



9-6264

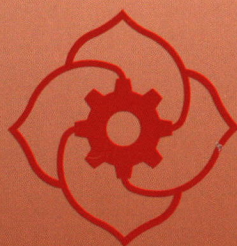
Q K 2 3 0 3 0 0 6 4 5 / T G

CODEN:CRXAAK

材料热处理学报

CAILIAO RECHULI XUEBAO

TRANSACTIONS OF MATERIALS AND HEAT TREATMENT



CMES

中国机械工程学会主办

第44卷 第6期

Vol.44 No.6

2023

ISSN 1009-6264



9 771009 626232

目 次

综 述

- 铝合金电弧熔丝增材制造的冶金缺陷研究现状与展望 石寅晖,李 洁,刘 坤,邹家生,余文明,Gizo Bokuchava(1)
- Al-xCu 合金中 θ' 析出相稳定性的研究进展 高志国,徐武锋(11)
- 高熵合金催化性能的研究进展 孟凡莹,张一凡,杨佳惠,张 薇,王 琳,武俊霞,李培友(20)

复合材料

- 选择性激光烧结制备石墨/碳化硅复合高温熔盐封装材料的性能 吴海华,康 怡,刘 智,钟 强,魏 恒,郝佳欢,戢运鑫(28)
- 高强高导热多孔石墨骨架的快速制备工艺 吴海华,钟 强,刘 智,康 怡,戢运鑫,郝佳欢,魏 恒,杨增辉(37)
- MoSe₂/CoSe₂ 异质结构的构筑及其电催化析氢性能 郭宇晨,贾飞宏,邹祥宇,卫学玲,包维维,李文虎(46)

有色金属合金材料

- Y 对 Mg-1Al-0.3Ca-0.3Mn-0.4Zn 合金微观组织、力学性能和腐蚀行为的影响 袁俊文,卢雅琳,张 扬,李兴成,王 健(54)
- 时效工艺对 7A75 铝合金组织与性能的影响 康 元,张文静,程全士,黄青梅,杨献文,叶凌英(62)
- 固溶和时效对挤压态 Cu-15Ni-8Sn 合金组织和性能的影响 姜凯旋,周延军,宋克兴,杨 冉,郁 炎,柳亚辉,张彦敏,陈纪东,黄 宽,刘东东,余 勃(72)
- 大尺寸优质 GH4738 合金铸锭的元素偏析规律及均匀化工艺 马亚芬,李育升,张麦仓,杨成斌,荣 义,侯为学,曲敬龙(81)

黑色金属合金材料

- 热处理对 42CrMoVRE 钢强韧化机制的影响 刘 帅,颜 莹,王 斌,张 鹏,周相海,郑雷刚,胡小强,李小武,张哲峰(90)
- 热轧工艺对厚板板厚方向组织和力学性能均匀性的影响 魏扬华,黄文静,邢 军,丁汉林,王子健,陈其伟(100)

线能量对超高强度海工钢热影响区组织演变与韧性的影响
..... 李斯博,万响亮,董志超,胡 锋,周松波,杨 叠,李光强,吴开明(109)

热处理工艺对 S53 高强度不锈钢组织与性能的影响 徐明阳,陆金玉,王 威,田家龙(120)
X510L 钢连续冷却相变动力学对改善翘曲的应用.....

..... 周莹涛,丁文红,彭 冲,陈 浩,唐小勇,龚红根(132)
针状铁素体 X65 管线钢中 MA 岛结构表征及其对疲劳裂纹扩展的影响 ... 金传伟,张继明,吴园园(143)

材料表面改性

激光电化学处理钛表面的摩擦学性能与非加工区隔离保护材料的选择
..... 张艳芳,吕林杰,武腾飞,丁 彤,侯沅琨,邢志国,杨瑟飞(150)

材料模拟计算

基于响应曲面模型和 Matlab 遗传算法的压铸铝硅合金时效工艺优化及分析
..... 陶 诚,程晓农,许福海,李志强,刘光磊,谢树宽,匡中华,郭 勇,吕 鹏(159)

淬火工艺对大尺寸厚壁钢管组织及内应力的影响
..... 呼陟宇,韩锦峰,孟佳红,毕向荣,孙文彬,王海燕,高雪云(167)

Fe-Mn-Al-Ni-C 低密度钢铸锭的再结晶特征与热加工图
..... 汪英杰,王忠军,林 茹,谢康杰,吴伟平,胡奉雅,李维娟(173)

其 他

退火时间对 AgCuZnNiMn/Cu/AgCuZnNiMn 多层复合钎料元素扩散行为的影响
..... 刘晓芳,张冠星,钟素娟,常云峰(182)

焊接温度对 AZ91/TC4 扩散焊接接头组织和性能的影响 何子涛,黄本生,黄思语,刘罗林(191)

CONTENTS

- Research progress and prospect of metallurgical defects in wire arc additive manufacturing of aluminum alloys
 SHI Yin-hui, LI Jie, LIU Kun, ZOU Jia-sheng, YU Wen-ming, Gizo Bokuchava(1)
- Research progress on stability of θ' precipitates in Al-xCu alloys GAO Zhi-guo, XU Wu-feng(11)
- Research progress on catalytic properties of high-entropy alloys
 MENG Fan-ying, ZHANG Yi-fan, YANG Jia-hui, ZHANG Wei, WANG Lin, WU Jun-xia, LI Pei-you(20)
- Properties of graphite/silicon carbide composite high-temperature molten salt packaging material prepared by selective laser sintering
 WU Hai-hua, KANG Yi, LIU Zhi, ZHONG Qiang, WEI Heng, HAO Jia-huan, JI Yun-xin(28)
- Rapid preparation process of high strength and high thermal conductivity porous graphite skeleton
 WU Hai-hua, ZHONG Qiang, LIU Zhi, KANG Yi, JI Yun-xin, HAO Jia-huan, WEI Heng, YANG Zeng-hui(37)
- Construction of MoSe₂/CoSe₂ heterostructure and its electrocatalytic hydrogen evolution performance
 GUO Yu-chen, JIA Fei-hong, ZOU Xiang-yu, WEI Xue-ling, BAO Wei-wei, LI Wen-hu(46)
- Effect of Y element on microstructure, mechanical properties and corrosion behavior of Mg-1Al-0.3Ca-0.3Mn-0.4Zn alloy
 YUAN Jun-wen, LU Ya-lin, ZHANG Yang, LI Xing-cheng, WANG Jian(54)
- Effect of aging process on microstructure and properties of 7A75 aluminum alloy
 ... KANG Yuan, ZHANG Wen-jing, CHENG Quan-shi, HUANG Qing-mei, YANG Xian-wen, YE Ling-ying(62)
- Effect of solution and aging on microstructure and properties of extruded Cu-15Ni-8Sn alloy
 JIANG Kai-xuan, ZHOU Yan-jun, SONG Ke-xing, YANG Ran,
 YU Yan, LIU Ya-hui, ZHANG Yan-min, CHEN Ji-dong, HUANG Kuan, LIU Dong-dong, YU Bo(72)
- Element segregation and homogenization process of large size and high quality GH4738 alloy ingot
 MA Ya-fen, LI Yu-sheng, ZHANG Mai-cang, YANG Cheng-bin, RONG Yi, HOU Wei-xue, QU Jing-long(81)
- Effect of heat treatment on strengthening and toughening mechanism of 42CrMoVRE steel
 LIU Shuai, YAN Ying, WANG Bin,
 ZHANG Peng, ZHOU Xiang-hai, ZHENG Lei-gang, HU Xiao-qiang, LI Xiao-wu, ZHANG Zhe-feng(90)
- Effect of hot rolling process on uniformity of microstructure and mechanical properties of thick plate in thickness direction
 WEI Yang-hua, HUANG Wen-jing, XING Jun, DING Han-lin, WANG Zi-jian, CHEN Qi-wei(100)

