr.	UNINA9910131437603321
Titolo	Ariel
Pubbl/distr/stampa	Calgary, : University of Calgary Baltimore, MD : , : Johns Hopkins University Press
ISSN	1920-1222
Disciplina	820.9
Soggetti	English literature - History and criticism English literature - 20th century Litterature anglaise English literature Letterkunde Engels periodicals. Criticism, interpretation, etc. Periodicals. Periodiques.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Periodico
Note generali	Refereed/Peer-reviewed "Review of international English literature."