



QK2027589

ISSN 1003-9996 Vol.37
CN11-2466/TF

3
2020

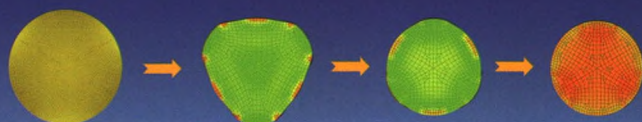
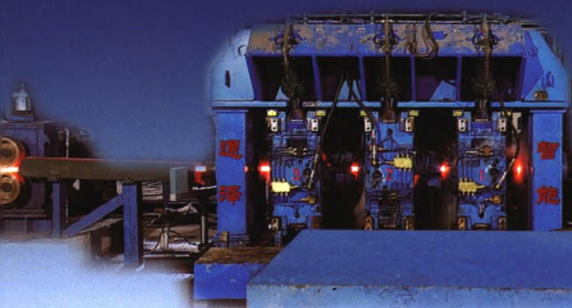
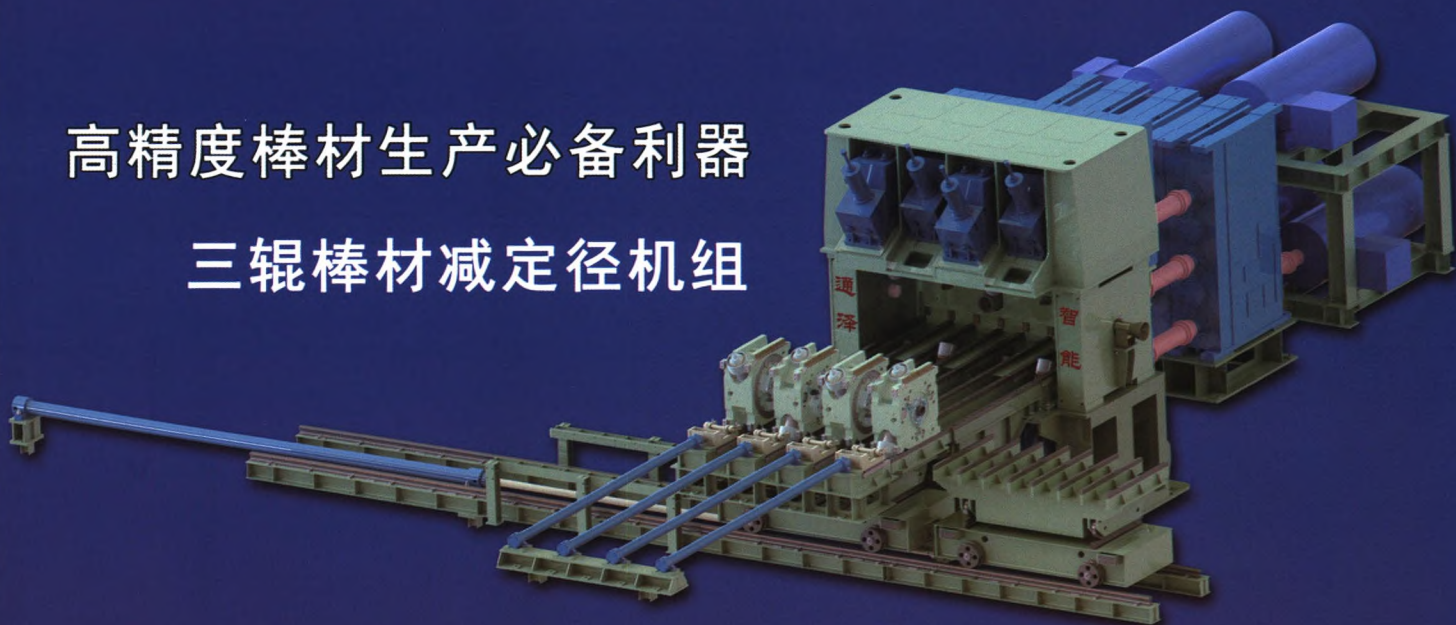
轧钢



太原通泽智能工程股份有限公司
TAIYUAN TONGZE INTELLIGENCE ENGINEERING CO., LTD

广告

高精度棒材生产必备利器 三辊棒材减定径机组



成品棒材直径： $\phi 12-\phi 120\text{mm}$

适用材质：合金钢、不锈钢、钛合金、镍基合金等

电话：0351-7852089

0351-7852116

邮箱：tongze-jszx@163.com

地址：山西省太原市综改示范区唐槐园区电子街9号



轧 钢

ZHA GANG

2020 年 第 37 卷 第 3 期

2020 年 6 月出版

双月刊 1984 年创刊 总第 235 期



敬请关注《轧钢》微信公众号

目 次

· 专家论坛 ·

薄板坯连铸连轧过程控制技术的发展、应用及展望 何安瑞,荆丰伟,刘超,赵海山,周杰(1)

