



IS QK1729728

CN11-4545/TG

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38卷 第9期

Vol.38 No.9

2017

ISSN 1009-6264



9 771009 626171

目 次

材料研究

放电等离子烧结原位合成 $\text{MoSi}_2\text{-Mo}_5\text{Si}_3$ 复合材料的组织与性能 颜建辉,黄金鑫,李凯玲,汪 异(1)

Ni-12 mass% Si 过共晶的凝固特性及晶体生长机理 田露露,崔春娟,问亚岗,喻圣男,杨 猛,王 珮(11)

热处理对冷轧变形 $\text{Al}_{0.3}\text{CoCrFeNi}$ 高熵合金组织与力学性能的影响 孙永哲,田 笑,魏亚风,庄艳歆(18)

组织性能

固溶处理对 Mg-Zn-Y-Zr-Ca 生物镁合金组织及腐蚀性能的影响 孙 毅,张文鑫,许春香,张金山,韩少兵,贾长建(24)

固溶时效对挤压态 LAZ941-0.5Y 合金组织和力学性能的影响 段 超,黄金亮(30)

低温下 Sc 微合金化对 8xxx 系铝合金导线蠕变性能的影响 岳 嵩,邓显波,张嘉艺,王 斌,王海生(36)

Sc 元素对 Al-Mg-Si 架空导线的组织及性能影响 郑红梅,胡学飞,崔接武,王 岩,秦永强,黄新民,吴玉程(43)

热处理工艺对泡沫 6061 铝合金吸能性能的影响 杨旭东,张 震,何小垒,杜 娟(49)

均匀化处理对铸态 Al-4.51Zn-1.77Mg 合金组织的影响 石 峰,张智超,王 旭,吴 明(58)

稀土 Nd 对 Ti-25Cu-15Ni 钎料润湿性及接头剪切强度的影响 张绍棋,闫焉服,王广欣,顾天亮,王红娜(64)

淬火对 TC4 钛合金激光焊接头超塑性变形行为的影响 江训焱,程东海,陈益平,胡德安(71)

焊后热处理对 Inconel 617B 时效性能和组织的影响 崔宇飞,朱丽慧,周任远,卢征然,陈 亮(76)

不同 Mo、W 含量叶片用 GY200 镍基合金中碳化物的析出行为 龚志华,杨 钢,马龙腾,定 巍(83)

配分温度对 Q-P-T 钢组织与性能的影响	郭浩冉,高古辉,桂晓露,白秉哲(89)
T122 钢在服役前后的组织演变和性能评价	陈 则,范吉富,熊 伟,赵冰冰,董显平(96)
高氮不锈钢轴承钢碳化物演变规律及球化机制	张志慧,杨卯生,孙世清,王艳江(104)
形变对板条马氏体 20CrNi2Mo 钢组织演化规律的影响	张世伟,梁益龙,姜 云,龙绍樞,孙 皓,杨 明(114)
固溶温度对 Fe-22.8Mn-8.48Al-0.86C 低密度钢组织及性能的影响	周占明,唐 菽,赵征志,袁洪涛,何 青(123)
调质工艺对 620 MPa 级高强钢组织及性能的影响	黄乐庆,狄国标,杨永达,王彦锋,麻庆申,王小勇(128)
回火工艺对核电用 16MND5 钢板组织和性能的影响	胡海洋,刘徐源,王 爽,颜秉宇,孙殿东,王永才(137)
亚温淬火工艺对低碳低合金高强钢组织及性能的影响	覃展鹏,王红鸿,童 志,胡 锋,李 丽,吴开明(142)

表面改性

热老化对铝硅聚苯酯涂层抗砂粒冲蚀性能的影响	程涛涛,丁坤英,纪朝辉,王志平(148)
Super304H 和 HR3C 奥氏体钢在模拟锅炉高硫气氛中的腐蚀行为	黄丽琴,刘光明,张民强,黄健航,汪元奎(155)

模拟计算

连续变断面循环挤压 TC4 钛合金的变形模拟	冯银敏,刘莹莹,张 乐,虎 银,程 丹,蔡 军(162)
石墨团聚对铁素体球墨铸铁微区裂纹演变的影响	郭远博,黄兴民,雍 薇,张 雷,楚珑晟,戴光泽(169)

CONTENTS

Microstructure and properties of $\text{MoSi}_2\text{-Mo}_5\text{Si}_3$ composites in-situ synthesized by spark plasma sintering
 YAN Jian-hui, HUANG Jin-xin, LI Kai-ling, WANG Yi(1)

Solidification characteristics and crystal growth mechanism of Ni-12 mass% Si hypereutectic alloy
 TIAN Lu-lu, CUI Chun-juan, WEN Ya-gang, YU Sheng-nan, YANG Meng, WANG Pei(11)

Effect of heat treatment on microstructure and mechanical properties of $\text{Al}_{0.3}\text{CoCrFeNi}$ high entropy alloy with cold rolling
 SUN Yong-zhe, TIAN Xiao, WEI Ya-feng, ZHUANG Yan-xin(18)

Effects of solution treatment on microstructure and corrosion properties of Mg-3.0Zn-0.6Y-0.5Zr-0.3Ca biological
 magnesium alloy
 SUN Yi, ZHANG Wen-xin, XU Chun-xiang, ZHANG Jin-shan, HAN Shao-bing, JIA Chang-jian(24)

