

CODEN LGIAAZ

ISSN 1002-1043

CN 42-1265/TF

# 炼钢

STEELMAKING

Vol.39 / No.3 / 2023

ISSN 1002-1043



主办单位：武汉钢铁有限公司

中国金属学会

## 目次

### • 专题论述 •

低硅钢种 LF 精炼控硅脱硫技术进展 ..... 盖一铭, 杨 健(1)

### • 转炉及电炉冶炼 •

转炉底吹流量对气柱长度影响的数值模拟  
..... 郎茂信, 刘和平, 轩 阳, 李相臣, 袁旭东, 曹 青(16)

120 t 复吹转炉底吹布置对熔池混匀的影响 ..... 储焰平, 袁晓峰, 葛君生, 封伟华, 杨利彬(25)

100 t 复吹转炉冶炼 IF 钢终点磷分配比预测模型  
..... 马德刚, 王 耐, 李建英, 李经哲, 王建兴, 马光宗(30)

### • 炉外精炼 •

210 t 钢包底吹气过程传输现象的水模型研究  
..... 单庆林, 孙 宇, 段豪剑, 李中华, 贾 宁, 陈 威(35)

120 t LF 精炼过程钢水吸氮量控制 ..... 邓南阳, 孙 波, 解养国, 王 勇, 孙 涛, 刘前芝(44)

### • 凝固与浇铸 •

中间包气幕挡墙去除夹杂物的数值模拟 ..... 李 键, 卢金霖, 罗志国, 邹宗树(52)

超高速薄板坯连铸结晶器内的坯壳形变行为 ..... 刘增勋, 杨焱森, 肖鹏程, 朱立光, 朱 荣(58)

提高扇形段在线辊缝控制精度影响因素分析及对策研究  
..... 孔意文, 陈 将, 秦文彬, 韩志伟, 刘 强, 邓比涛(66)

### • 产品工艺及质量控制 •

高锰高强 IF 钢转炉-连铸过程中夹杂物演变与控制  
..... 贾刘兵, 罗衍昭, 董文亮, 周海忱, 季晨曦, 温 瀚(73)

钢液 Ca 含量控制对 Ds 夹杂物的影响研究 ..... 屈志东, 杨 博, 孟晓玲, 贺佳佳, 林 俊(79)

### • 节能环保 •

硫含量对 KR 脱硫渣中 CaS 氧化行为的影响 ..... 李孟雄, 蒋佳君, 李建立(86)

CONTENTS

• Special Topics •

Progress on desulfurization and silicon content control technology of LF refining for low silicon steel  
..... GAI Yiming, YANG Jian( 1 )

• BOF & EAF Steelmaking •

Numerical simulation of the effect of bottom blowing rate on gas column length in converter  
..... LANG Maoxin, LIU Heping, XUAN Yang, LI Xiangchen, YUAN Xudong, CAO Qing(16)

Effect of bottom blowing tuyeres arrangement on mixing of molten steel in a 120 t combined blowing converter  
..... CHU Yanping, YUAN Xiaofeng, GE Junsheng, FENG Weihua, YANG Libin(25)

The prediction model of end-point phosphorus partition ratio in 100 t top and bottom-blowing converter smelting  
IF steel ..... MA Degang, WANG Nai, LI Jianying, LI Jingzhe, WANG Jianxing, MA Guangzong(30)

• Secondary Refining •

Water modeling on the transport phenomenon during bottom gas injection of a 210 t ladle  
..... SHAN Qinglin, SUN Yu, DUAN Haojian, LI Zhonghua, JIA Ning, CHEN Wei(35)

Nitrogen absorption control of molten steel in 120 t LF refining process  
..... DENG Nanyang, SUN Bo, XIE Yangguo, WANG Yong, SUN Tao, LIU Qianzhi(44)

• Solidification & Continuous Casting •

Numerical simulation of inclusion removal in tundish with gas curtain  
..... LI Jian, LU Jinlin, LUO Zhiguo, ZOU Zongshu(52)

Slab shell deformation behavior in ultra-high speed thin slab continuous casting mold  
..... LIU Zengxun, YANG Yaosen, XIAO Pengcheng, ZHU Liguang, ZHU Rong(58)

Analysis of influencing factors and countermeasures research for improving the precision of on-line roll gap control  
in segment ..... KONG Yiwen, CHEN Jiang, QIN Wenbin, HAN Zhiwei, LIU Qiang, DENG Bitao(66)

• Product Process & Quality Control •

Evolution and control of inclusions in BOF-CCM of high manganese and high strength IF steel  
..... JIA Liubing, LUO Yanzhao, DONG Wenliang, ZHOU Haichen, JI Chenxi, WEN Han(73)

Influence of Ca content control on Ds inclusions in molten steel  
..... QU Zhidong, YANG Bo, MENG Xiaoling, HE Jiajia, LIN Jun(79)

• Energy Conservation & Environmental Protection •

Effect of sulfur content on oxidation behavior of CaS in KR desulfurization slag  
..... LI Mengxiong, JIANG Jiajun, LI Jianli(86)