· 研究与开发 ·

道次间冷却工艺下 EH47 船板钢表层往复相变行为的研究 高燕,吴俊宇,王丙兴(8)

Ti 微合金化高强钢性能波动原因分析与工艺优化 廖志,曹燕光,刘旭辉,李会,熊维亮,雍岐龙(13)

中温卷取工艺下热轧双相钢组织性能研究 方少华(18)

高品质热轧双相钢的开发 贾改凤,张志强,周晓光,刘洪旭,柳风林,吕德文(22)

LY100 抗震软钢轧制和冷却工艺热模拟研究 秦玉荣,王军,崔强,陈林恒(26)

小压下率冷轧过程中低碳钢氧化铁皮断裂行为研究 郝明欣,孙彬,王建明,尤宏广(31)

冷连轧打滑机理分析与控制研究 沈新玉,官峰,裴洪涛,崔银会(36)

磷化处理对无铬钝化热镀锌板耐蚀性能的影响 刘武华,胡燕慧,张浩,薛勇强,刘新华(40)

控轧温度对含 Nb 热轧 H 型钢组织性能的影响 陈辉,夏勤,吴保桥,邢军,汪杰,黄琦(44)

3 种典型轧辊材料氧化行为的原位观察 张杰,周旬,苏长水,王晓东,肖福仁(48)

· 设计与改造 ·

普碳钢超大总压下量可逆冷轧工艺技术及生产实践

..... 计江,王勇勤,徐利璞,苏旭涛,刘松,刘云飞(54)

热轧生产中重负荷齿轮油净化、除水新型净油机 孙洁,蔡佳亮,高亮亮,郭杰,付连礼,张瑞新(60)

· 综述 ·

建筑结构用钢产品升级和应用及其对节能减排的影响 付常伟(65)

· 轧钢自动化 ·

1 250 mm 五机架六辊冷连轧工艺控制系统核心技术 贾大朋,李韶岗,米楠,沈志前,李旭(71)

热轧厚规格窄带钢厚度控制策略优化 谷德昊,朱君吾,余小勇,姬亚锋,彭文,张殿华(77)

· 轧钢机械 ·

短应力线轧机带载压下装置设计计算 牛健,韩丽娟(80)

· 革新与交流 ·

山钢日照 2 050 mm 热连轧 QP980 高强钢的生产实践 李贺(84)

DP 钢退火快冷段常见缺陷原因分析及解决措施 张鹏杰,刘志恒,关淑巧(90)

ML08Al 线材混晶组织原因分析与改进措施 罗兴壮,罗庆革,兰钢,樊雷,杨剑洪,黄开乐(93)

穿水冷却工艺对 Q345E 棒材冲击性能及组织的影响 张群,阚开,齐峰(97)

Nb 微合金化 HRB400E 钢筋的试制 郝飞翔,傅余东,严明,孙成银(101)

303Cu 大规格线材低温轧制头部开裂原因分析及改进措施

..... 顾建林,俞国红,李少正,胡月霞,彭飞(105)

一种新型的高线风冷风机 张祺佳(108)

· 轧钢信息 ·

..... (21, 30, 35, 39, 47, 53, 100, 104)

STEEL ROLLING

Vol. 37 No. 3 2020 June 2020

Bimonthly Started Publication in 1984 Total No. 235

CONTENTS

• Specialist Forum •

Development, application and prospect of process control technologies of thin slab continuous casting and rolling
..... HE An-rui, JING Feng-wei, LIU Chao, ZHAO Hai-shan, ZHOU Jie(1)

• Research & Development •

Phase transformation behavior in surface layer of EH47 heavy plate in interpass cooling process
..... GAO Yan, WU Jun-yu, WANG Bing-xing(8)

Cause analysis of performance fluctuation of Ti microalloyed high strength steel and process optimization
..... LIAO Zhi, CAO Yan-guang, LIU Xu-hui, LI Hui, XIONG Wei-liang, YONG Qi-long(13)

Study on the microstructure and properties of hot rolled dual-phase steel under medium temperature coiling process
..... FANG Shao-hua(18)

Development of high quality hot rolled dual-phase steel
..... JIA Gai-feng, ZHANG Zhi-qiang, ZHOU Xiao-guang, LIU Hong-xu, LIU Feng-lin, LÜ De-wen(22)

Thermal simulation study on rolling and cooling process for anti-seismic soft steel of LY100
..... QIN Yu-rong, WANG Jun, CUI Qiang, CHEN Lin-heng(26)

Study on fracture behavior of oxide scale of low carbon steel during small reduction cold rolling
..... HAO Ming-xin, SUN Bin, WANG Jian-ming, YOU Hong-guang(31)

Study on mechanism and control of slipping in cold tandem mill
..... SHEN Xin-yu, GONG Feng, PEI Hong-tao, CUI Yin-hui(36)