Effect of solution and aging treatment on microstructure and mechanical properties of LAZ941-0.5Y alloy
 DUAN Chao, HUANG Jin-liang(30)

Effect of low temperature Sc micro-alloying on creep behavior of 8xxx series aluminum alloy wires
 YUE Song, DENG Xian-bo, ZHANG Jia-yi, WANG Bin, WANG Hai-sheng(36)

Effect of Sc on microstructure and performance of Al-Mg-Si aerial cables
 ZHENG Hong-mei, HU Xue-fei, CUI Jie-wu, WANG Yan, QIN Yong-qiang, HUANG Xin-min, WU Yu-cheng(43)

Effects of heat treatment process on energy absorption of 6061 aluminum alloy foams
 YANG Xu-dong, ZHANG Zhen, HE Xiao-lei, DU Juan(49)

Effect of homogenization treatment on microstructure of as-cast Al-4.51Zn-1.77Mg alloy
 SHI Feng, ZHANG Zhi-chao, WANG Xu, WU Ming(58)

Effect of rare earth Nd on wettability of Ti-25Cu-15Ni brazing fillers and shear strength of joints
 ZHANG Shao-qi, YAN Yan-fu, WANG Guang-xin, GU Tian-liang, WANG Hong-na(64)

Effect of quenching on superplastic deformation behavior of laser welded joint of TC4 titanium alloy
 JIANG Xun-yan, CHENG Dong-hai, CHEN Yi-ping, HU De-an(71)

Effects of post-weld heat treatment on microstructure and aging properties of Inconel 617B
 CUI Yu-fei, ZHU Li-hui, ZHOU Ren-yuan, LU Zheng-ran, CHEN Liang(76)

Precipitation behavior of carbides in GY200 Ni-based alloy for blade with different W and Mo contents
 GONG Zhi-hua, YANG Gang, MA Long-teng, DING Wei(83)

Effect of partitioning temperature on microstructure and mechanical properties of Q-P-T steel	
.....	GUO Hao-ran, GAO Gu-hui, GUI Xiao-lu, BAI Bing-zhe(89)
Microstructure evolution and performance evaluation of T122 steel before and after service	
.....	CHEN Ze, FAN Ji-fu, XIONG Wei, ZHAO Bing-bing, DONG Xian-ping(96)
Carbides evolution and spheroidization mechanism of high nitrogen stainless bearing steel	
.....	ZHANG Zhi-hui, YANG Mao-sheng, SUN Shi-qing, WANG Yan-jiang(104)
Effect of deformation on microstructure evolution of 20CrNi2Mo lath martensitic steel	
.....	ZHANG Shi-wei, LIANG Yi-long, JIANG Yun, LONG Shao-lei, SUN Hao, YANG Ming(114)
Effect of solution temperature on microstructure and mechanical properties of Fe-22.8Mn-8.48Al-0.86C low density steel	
.....	ZHOU Zhan-ming, TANG Di, ZHAO Zheng-zhi, YUAN Hong-tao, HE Qing(123)
Effect of quenching and tempering process on microstructure and properties of 620 MPa grade high strength steel	
.....	HUANG Le-qing, DI Guo-biao, YANG Yong-da, WANG Yan-feng, MA Qing-shen, WANG Xiao-yong(128)
Effects of tempering process on microstructure and properties of 16MND5 steel plate for nuclear power station	
.....	HU Hai-yang, LIU Xu-yuan, WANG Shuang, YAN Bing-yu, SUN Dian-dong, WANG Yong-cai(137)
Influence of lamellarizing process on microstructure and properties of low carbon low alloy high-strength steel	
.....	QIN Zhan-peng, WANG Hong-hong, TONG Zhi, HU Feng, LI Li, WU Kai-ming(142)
Effect of thermal aging on sand erosion resistance of AISi polyphony ester coating	
.....	CHENG Tao-tao, DING Kun-ying, JI Zhao-hui, WANG Zhi-ping(148)
Corrosion behavior of Super304H and HR3C austenitic steels in simulated flue gas boiler environments with high sulfur concentration	
.....	HUANG Li-qin, LIU Guang-ming, ZHANG Min-qiang, HUANG Jian-hang, WANG Yuan-kui(155)
Deformation simulation of TC4 titanium alloy during continuous variable cross-section recycled extrusion	
.....	FENG Yin-min, LIU Ying-ying, ZHANG Le, HU Yin, CHENG Dan, CAI Jun(162)
Effects of graphite agglomeration on microdomain crack evolution in ferrite ductile cast iron	
.....	GUO Yuan-bo, HUANG Xing-min, YONG Wei, ZHANG Lei, CHU Long-sheng, DAI Guang-ze(169)

材料热处理学报

TRANSACTIONS OF MATERIALS AND HEAT TREATMENT

第 38 卷第 9 期 总第 207 期 2017 年 9 月 25 日(月刊,1980 年创刊)

Vol. 38 No. 9 September 25, 2017 (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:李 俏

编辑部副主任: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

刊 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:30 元/册,全年:360 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: LI Qiao

Vice 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: 360 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。