



ISSN 1005-0299
CODEN CKAOEY

材料科学与工艺

MATERIALS SCIENCE AND TECHNOLOGY



第 28 卷 第 4 期 Vol.28 No.4



0 8>

9 771005 029204

中国材料研究学会 (C-MRS)
哈尔滨工业大学 (HIT)

主办

2020.4

材料科学与工艺

第 28 卷 第 4 期 2020 年 8 月

目 次

- Zn - Al 钎料固相率及组分对 Cu/Al 管磁脉冲 - 半固态复合辅助钎焊接头质量的影响初探
..... 王振东, 黄尚宇, 李佳琪, 黄海川, 高远(1)
- 热轧过程中高纯钴微观组织及织构演变
..... 李震, 宋克睿, 韩彦鹏, 肖柱, 贺昕, 陈志永(8)
- 稀土 Ce 对 Fe - 6.9% Si 钢的弯曲性能与软磁性能的影响
..... 蔡国君, 王粤竹, 黄艳茹, 青勇权(16)
- 稀土铕高分子荧光配合物的制备及性能研究
..... 郑创, 郑果林, 刘帅, 苏青春, 张丹(24)
- 冷却工艺对货油舱用耐蚀钢组织性能的影响
..... 于驰, 王宏岩, 高秀华, 王宏伟(31)
- AZ31B 镁合金带材热轧过程组织均匀性及性能研究
..... 曹东东, 梅瑞斌, 包立, 侯铮, 黄芸(41)
- ECAP 形变对高纯铝微结构及冲击层裂损伤的影响
..... 余其海, 李超, 钟政烨(48)
- 碳纳米管对微胶囊铜复合浆料导电性能的影响
..... 梅超, 屈银虎, 成小乐, 符寒光, 刘晓妮, 何炫, 张学硕, 尚润琪(57)

响应面分析法优化不锈钢激光切割工艺参数

..... 李永亮,王敬,梁强(65)

回转体表面喷射电沉积 Ni - P - ZrO₂复合镀层耐腐蚀性能研究

..... 段双陆,傅秀清,沈莫奇,王清清,马文科(73)

复合材料“T”形长桁压缩性能研究

..... 汤平(82)

薄板焊接变形中频感应矫正技术

..... 刘海华,白云龙,李亮玉,陈豪杰,王力斌(90)

MATERIALS SCIENCE AND TECHNOLOGY

Vol. 28 No. 4 Aug. 2020

CONTENTS

Preliminary study on the influence of solder solid phase rate and composition of Zn - Al filler metal on the quality of magnetic pulse-semisolid hybrid assisted soldering of Cu/Al tubes

..... *WANG Zhendong, HUANG Shangyu, LI Jiaqi, HUANG Haichuan, GAO Yuan(1)*

Microstructure and texture evolution of high purity cobalt during hot rolling

..... *LI Zhen, SONG Kerui, HAN Yanpeng, XIAO Zhu, HE Xin, CHEN Zhiyong(8)*

Effect of Ce on bending properties and soft magnetic properties of Fe - 6.9wt.% Si steel

..... *CAI Guojun, WANG Yuezhu, HUANG Yanru, QING Yongquan(16)*

Preparation and properties of rare earth europium polymer fluorescent complexes

..... *ZHENG Chuang, ZHENG Guolin, LIU Shuai, SU Qingchun, ZHANG Dan(24)*

Effect of cooling process on microstructure and properties of corrosion resistant steel for cargo oil tank

..... *YU Chi, WANG Hongyan, GAO Xiuhua, WANG Hongwei(31)*

Study on the microstructure and properties of AZ31B magnesium alloy strip in hot rolling

..... *CAO Dongdong, MEI Ruibin, BAO Li, HOU Zheng, HUANG Yun(41)*

Effect of ECAP deformation on microstructure and spall damage of high purity aluminum

..... *SHE Qihai, LI Chao, ZHONG Zhengye(48)*

Effect of carbon nanotubes on electrical conductivity of micro-encapsulated copper electron paste

..... *MEI Chao, QU Yinhua, CHENG Xiaole, FU Hanguang,*

LIU Xiaoni, HE Xuan, ZHANG Xueshuo, SHANG Runqi(57)

Optimization of laser cutting process parameters for stainless steel using response surface method

..... *LI Yongliang, WANG Jing, LIANG Qiang(65)*

Study on the corrosion resistance of Ni – P – ZrO₂ composite coating deposited by spray electrodeposition on the surface of rotating body

..... *DUAN Shuanglu, FU Xiuqing, SHEN Moqi, WANG Qingqing, MA Wenke(73)*

Study on compression performance of composite “T” stringer

..... *TANG Ping(82)*

Intermediate frequency induction rectification technology for thin steel plate welding distortion

..... *LIU Haihua, BAI Yunlong, LI Liangyu, CHEN Haojie, WANG Libin(90)*

- 101 – 104.
- ZHOU Yijun, DENG Dean, FENG Ke. Numerical simulation of welding deformation in weld on thin low carbon steel plate [J]. Transactions of the China Welding Institution, 2013, 34(12) :101 – 104.
- [4] BARCLAY C J, CAMPBELL S W, GALLOWAY A M, et al. Artificial neural network prediction of weld distortion rectification using a travelling induction coil[J]. International Journal of Advanced Manufacturing Technology, 2013, 68(1 – 4) : 127 – 140.
DOI: 10.1007/s00170 – 012 – 4713 – z
- [5] 苏绍娟,胡勇,王呈方.船体三维曲面外板成形工艺方法研究进展[J].中国造船,2012,53(2) :211 – 216.
SU Shaojuan, HU Yong, WANG Chengfang. Research progress of three-dimensional plate forming methods for ship hull[J]. Shipbuilding of China, 2012, 53(2) : 211 – 216.
DOI: 10.3969/j. issn. 1000 – 4882. 2012. 02. 026
- [6] 王小龙,陈红亮,何源.感应矫平设备在薄板变形矫正方面的应用[J].广东造船,2015,34(6) :64 – 65,63.
WANG Xiaolong, CHEN Hongliang, HE Yuan. Application of induction flattening equipment in sheet distortion rectification [J]. Guangdong Shipbuilding, 2015, 34(6) : 64 – 65,63.
- [7] 周宏,蒋志勇,罗宇,等.材料热物理性能对高频感应船体曲面弯板成型的影响研究[J].中国造船,2015,56(4) :101 – 108.
ZHOU Hong, JIANG Zhiyong, LUO Yu, et al. Influence of thermal properties of plate on its high-frequency induction bending in forming ship hulls[J]. Shipbuilding of China, 2015, 56(4) : 101 – 108.
- [8] 杨玉龙,张雪彪,刘玉君.船体板高频感应加热的多场耦合数值分析[J].船舶工程,2011,40(6) :24 – 27.
YANG Yulong, ZHANG Xuebiao, LIU Yujun. Numerical analysis of multi-physics coupling for high frequency induction heating of hull plate[J]. Ship & Ocean Engineering, 2011, 40(6) : 24 – 27.
DOI: 10.3963/j. issn. 1671 – 7953. 2011. 06. 007
- [9] 王园武,柳存根,汪学锋.感应线圈参数对钢板温度场的影响及线圈尺寸选取[J].金属热处理,2016,41(4) :178 – 182.
WANG Yuanwu, LIU Cungen, WANG Xuefeng. Influence of induction coil parameter on temperature field of steel plate and choosing of coil size[J]. Heat Treatment of Metals, 2016, 41(4) : 178 – 182.
- DOI: 10.13251/j. issn. 0254 – 6051. 2016. 04. 040
- [10] 孙于,汪友华,杨晓光,等.横向磁通感应线圈结构研究[J].电工技术学报,2014,29(S1) :8 – 14.
SUN Yu, WANG Youhua, YANG Xiaoguang, et al. Research on coil shape for transverse flux induction heating [J]. Transactions of China Electrotechnical Society, 2014, 29(S1) : 8 – 14.
DOI: 10.19595/j. cnki. 1000 – 6753. tces. 2014. s1. 002
- [11] 孙于.横向磁通感应加热器优化与耦合分析方法研究[D].天津:河北工业大学,2014.
SUN Yu. Research on optimal design of transverse flux induction heater and the coupled field analysis method [D]. Tianjin: Hebei University of Technology, 2014.
- [12] 杨燕琴,赵耀,袁华.船体曲面板成型中应变分布的影响参数的分析[J].中国造船,2013,54(2) :85 – 96.
YANG Yanqin, ZHAO Yao, YUAN Hua. Analysis of the parameters affecting strain distribution in forming curved panel of hull [J]. Shipbuilding of China, 2013, 54(2) : 85 – 96.
DOI:10.3969/j. issn. 1000 – 4882. 2013. 02. 011
- [13] 易小开,李亮玉,岳建峰,等.输送管道中频感应加热的磁 – 热耦合仿真[J].金属热处理,2016,41(7) :154 – 158.
YI Xiaokai, LI Liangyu, YUE Jianfeng, et al. Simulation of coupling of electromagnetic and thermal of intermediate frequency induction heating of pipeline[J]. Heat Treatment of Metals, 2016, 41(7) : 154 – 158.
DOI: 10.13251/j. issn. 0254 – 6051. 2016. 07. 037
- [14] 王智祥,王帅,张继祥,等.基于固有应变法的板材高频感应加热热弹性变形研究[J].锻压技术,2014,39(7) :50 – 54.
WANG Zhixiang, WANG Shuai, ZHANG Jixiang, et al. Investigation on thermal elastic-plastic deformation of high frequency induction heating plate based on inherent strain method [J]. Forging & Stamping Technology, 2014, 39(7) : 50 – 54.
DOI: 10.13330/j. issn. 1000 – 3940. 2014. 07. 011
- [15] BAE K Y, YANG Y S, HYUN C M, et al. Derivation of simplified formulas to predict deformations of plate in steel forming process with induction heating [J]. International Journal of Machine Tools and Manufacture, 2008, 48(15) : 1646 – 1652.
DOI: 10.1016/j. ijmachtools. 2008. 07. 007

(编辑 吕雪梅、任明星)

本文引用格式:

- 刘海华,白云龙,李亮玉,等.薄板焊接变形中频感应矫正技术[J].材料科学与工艺,2020,28(4) :90 – 96. DOI:10.11951/j. issn. 1005 – 0299. 20180296
LIU Haihua, BAI Yunlong, LI Liangyu, et al. Intermediate frequency induction rectification technology for thin steel plate welding distortion[J]. Materials Science and Technology, 2020, 28(4) :90 – 96. DOI:10.11951/j. issn. 1005 – 0299. 20180296