

1. Record Nr.	UNINA9910254145303321
Autore	Mills Kenneth C.
Titolo	The casting powders book // Kenneth C. Mills, Carl-Ake Dacker
Pubbl/distr/stampa	New York, New York : , : Springer Berlin Heidelberg, , [2017] ©2017
ISBN	3-319-53616-8
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XVII, 536 p. 322 illus., 151 illus. in color.)
Disciplina	671.2
Soggetti	Powder metallurgy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	1. Introduction and Overview -- 2. Slag Infiltration, Lubrication and Frictional Forces -- 3. Heat Transfer in the Mould and Shell Solidification -- 4. How to Manipulate Slag Behaviour in the Mould -- 5. Effect of Casting Variables on Mould Flux Performance -- 6. Different Types of Mould Powders -- 7. Fluxes for Ingot Casting -- 8. Manufacture of Mould Fluxes -- 9. Properties of Mould Fluxes and Slag Films -- 10. Selection of Mould Fluxes and Special Mould Fluxes for Continuous Casting -- 11. Using Mould Fluxes to Minimise Defects and Process Problems.
Sommario/riassunto	This book deals with casting powders and explains how they work and how they are best used to minimise defects in the ninety per cent of world steel production that is continuously cast. It also includes a chapter on mould powders for ingot-casting. The factors affecting various aspects of powder performance are described and different defects, their causes, and means of avoiding them are considered. Providing the first comprehensive coverage of mould powder properties and uses, the text treats theoretical and practical matters and gives direct advice on problem-solving. Drawing on a wealth of scientific and technological research, represented by its extensive references, The Casting Powders Book shows readers how they can design and create mould powders optimised to fulfil the necessary functions of: lubrication of steel shells and reduction of shell–mould friction; absorption of inclusions floating up from the steel; chemical insulation

of steel from carbon-rich mould powder; and protection of the steel meniscus from oxidation and thermal insulation to prevent surface-freezing. Thermophysical properties and heat-transfer processes are also given detailed attention and case studies illustrate the methods and materials described. The Casting Powders Book is designed to be a periodic reference that can be dipped into as the need arises. Readers from different backgrounds are well-served by the depth and variety of content: engineers trouble-shooting a continuous-casting process interested in how mould fluxes can minimise defects and process problems and how their performance is in turn affected by casting parameters; academic scientists interested in the theoretical aspects and properties of mould fluxes and slag films; engineers working with ingot-casting processes; and many others will find this book an invaluable resource.

2. Record Nr.	UNICAMPANIAVAN00211580
Titolo	Processing of Polymer-based Nanocomposites : Processing-structure-property-performance relationships / Suprakas Sinha Ray editor
Pubbl/distr/stampa	Cham, : Springer, 2018
Titolo uniforme	Processing of Polymer-based Nanocomposites : Processing-structure-property-performance relationships
Descrizione fisica	xv, 232 p. : ill. ; 24 cm
Soggetti	00A79 (77-XX) - Physics [MSC 2020] 92E10 - Molecular structure (graph-theoretic methods, methods of differential topology, etc.) [MSC 2020]
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia