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Decomposition of manganese sulfate; 4.4 Thermal cracking of organic solids; 4.5 Composite made of iron ore and oil; 4.6 Reduction of composite pellet, ferro-chromium ore and coke; References; Chapter 5. Conversion of Solids in Rotary Reactorsconversion of solids in rotary reactors; 5.1 Conversion of gas and solids within solids layer
5.2 Enhancement of contact by sending gaseous reactant into a rotating layer of solids5.3 High temperature stability of isolated solids in exothermic reaction; References; Chapter 6. Heat Transfer in a Rotary Reactor, Direct Heatingheat transfer, direct heating; 6.1 Combustion of fuels; 6.2 Temperature profile in turbulent flame; 6.3 Heat transfer in a rotary reactor at high temperature; 6.4 Enhancement of heat transfer; References; Chapter 7. Performance of Rotary Reactors, Direct Heatingrotary reactors, direct heating; 7.1 Prediction of performance; 7.2 Calcination of limestone
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Sommario/riassunto

Rotary reactors or rotary kilns are the reactors facilitating the chemical reaction between the gas and solid phases usually at high temperatures. This book, which is written by an expert in the field, describes the principles of the rotary reactor and the mode of its operation. These reactors are widely used in various chemical process industries (food, pharmaceuticals) and metallurgical industries. The book defines the physiochemical aspects of the rotart reactors and provides theoretical equations of their operation. The first part of this book presents the fundamentals; solid