

■ Subir Biswas, Prof. Debasish Sarkar

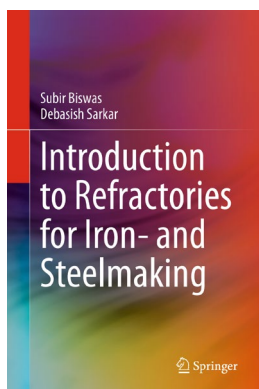
Introduction to Refractories for Iron- and Steelmaking

This book promotes understanding of the raw material selection, refractory design, tailor-made refractory developments, refractory properties, and methods of application. It provides a complete analysis of modern iron and steel refractories. It describes the daily demands on modern refractories and describes how these needs can be addressed or improved upon to help achieve the cleanest and largest yields of iron and steel. The text contains end-of-chapter summaries to help reinforce difficult concepts. It also includes problems at the end of chapters to confirm the reader's understanding of topics such as hoop stress modeling in steel ladle and vessels, establishment of thermal gradient modeling, refractory corrosion dynamics, calculation of Blast furnace trough dimension based on thermal modeling, to name a few. Led by editors with backgrounds in both academia and industry, this book can be used in college courses, as a reference for industry professionals, and as an introduction to the technology for those making the transition to industry. ◀

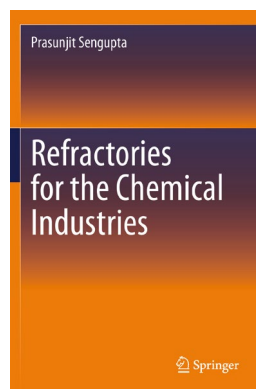
■ Dr. Prasunjit Sengupta

Refractories for the Chemical Industries

The book provides process engineers an insight into refractories focusing on its importance and requirements in chemical process industries such as refinery and petrochemicals, syngas manufacturing, coal gasification, limestone calcinations, carbon black, glass, and cement production. Additionally, the book discusses the refractory requirements for the CFBC boiler, and waste heat utilization process to generate steam. The book describes characterization of refractory material and selection process of the refractory for lining different equipment pertaining to the chemical process industry. The book covers refractory installation techniques, and the precautions to be taken during installation are discussed in detail along with the theoretical background. It explains the physical and chemical factors that influence the performances of refractory, mechanism of its degradation in service and emphasizes on the thermo-chemical and thermo-mechanical aspects and their role in that process. ◀



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