

# 炼钢

LIANGANG

(双月刊 1985 年创刊)

第 36 卷 第 6 期

2020 年 12 月

## 目 次

### • 铁水预处理 •

铁水 KR 法机械搅拌脱硫过程铁水流动的水模型研究 ..... 董佳鹏, 张立峰, 赵艳宇, 等 (1)

### • 转炉及电炉冶炼 •

高效低耗转炉大废钢比技术路径研究 ..... 方文, 杨宁川, 游香米, 等 (8)

快节奏生产模式下低温、低硅铁水脱磷优化实践 ..... 刘威, 邓南阳, 胡文华, 等 (14)

基于副枪不等样出钢工艺实践 ..... 邱在军 (19)

转炉高效复合造渣材料的冶金应用 ..... 翟冬雨, 刘帅, 方磊, 等 (24)

### • 炉外精炼 •

喷吹气泡运动行为及液面流动特性的试验与模拟 ..... 柳子豪, 王兴东, 欧阳德刚, 等 (30)

### • 凝固与浇铸 •

超低碳铝脱氧钢连铸过程钢中非金属夹杂物的演变 ..... 黄日康, 张立峰, 姜仁波, 等 (39)

钢包长水口结构优化对钢水增氮的试验研究 ..... 李尚兵, 陈远清, 黄建军, 等 (46)

### • 产品工艺及质量控制 •

超低碳电池壳砂眼缺陷冶金诱因与钢液洁净度的影响研究 ..... 王瑞刚, 姜敏, 王新华 (49)

SCX400 车轮钢非金属夹杂物控制工艺研究与实践 ..... 温瀚 (54)

70 钢盘条浅表层网状渗碳体缺陷原因分析及优化 ..... 李强, 张康晖, 邹长东, 等 (61)

风电钢焊后热影响区探伤不合原因分析 ..... 付振坡, 赵晓萍, 李双江, 等 (67)

### • 氧化物冶金 •

高温条件下 Mg 处理船体钢钉扎粒子的作用行为 ..... 田博, 孙立根, 朱立光 (72)

### • 其他 •

钢包包型的研究与应用 ..... 张孝兴, 陈林权 (78)

### • 信 息 •

2020 年 1~6 期总目次 ..... (A1)

## 关于《炼钢》杂志官网启用新域名的公告

各位作者、读者及审稿专家：

《炼钢》杂志近日完成网站更新、升级及新域名的启用，新域名为 <http://www.bwjournal.com>，原域名 [lg.sudainfo.com](http://lg.sudainfo.com) 仍将延用至 2021 年 8 月 30 日。希望各位作者、读者及审稿专家将我刊新域名 <http://www.bwjournal.com> 放入收藏夹，以方便大家使用。

除了网址变更外，《炼钢》编辑部办公地址、邮编、电话、传真、Email 等联系方式均保持不变。

特此公告。

《炼钢》编辑部

2020 年 7 月 24 日

**CONTENTS****• Hot Metal Pretreatment •**

Investigation on the fluid flow of the hot metal during KR desulfurization process using water modeling

..... DONG Jiapeng ,ZHANG Lifeng ,ZHAO Yanyu ,et al( 1 )

**• BOF & EAF Steelmaking •**

Research on high efficiency low consumption high scrap ratio converter

..... FANG Wen ,YANG Ningchuan ,YOU Xiangmi ,et al( 8 )

Optimization of deposphorization of low temperature and low silicon hot metal under fast-paced production mode

..... LIU Wei ,DENG Nanyang ,HU Wenhua ,et al(14 )

Process practice of tapping without waiting sample based on sublance technique ..... QIU Zaijun(19 )

Metallurgical application of high-efficiency composite slagging materials in converter

..... ZHAI Dongyu ,LIU Shuai ,FANG Lei ,et al(24 )

**• Secondary Refining •**

Experimental and simulation of blowing bubble motion and liquid surface flow characteristics

..... LIU Zihao ,WANG Xingdong ,OUYANG Degang ,et al(30 )

**• Solidification & Continuous Casting •**

Evolution of inclusions in ultra-low carbon Al-killed steel during continuous casting

..... HUANG Rikang ,ZHANG Lifeng ,JIANG Renbo ,et al(39 )

Experimental study on increasing nitrogen of molten steel by optimizing the structure of ladle long nozzle

..... LI Shangbing ,CHEN Yuanqing ,HUANG Jianjun ,et al(46 )

**• Product Process & Quality Control •**

Study on the initiations of pinhole defects in ultra-low-carbon battery shells and the influences of molten steel

cleanliness ..... WANG Ruigang ,JIANG Min ,WANG Xinhua(49 )

Research and practice of non-metallic inclusion control process for wheel steel SCX400 ..... WEN Han(54 )

Analysis and optimization of superficial network cementite defects of 70 steel wire rod

..... LI Qiang ,ZHANG Kanghui ,ZOU Changdong ,et al(61 )

Cause analysis of flaw detection defect in heat affected zone after welding of wind power steel

..... FU Zhenpo ,ZHAO Xiaoping ,LI Shuangjiang ,et al(67 )

**• Oxides Metallurgy •**

The behavior of pinned particles for Mg treated shipbuilding steel under high temperature

..... TIAN Bo ,SUN Ligen ,ZHU Ligang(72 )

**• Other •**

Study and application of ladle shape for liquid steel ..... ZHANG Xiaoxing ,CHEN Linquan(78 )