

CONTENTS

	Page
PART 1 THEORY	
Chapter 1 Thermodynamic Functions	3
Chapter 2 Solutions	55
Chapter 3 The Structure and Properties of Slags	77
Chapter 4 Ionic Theory and Reactions in Slags	101
Chapter 5 Kinetics of Reactions	111
PART 2 THE PRODUCTION OF IRON THE BLAST FURNACE PROCESS	
Chapter 6 Gas Reactions in the Blast Furnace	127
Chapter 7 The partitioning of Solute Elements between the Iron and the Slag in the Blast Furnace	153
PART 3 STEEL – MAKING	
Chapter 8 The Converter Processes	191
Chapter 9 The Open-Hearth Process	233
Chapter 10 The Electric-Arc Furnace Process	273
Chapter 11 Alternative Methods of Iron and Steel Production	299
PART 4 SLAG – METAL REACTIONS	
Chapter 12 Refining Slags	321
Chapter 13 Oxidation and Deoxidation Reactions	365
Chapter 14 The Distribution of Sulphur between the slag and the Metal	423
Chapter 15 The Removal of Phosphorous from the metal	445
Appendix 1	461
Appendix 2	476
Index	481