

ISSN QK1926194

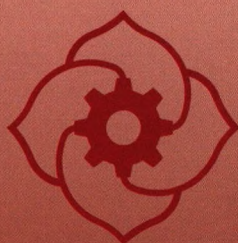
CN11-4545/TG

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40卷 第6期

Vol.40 No.6

2019

ISSN 1009-6264



06

9 771009 626195

目 次

综述

- 大塑性变形 6000 系时效铝合金微观结构的研究进展 章 勇,刘满平,秦 希,陈 健,王圣楠(1)
- 汽车用高强塑积钢关键研究进展之一:Q&P 钢的研究进展
..... 王明明,张晓妍,肖亚茹,徐连波,侯锁霞,李耀刚(11)

有色金属合金材料

- Ag 对铸态 Mg-11Gd-2Y-0.5Zr 镁合金组织和力学性能的影响
..... 关海昆,李全安,陈晓亚,张 帅,王颂博(20)
- 轧后热处理工艺对 AZ31 镁合金铸轧板组织性能的影响
..... 刘光明,杨丽峡,黄庆学,马立峰,韩廷状(26)
- Zn 含量及时效工艺对 Al-Mg-Si-Cu 合金微观组织及硬度的影响
..... 张秋道,朱海琴,李昀臻,李 辉(33)
- 退火时间对 $Al_{86}Ni_6Y_{4.5}Co_2La_{1.5}$ 非晶合金中 α -Al 形成及长大的影响
..... 章星宇,王知鸷,刘懿茵,王 东,刘 麟(39)
- 热处理工艺对第二代镍基单晶高温合金 DD5 组织和性能的影响
..... 崔仁杰,黄朝晖,管 凯,秦健朝,张毅鹏(45)
- B 元素对定向凝固镍基合金凝固特性和 TCP 相析出行为的影响 吴保平,吴剑涛,李俊涛(52)
- 不同片层厚度 TC4 合金的原位拉伸变形行为 龙 玮,张 松,梁益龙,欧梅桂(61)
- 低温时效及冷/温变形工艺对 TB17 钛合金组织的影响 刘洪骁,董洪波,朱知寿(69)
- 热处理对 Ti-48Al-2Cr 合金组织与力学性能的影响 王 微,陈 武,彭德林(75)
- $Ti_{44}Ni_{47}Nb_9$ 合金粉末球磨工艺的优化 刘俊伟,万 俊,鲁世强,刘 军(81)

黑色金属合金材料

- 一种新型核级 FeCrAl 合金的离子辐照行为
..... 吴伟松,张瑞谦,冉 广,王 辉,雷鹏辉,孙永铎,王 清,黄金池,周哲辉,朱勇辉(88)

快速加热回火过程中 9Ni 钢组织的演化	杨跃辉,苑少强,刘 坚,梁国俐(97)
冷却速率对新型高硬度预硬化塑料模具钢组织和性能的影响 刘继浩,迟宏宵,曹建春,高华耀,马党参,周 健(103)
热处理对 HSLA100 钢组织性能的影响	牛振华,孙佳明,冯文荣,卢 峰(110)
初始组织对 SCM435 钢调质处理后力学性能的影响 王利军,吕彦新,阮士朋,王宁涛,李 龙,翟进坡,于红梅(117)
时效对含 Nb 低合金高强钢显微组织和力学性能的影响	张继明,喻春明(123)
贝氏体等温淬火对中铬耐磨钢组织性能的影响	张亚楠,李强国,张亚宁(130)
等温工艺对钛微合金钢组织和析出行为的影响	何 康,宁玉亮,李烈军,陈松军,霍向东(136)
8Cr4Mo4V 高温轴承钢润滑条件下的微动磨损行为	吝 欢,杨卯生,舒佰坡(143)
组织演变对 UNS N08825 合金耐晶间腐蚀性能影响	孙 敏,马天军(155)

材料模拟计算

纳米 SiCp/Al 复合材料的热变形行为	王 震,王爱琴,谢敬佩(162)
基于修正 Voce 模型的 2A12 铝合金流动应力模型 陈学文,张家银,皇 涛,宋克兴,朱红亮,杜昱青(170)
50Cr5NiMoV 钢奥氏体分解动力学模型建立与应用	张雪姣,宋肖阳,李萌蘖,朱 琳(177)
内螺旋连续式铜换热器换热分析与数值模拟	王金龙,刘昭良,崔大伟,苑成东(185)

CONTENTS

- Research progress on microstructure of age-hardenable 6000 series aluminum alloys processed by severe plastic deformation
 ZHANG Yong, LIU Man-ping, QIN Xi, CHEN Jian, WANG Sheng-nan(1)
- One of the key research progress of steels with high product of strength and elongation for automobiles; research progress of Q&P steel WANG Ming-ming, ZHANG Xiao-yan, XIAO Ya-ru, XU Lian-bo, HOU Suo-xia, LI Yao-gang(11)
- Effect of Ag on microstructure and mechanical properties of as-cast Mg-11Gd-2Y-0.5Zr magnesium alloy
 GUAN Hai-kun, LI Quan-an, CHEN Xiao-ya, ZHANG Shuai, WANG Song-bo(20)
- Effect of post-rolling heat treatment on microstructure and properties of AZ31 magnesium alloy cast-rolled sheet ...
 LIU Guang-ming, YANG Li-xia, HUANG Qing-xue, MA Li-feng, HAN Ting-zhuang(26)
- Influence of Zn content and aging treatment on microstructure and microhardness of Al-Mg-Si-Cu alloy
 ZHANG Qiu-dao, ZHU Hai-qin, LI Yun-zhen, LI Hui(33)
- Effect of annealing time on formation and growth of α -Al in $Al_{86}Ni_6Y_{4.5}Co_2La_{1.5}$ amorphous alloy
 ZHANG Xing-yu, WANG Zhi-zhi, LIU Yi-yin, WANG Dong, LIU Lin(39)
- Effect of heat treatment on microstructure and properties of second generation Ni-based single crystal superalloys DD5
 CUI Ren-jie, HUANG Zhao-hui, GUAN Kai, QIN Jian-chao, ZHANG Yi-peng(45)
- Effect of boron addition on solidification characteristics and TCP phase precipitation behavior of directionally solidified nickel-based superalloy WU Bao-ping, WU Jian-tao, LI Jun-tao(52)
- In-situ tensile deformation behavior of TC4 titanium alloy with different lamellar thickness
 LONG Wei, ZHANG Song, LIANG Yi-long, OU Mei-gui(61)
- Effect of low-temperature aging and cold/warm deformation on microstructure of TB17 titanium alloy
 LIU Hong-xiao, DONG Hong-bo, ZHU Zhi-shou(69)
- Effect of heat treatment on microstructure and mechanical properties of Ti-48Al-2Cr alloy
 WANG Wei, CHEN Wu, PENG De-lin(75)
- Optimization of ball milling process for $Ti_{44}Ni_{47}Nb_9$ alloy powder
 LIU Jun-wei, WAN Jun, LU Shi-qiang, LIU Jun(81)
- Ion irradiation behavior of a new type of nuclear grade FeCrAl alloy
 WU Wei-song, ZHANG Rui-qian, RAN Guang, WANG Hui,
 LEI Peng-hui, SUN Yong-duo, WANG Qing, HUANG Jin-chi, ZHOU Zhe-hui, ZHU Yong-hui(88)

Microstructure evolution of 9Ni steel during rapid heating and tempering	
.....	YANG Yue-hui, YUAN Shao-qiang, LIU Jian, LIANG Guo-li(97)
Effect of cooling rate on microstructure and properties of new high hardness pre-hardening plastic mould steel	
.....	LIU Ji-hao, CHI Hong-xiao, CAO Jian-chun, GAO Hua-yao, MA Dang-shen, ZHOU Jian(103)
Effect of heat treatment on microstructure and properties of HSLA100 steel	
.....	NIU Zhen-hua, SUN Jia-ming, FENG Wen-rong, LU Feng(110)
Effect of initial microstructure on mechanical properties of SCM435 steel after quenching and tempering	
.....	WANG Li-jun, LÜ Yan-xin, RUAN Shi-peng, WANG Ning-tao, LI Long, ZHAI Jin-po, YU Hong-mei(117)
Effect of aging on microstructure and mechanical properties of low alloy high strength steel containing Nb	
.....	ZHANG Ji-ming, YU Chun-ming(123)
Effect of bainite austempering on microstructure and mechanical properties of medium chromium wear resistant steel	
.....	ZHANG Ya-nan, LI Qiang-guo, ZHANG Ya-ning(130)
Effect of isothermal process on microstructure and precipitation behavior of titanium microalloyed steel	
.....	HE Kang, NING Yu-liang, LI Lie-jun, CHEN Song-jun, HUO Xiang-dong(136)
Fretting wear behavior of 8Cr4Mo4V high temperature bearing steel under lubrication condition	
.....	LIN Huan, YANG Mao-sheng, SHU Bai-po(143)
Effect of microstructure evolution on intergranular corrosion resistance of UNS N08825 alloy	
.....	SUN Min, MA Tian-jun(155)
Hot deformation behavior of nano-SiCp/Al composites	
.....	WANG Zhen, WANG Ai-qin, XIE Jing-pei(162)
Flow stress model of 2A12 aluminum alloy based on modified Voce model	
.....	CHEN Xue-wen, ZHANG Jia-yin, HUANG Tao, SONG Ke-xing, ZHU Hong-liang, DU Yu-qing(170)
Modelling and application of austenite decomposition kinetics of 50Cr5NiMoV steel	
.....	ZHANG Xue-jiao, SONG Xiao-yang, LI Meng-nie, ZHU Lin(177)
Heat transfer analysis and numerical simulation of internal spiral continuous copper heat exchanger	
.....	WANG Jin-long, LIU Zhao-liang, CUI Da-wei, YUAN Cheng-dong(185)

材料热处理学报

TRANSACTIONS OF MATERIALS AND HEAT TREATMENT

第 40 卷第 6 期 总第 228 期 2019 年 6 月 25 日(月刊,1980 年创刊)

Vol.40 No.6 June 25, 2019 (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.mhtcn.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:50 元/册,全年:600 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.mhtcn.org

E-mail: clrel@vip.163.com

Code No.: ISSN 1009-6264

CN 11-4545/TG

CODEN:CRXAAK

Annual Rate: 600 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



敬请关注我刊微信公众号,可通过公众号查询稿件处理进度及过刊等。