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Burden Descent and Gas Flow Control"; "Burden descent: where is voidage created?"; "Burden descent: system of vertical forces"; "Gas flow in the blast furnace"; "Fluidization and channelling"; "Burden distribution"; "Coke layer"; "Ore layer thickness"; "Blast furnace instrumentation"

"Blast furnace daily operational control""Blast Furnace Productivity and Efficiency"; "Productivity"; "Efficiency"; "Following the gas in the furnace"; "Hot Metal and Slag"; "Formation of hot metal and slag"; "Hot metal as cast from the furnace"; "Hot metal and the steel plant"; "Slag"; "Casthouse Operation"; "Objectives"; "Liquid iron and slag in the hearth"; "Removal of liquids through the taphole"; "Typical casting regimes"; "Taphole drill and clay gun"; "Hearth liquid level"; "Delayed casting"; "No slag casting"; "Onea€?side casting"

"Not dry casts""Defining a dry hearth"; "Oxygen lancing"; "Cast data recording"; "Operational Practices and Challenges"; "The burden"; "Burden descent"; "Recirculation of alkali and zinc"; "Circumferential symmetry"; "Tuyeres"; "Stops and starts"; "Casthouse challenges"; "Greenhouse gas emissions"; "Annex I. Glossary"; "Annex II. Further reading"; "Annex III. Starting point for calculation examples"; "Annex IV. Rules of thumb"; "Annex V. Coal types used for coke making"; "Annex VI. Coke quality tests"; "Annex VII. Expert systems and models"; "Annex VIII. Rist diagram"

Sommario/riassunto

This book describes the blast furnace process for operators. As a starting point, the blast furnace is seen as a simple iron ore melter, while gradually the physical, chemical and metallurgical background is clarified. Operational observations, challenges and remedies are explained from this perspective. Optimization of the blast furnace process is not only based on "best practice transfer", but also requires conceptual understanding of what works when. In other words: operational improvement is not only based on know-how, but on know-why as well. With Modern Blast Furnace Ironmaking - An Intr
