1. Record Nr. UNINA9910838283503321 Autore Wei Guangsheng Titolo Electric Arc Furnace Steelmaking with Submerged Mixed Injection / / by Guangsheng Wei, Rong Zhu Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 981-9946-02-6 [1st ed. 2024.] Edizione Descrizione fisica 1 online resource (158 pages) Disciplina 929.374 Soggetti Metals **Building materials** Production engineering Metals and Alloys Steel, Light Metal **Process Engineering** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references. Nota di bibliografia Nota di contenuto Chapter 1 General Introduction -- Chapter 2 Mechanism of EAF Steelmaking with Submerged Gas-Solid Injection -- Chapter 3 Impact Characteristics of Submerged Gas Injection -- Chapter 4 Impact Characteristics of Coherent supersonic jet -- Chapter 5 Modeling and Arrangement of Submerged nozzles -- Chapter 6 Combined Blowing Equipment Arrangement and Industrial Application -- Chapter 7 Innovations of Injection Metallurgy in EAF Steelmaking. Sommario/riassunto This book focuses on the study of electric arc furnace (EAF) steelmaking with submerged injection. The new EAF process with submerged mixed injection was first proposed and applied by the authors. It analyzes the mechanism of submerged O2-CaO and carbon powder injection, the impact characteristics of submerged gas-solid injection and the fluid flow characteristics of EAF molten bath with

submerged gas-solid injection. The industrial application of EAF steelmaking with submerged gas-solid injection was introduced. Finally, the book reviews the recent innovations and advances of injection metallurgy in EAF steelmaking. It also proposes a possible future process for cyclic utilization of CO2 in EAF-LF steelmaking

process. This book provides basic data support for the industrial application of EAF steelmaking with submerged mixed injection for researchers, engineering and technical personnel and industrial professionals.