Record Nr. UNINA9910645891803321 Advances and Innovations in Ferronickel-Making / / by Guanghui Li, **Titolo** Jun Luo, Mingjun Rao, Zhiwei Peng, Tao Jiang Pubbl/distr/stampa Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 **ISBN** 981-19-5227-2 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (321 pages) Disciplina 669.141 Soggetti Mining engineering Metals Mining and Exploration Metals and Alloys Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto An Overview of Nickel Utilization from Laterite Ores -- Fundamentals of Selective Solid-State Reduction and Novel Process for Preparing Ferronickel from Laterite Ores -- Technologies of Slag Formation Control in Electric Arc Furnace Smelting of Laterite Ores -- Softening-Melting Properties of Laterite Ore and their Regulation Technologies for the Krupp-Renn Process and Sintering Process -- Valorization of Ferronickel Slag for Preparing Refractory and Thermal Insulation Materials -- Recycling of Stainless-Steel Pickling Sludge Via RKEF Route. This book introduces the most inspiring progress in the production of Sommario/riassunto ferronickel from laterite ores, from both theoretical and technological perspectives. Based on a detailed overview of nickel utilization from laterite ores, it provides the advances of four main methods for laterite ore processing, including the solid-sate reduction-magnetic separation process, the rotary kiln reduction-electric arc furnace smelting process. the Krupp-Renn process, and the sintering-blast furnace smelting process. Moreover, for mediating the adverse impacts of the byproducts in ferronickel and subsequent stainless-steel making, it

presents pioneering technologies of utilization of ferronickel slag for producing value-added functional materials and recycling of stainless-

steel pickling sludge for ferronickel making. This book is expected to offer the audiences a fascinating new insight into ferronickel making and related by-products valorization.