Effect of phosphating on corrosion resistance of chromium-free passivated hot-dip galvanized sheet
..... LIU Wu-hua, HU Yan-hui, ZHANG Hao, XUE Yong-qiang, LIU Xin-hua(40)

Study on influence of controlled rolling temperatures on microstructure and mechanical properties of H-beam containing Nb
..... CHEN Hui, XIA Meng, WU Bao-qiao, XING Jun, WANG Jie, HUANG Qi(44)

In-situ observation of oxidation behaviors of three typical materials of roll
..... ZHANG Jie, ZHOU Xun, SU Chang-shui, WANG Xiao-dong, XIAO Fu-ren(48)

• Design & Reformation •

Reversible cold rolling technology with super large total reduction and practice for plain carbon steel strip
..... JI Jiang, WANG Yong-qin, XU Li-pu, SU Xu-tao, LIU Song, LIU Yun-fei(54)

New oil purifier for heavy-duty gear oil purification and water removal in hot rolling production
..... SUN Jie, CAI Jia-liang, GAO Liang-liang, GUO Jie, FU Lian-li, ZHANG Rui-xin(60)

• Overview •

Upgrading and application of steels for building structures and its influence on energy conservation and emission reduction
..... FU Chang-wei(65)

• Automation of Steel Rolling •

Core technology of process control system for 1 250 mm five stands 6-high tandem cold mill
..... JIA Da-peng, LI Shao-gang, MI Nan, SHEN Zhi-qian, LI Xu(71)

Optimization of thickness control strategy of hot rolled heavy gauge narrow strip
..... GU De-hao, ZHU Jun-wu, YU Xiao-yong, JI Ya-feng, PENG Wen, ZHANG Dian-hua(77)

• Machinery of Steel Rolling •

Design calculation of screw-down device in the short stress path rolling mill NIU Jian, HAN Li-juan(80)

• Innovation & Interflowing •

Production practice of QP980 high strength steel in Rizhao 2 050 mm hot continuous rolling line LI He(84)

Causes analysis of common defects in rapid cooling section of annealing furnace for DP steel and its countermeasures
..... ZHANG Peng-jie, LIU Zhi-heng, GUAN Shu-qiao(90)

Causes analysis of mixed-grain microstructure of ML08Al wire and its countermeasures
..... LUO Xing-zhuang, LUO Qing-ge, LAN Gang, FAN Lei, YANG Jian-hong, HUANG Kai-le(93)

Effect of through-water cooling process on impact property and microstructure of Q345E steel bar
..... ZHANG Qun, KAN Kai, QI Feng(97)

Trial production of niobium microalloyed HRB400E ribbed bar
..... HAO Fei-xiang, FU Yu-dong, YAN Ming, SUN Cheng-yin(101)

Cause analysis of head cracking of 303Cu steel large gauge wire rod at low temperature rolling and its countermeasures
..... GU Jian-lin, YU Guo-hong, LI Shao-zheng, HU Yue-xia, PENG Fei(105)

A new type fan used in high-speed wire air cooling line ZHANG Qi-jia(108)

• Steel Rolling Information •

..... (21, 30, 35, 39, 47, 53, 100, 104)



中冶南方工程技术有限公司
WISDRI Engineering & Research Incorporation Limited

业界领先的轧钢技术

服务商

中冶南方工程技术有限公司在轧钢领域以科学的专业配置、雄厚的技术力量、完善的配套设施为国内外500余家企业提供了工程咨询、设计、成套供货、总承包等全生命周期服务。

典型热轧业绩：

- 日钢ESP热轧超薄无头带钢生产线工程
- 昆钢H型钢工程
- 广青科技1780mm热轧总承包工程
- 福建青拓实业不锈钢高速线材工程

典型冷轧业绩：

- 鞍钢2号冷轧1780mm酸洗轧机工程
- 印度克罗美尼不锈钢冷轧十八辊五机架轧制退火酸洗平整拉矫机组成套设备供货及总包工程
- 宝钢4号SACL 硅钢退火及涂层机组成套设备供货
- 防城港2030mm冷轧汽车板热镀锌机组成套设备供货
- 青拓集团鼎信科技六机架不锈钢连轧机机组成套设备供货
- 宝钢德盛激光电弧复合焊机设备

部分发明专利：（发明专利号ZL 2012 1 0018705.7、ZL 2014 1 0700631.4、ZL 2015 1 0326327.2等）

- 电镀锌与电镀铬共用机组
- 提高冷轧带钢表面清洗质量的装置以及工艺
- 用于生产棒线材和型材的连铸-直接轧制装置及方法
- 一种激光复合焊机
- 热轧辊缝润滑装置及方法
- 热轧高强钢矫直平整工艺

地址：武汉市东湖新技术开发区
大学园路33号
邮编：430223
电话：027-81998199/81996302
网址：www.wisdri.com



国内刊号：CN11-2466/TF 邮发代号：82-869

广告许可证：京海工商广字第8276号 定价：40元

ISSN 1003-9996



9 771003 999202