Effect of heat input on microstructural evolution and toughness of heat-affected zone of ultra-high strength steel for offshore structure	LI Si-bo, WAN Xiang-liang, DONG Zhi-chao, HU Feng, ZHOU Song-bo, YANG Die, LI Guang-qiang, WU Kai-ming(109)
Effect of heat treatment process on microstructure and properties of S53 high strength stainless steel XU Ming-yang, LU Jin-yu, WANG Wei, TIAN Jia-long(120)
Application of continuous cooling phase transformation kinetics of X510L steel to improving warpage ZHOU Ying-tao, DING Wen-hong, PENG Chong, CHEN Hao, TANG Xiao-yong, GONG Hong-gen(132)
Characterization of MA islands structure in acicular ferrite X65 pipeline steel and its effect on fatigue crack propagation JIN Chuan-wei, ZHANG Ji-ming, WU Yuan-yuan(143)
Tribological properties of titanium surface treated by laser combined with electrochemical treatment and selection of isolation protection materials for non-processing zone	ZHANG Yan-fang, LÜ Lin-jie, WU Teng-fei, DING Tong, HOU Yuan-kun, XING Zhi-guo, YANG Se-fei(150)
Optimization and analysis of aging process for die-casting aluminum silicon alloy based on response surface model and Matlab genetic algorithm	TAO Cheng, CHENG Xiao-nong, XU Fu-hai, LI Zhi-qiang, LIU Guang-lei, XIE Shu-kuan, KUANG Zhong-hua, GUO Yong, LÜ Peng(159)
Effect of quenching process on microstructure and internal stress of large size thick wall steel tube	HU Zhi-yu, HAN Jin-feng, MENG Jia-hong, BI Xiang-rong, SUN Wen-bin, WANG Hai-yan, GAO Xue-yun(167)
Recrystallization characteristics and hot processing map of Fe-Mn-Al-Ni-C low density steel ingot WANG Ying-jie, WANG Zhong-jun, LIN Ru, XIE Kang-jie, WU Wei-ping, HU Feng-ya, LI Wei-juan(173)
Effect of annealing time on element diffusion behavior of AgCuZnNiMn/Cu/AgCuZnNiMn multilayer composite brazing filler metal	LIU Xiao-fang, ZHANG Guan-xing, ZHONG Su-juan, CHANG Yun-feng(182)
Effect of welding temperature on microstructure and properties of AZ91/TC4 diffusion welded joints HE Zi-tao, HUANG Ben-sheng, HUANG Si-yu, LIU Luo-lin(191)

材料热处理学报

TRANSACTIONS OF MATERIALS AND HEAT TREATMENT

第44卷第6期 总第276期 2023年6月25日(月刊,1980年创刊)

Vol. 44 No. 6 June 25, 2023 (Monthly, Started in 1980)

主管单位: 中国科学技术协会

主办单位: 中国机械工程学会

主 编: 周 玉

副 主 编: 闫牧夫 顾剑锋 李 俏
石 伟

编辑部主任: 付海峰

编辑出版: 《材料热处理学报》编辑部

地 址: 北京市海淀区学清路18号
北京机电研究所院内(100083)

电 话: 010-62914115, 82415080

传 真: 010-62914115

网 址: www.mhten.org

电子信箱: clrel@vip.163.com

印 刷: 北京科信印刷有限公司

中国标准连续出版物号: ISSN 1009-6264
CN 11-4545/TG
CODEN: CRXAAK

国内发行: 北京报刊发行局

邮发代号: 82-591

国内定价: 60元/册, 全年: 720元

Responsible Department:

China Association for Science and Technology

Sponsor: Chinese Mechanical Engineering Society

Chief Editor: ZHOU Yu

Vice Chief Editor: YAN Mu-fu, GU Jian-feng, LI Qiao, SHI Wei

Managing Editor: FU Hai-feng

Edited and Published: Editorial Office of TRANSACTIONS OF
MATERIALS AND HEAT TREATMENT

Address: No. 18, Xueqing Road, Beijing 100083, China

Tel: 86-10-62914115, 82415080

Fax: 86-10-62914115

http: //www.mhten.org

E-mail: clrel@vip.163.com

Code No. : ISSN 1009-6264
CN 11-4545/TG

CODEN: CRXAAK

Annual Rate: 720 USD (including postage by air)

全国中文核心期刊

中国科技核心期刊

中国科技论文统计与分析用刊

中国科技期刊 ChinaInfo 系统用刊

中国期刊方阵双效期刊

RCCSE 中国权威学术期刊(A⁺)

中国科学引文数据库(CSCD)来源期刊

中国期刊全文数据库(CJFD)用刊

中国期刊网、中国学术期刊全文收录期刊

荷兰 SCOPUS 数据收录期刊

美国《化学文摘》CA 文献源期刊

美国《剑桥科学文摘》CSA 文献源期刊

金属文摘 METADEX 文献源期刊

日本科技情报中心 JICST 文献源期刊

AJ、EMA 等收录期刊



敬请关注本刊微信公众号, 可通过公众号查询稿件处理进度及过刊等。