

## 目 次

### 综合论述

- 长寿高炉炉缸保护层综合调控技术 ..... 张建良, 焦克新, 刘征建, 杨天钧 1

### 原料与炼铁

- 并罐式无钟炉顶装料模式对料面炉料分布的影响 ..... 徐文轩, 程树森, 牛群, 赵国磊, 陈艳波 8  
含铬镍铁水脱磷保铬的机理与试验 ..... 赵海泉, 齐渊洪, 史永林, 冯焕林, 那贤昭 16

### 炼钢

- 钙镁复合处理 20CrMnTi 钢中硫化物夹杂 ..... 刘威, 杨树峰, 李京社, 李吉康, 张硕 21  
SiO<sub>2</sub>还原机理及过还原控制措施 ..... 秦洁, 齐建玲, 刘功国, 李占军 28  
轻压下调整对模具钢宽厚板坯中心质量的优化 ..... 李茂印, 杨树峰, 李京社, 高维, 谷雨, 陈正阳 36  
IF 钢连铸坯表层夹杂分布特征的试验 ..... 赵成林, 唐复平, 朱晓雷, 廖相巍, 陈东 42

### 压力加工

- 纯铁做中间材制备不锈钢/碳钢热轧复合板 ..... 谢红飙, 王德蔚, 余超, 祁梓宸, 肖宏 48  
电磁加热梁在带钢板形优化中的设计与应用 ..... 田宝亮, 牛培峰 54  
基于连续曲面的轧制模型自学习方法 ..... 李维刚, 邓肯, 赵云涛, 刘相华 61

### 钢铁材料

#### 2% 铝质量分数超高碳钢的球化退火工艺

- ..... 张万里, 王辉, 徐海峰, 俞峰, 许达, 曹文全 67  
退火工艺对低碳含镍 DP 钢组织及性能的影响 ..... 丁丽娟, 史春丽, 尹红霞, 张涛, 李辉 75  
铜对中碳硅锰钢连续冷却相变的影响 ..... 安治国, 孟延军, 史远, 李建朝, 孙晓冉, 孙岩 80  
铁素体钢中白点缺陷的检验分析 ..... 李吉东, 任永秀 86

### 环保与能源

- 烧结烟气氨法联合活性炭协同脱硫脱硝 ..... 阮志勇 91

### 信息

- ..... (27)(85)

### 征稿及征订启事

- ..... (74)(98)

**C O N T E N T S****Technical Reviews**

Comprehensive regulation technology for hearth protective layer of blast furnace longevity

..... ZHANG Jian-liang, JIAO Ke-xin, LIU Zheng-jian, YANG Tian-jun 1

**Raw Material and Ironmaking**

Effects of charging patterns of bell-less top blast furnace with two parallel hoppers on burden distribution of stock surface

..... XU Wen-xuan, CHENG Shu-sen, NIU Qun, ZHAO Guo-lei, CHEN Yan-bo 8

Mechanism and experimental for dephosphorization and chromium conservation of chromium containing melted iron

..... ZHAO Hai-quan, QI Yuan-hong, SHI Yong-lin, FENG Huan-lin, NA Xian-zhao 16

**Steelmaking**

Modification of sulphide inclusions in 20CrMnTi steel by calcium-magnesium treatment

..... LIU Wei, YANG Shu-feng, LI Jing-she, LI Ji-kang, ZHANG Shuo 21

Reduction mechanism of SiO<sub>2</sub> and counter measures of over-reduction

..... QIN Jie, QI Jian-ling, LIU Gong-guo, LI Zhan-jun 28

Optimization for internal quality in wide and heavy die billets by soft reduction

..... LI Mao-yin, YANG Shu-feng, LI Jing-she, GAO Wei, GU Yu, CHEN Zheng-yang 36

Experiment on distribution characteristics of surface inclusions in IF steel continuous casting billet

..... ZHAO Cheng-lin, TANG Fu-ping, ZHU Xiao-lei, LIAO Xiang-wei, CHEN Dong 42

**Metal Forming**

Stainless steel/carbon steel composite plate prepared by hot-roll bonding with pure iron as intermediate material

..... XIE Hong-biao, WANG De-wei, YU Chao, QI Zi-chen, XIAO Hong 48

Design and application of electromagnetic heating beam in shape optimization of strip ..... TIAN Bao-liang, NIU Pei-feng 54

Self-learning method for rolling model based on continuous surface

..... LI Wei-gang, DENG Ken, ZHAO Yun-tao, LIU Xiang-hua 61

**Materials**

Spheroidizing process of ultrahigh carbon steel with 2% aluminum addition

..... ZHANG Wan-li, WANG Hui, XU Hai-feng, YU Feng, XU Da, CAO Wen-quan 67

Influence of annealing treatment on microstructure and mechanical properties of low-carbon Ni-containing DP steel

..... DING Li-juan, SHI Chun-li, YIN Hong-xia, ZHANG Tao, LI Hui 75

Effect of Cu on continuous cooling transformation of medium carbon Si-Mn steel

..... AN Zhi-guo, MENG Yan-jun, SHI Yuan, LI Jian-chao, SUN Xiao-ran, SUN Yan 80

Inspection and analysis on flakes defect of ferrite steel..... LI Ji-dong, REN Yong-xiu 86

**Environmental Protection and Energy**

Desulfurization and denitration of sintering flue gas based on ammonia and activated carbon process ..... RUAN Zhi-yong 91

**Information**

..... (27)(85)

**Contribution Wanted and Subscription Announcement**

..... (74)(98)