1. Record Nr. UNINA9910983377003321

Autore	Zhang Lifeng
Titolo	Handbook of Non-Metallic Inclusions in Steels / / by Lifeng Zhang, Ying Ren
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	9789819796380 9819796385
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (1100 illus., 100 illus. in color. eReference.)
Disciplina	620.11
Soggetti	Materials Metals Building materials Production engineering Materials Engineering Steel, Light Metal Metals and Alloys Thermal Process Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Detection and Characterization of Nonmetallic Inclusions in Steels -- Interfacial Phenomena of Nonmetallic Inclusions in Steels -- Fundamentals for the Control of Nonmetallic Inclusions in Steels -- Calcium Treatment for the Modification of Nonmetallic Inclusions in Steels -- Evolution of Nonmetallic Inclusions in Solid Steel during Cooling and Heating -- Kinetics of Nonmetallic Inclusions in Steels -- Deformation of Nonmetallic Inclusions in Steels -- Industrial Practices for the Control of Nonmetallic Inclusions in Different Grades of Steels -- Shape Control of Sulfide Inclusions in High Sulfur Steel.
Sommario/riassunto	This handbook reports fundamentals, industrial practices and new aspects for the formation and control solution of non-metallic inclusions in different grades of steels. It summarizes the latest research achievements of thermodynamics and kinetics, such as deoxidation of real steels rather than pure iron, precise calcium

treatment, prediction of the amount, size, composition and spatial distribution of inclusions in steel continuous casting semis which were rarely reported in other books in this field. It is a useful reference for researchers in steel industries for the control of non-metallic inclusions in steel, and the production of high-quality steels in industries such as automobiles, household electric appliances, bearings, electric transformers, high-speed trains, oil pipes and cutting wires. .