

## 金属材料 *Metal Material*

- 预变形对Al-Cu-Mg-(Ag)合金中 $\Omega$ 相析出的影响·····潘嵘嵘, 郑子樵, 廖忠全, 等 41
- Effect of Pre-deformation on  $\Omega$  Phase Precipitation in Al-Cu-Mg-(Ag) Alloy
- 耐热钛合金概述·····黄张洪, 谢英杰, 吕利强, 等 44
- Summary of Characteristics of Heat-resistant Titanium Alloys
- 合金化和组织对Zn合金耐腐蚀性影响的研究进展·····刘敬福, 孟艳, 崔佳, 等 49
- Research Progress of Effect of Alloying and Microstructure on Corrosion Resistance of Zn Alloy
- (Fe-Ni)-B-Y-Nb块体非晶合金的磁性能研究·····陈伟荣, 韩学进, 韩光, 等 12
- Study on Magnetic Properties of (Fe-Ni)-B-Y-Nb Bulk Amorphous Alloys
- 强磁场对硅锰铸钢等温珠光体转变的影响·····赵辉, 周晓玲, 董旭刚, 等 14
- Influence of High Magnetic Field on Isothermal Pearlite Transformation of Si-Mn Casting Steel
- 微合金化钢热送热装过程组织演变研究·····赵军, 唐广波, 项金钟, 等 17
- Study on Microstructure Evolution of Micro-alloyed Steel During Hot Delivery and Hot Charging
- 高能球磨结合放电等离子体烧结制备纳米晶不锈钢材料·····陈文怡, 周建, 杨邵波 21
- Nano Stainless Steel Prepared by High Energy Ball Milling and Spark Plasma Sintering
- 电场诱导Fe-Ti-C体系燃烧合成数学模型及机理研究·····何洪, 张丁非, 杨屹, 等 25
- Research on Mathematic Model and Reaction Mechanism of Fe-Ti-C System Induced by Electric Field
- 电压波形对铁铜铌硅硼非晶薄带磁感应效应的影响·····黄强, 郑国态, 李国臣 28
- Influence of Voltage Waveform on Magnetic Induction Effect of  $Fe_{73.5}Cu_1Nb_3Si_{13.5}B_9$  Amorphous Alloy Ribbons
- GH625合金的热变形行为·····刘志超, 周海涛, 李庆波, 等 31
- Hot Deformation Behaviors of Superalloy GH625
- AH36船板钢热轧过程中再结晶行为的实验研究·····张行刚, 韩锋, 任慧平, 等 36
- Study on Recrystallization Behaviour of AH36 Ship Plate Steel During Hot Rolling
- 600 MPa级低碳微合金高强钢的相变规律研究·····赵显鹏, 王道远, 党军, 等 40
- Study on Phase Transformation Law of 600 MPa High Strength Steel
- 微量Y对Mg-0.6Zr合金阻尼性能和力学性能的影响·····胡斌, 李宁, 颜家振, 等 43
- Effect of Y Content on Damping Capacity and Mechanical Properties of Mg-0.6Zr Alloy
- 加载速率对Q235和1Cr18Ni9力学性能的影响·····万鸣 47
- Effect of Loading Rate on Mechanical Properties of Q235 and 1Cr18Ni9
- 二相粒子的形状对其在钢中作用的影响·····徐荣杰, 张之胜, 严平沅, 等 49
- Influences of Shape of Second Phase Particle on Its Effects in Steel
- 316L高钼不锈钢耐腐蚀性分析·····王东丽, 高磊, 张莹莹, 等 52
- Analysis on Corrosion Resistance for 316L High-Mo Stainless Steel
- 含铌船板钢拉伸试验断口分层研究·····张朝晖, 赵福才, 孙洪利, 等 54
- Study on Layered Fracture of Ship Plate with Nb During Tensile Test
- 调质型高强钢Q690中厚板的研制开发·····张虹, 张炜星, 方晨 57
- Research and Development of Quenching and Tempering High Strength Steel Q690

## 复合材料 *Compound Material*

- TiC<sub>p</sub>增强镁基复合材料热加工图研究·····刘睿, 曹玮, 张从发, 等 59
- Study on Hot Processing Map of TiC<sub>p</sub> Reinforced Mg Matrix Composite
- 电场作用下预设烧结温度对WC-Co体系烧结的影响·····李文波, 杨屹, 刘剑, 等 63
- Effect of Sintering Temperature on Sintering of WC-Co System Under Electric Field
- SiC<sub>p</sub>/AZ61复合材料的高温压缩变形本构方程·····赵龙志, 陈炳辉, 赵明娟, 等 66
- Research on Constitutive Equation of SiC<sub>p</sub>/AZ61 Composite During Hot Deformation

- 铜/碳复合粉末的制备及其静压固化·····郭秀艳, 马国金, 易荣喜, 等 69  
Preparation of Cu/C Composite Powders and Its Static Consolidation
- Ti<sub>3</sub>AlC<sub>2</sub>陶瓷材料的研究进展·····赵卓玲, 冯小明 72  
Research Progress of Ti<sub>3</sub>AlC<sub>2</sub> Ceramics
- 铸渗-原位反应制备WCP/W纤维混杂增强铁基复合材料·····付永红, 牛立斌, 许云华, 等 76  
Preparation of Iron Matrix Composite Hybrid Reinforced with WC Particles and Tungsten Fibers by Cast-penetration and In-situ Method
- 亚共晶铝硅合金自生Mg<sub>2</sub>Si复合材料的显微组织研究·····胥 锴, 刘徽平 80  
Study on Microstructure of In-situ Mg<sub>2</sub>Si Reinforced Hypoeutectic Al-Si Alloy Composite
- 放电等离子烧结法制备三元硼化物基耐磨覆层材料的研究·····金亚旭, 田玉明, 周兴华 83  
Study on Preparation of Ternary Boride Based Wear Resistant Cladding Material by Spark Plasma Sintering
- 内燃机滑动轴承复合材料研究·····董雪飞, 樊文欣, 孙友谊, 等 87  
Research on Sliding Bearing Composite Materials of Engine
- SiC<sub>p</sub>/AZ61复合材料半固态触变成形工艺的数值模拟研究·····郑志刚, 钟 勤, 余筱勤 91  
Study on Numerical Simulation of Semi-solid Thixotropic Forming Process of SiC<sub>p</sub>/AZ61 Composite
- 新型金属-陶瓷耐磨材料的应用研究·····康 乐, 朱维东, 毛 轲, 等 94  
Study on Applications of New Metal-ceramic Wear-resistant Material
- B<sub>4</sub>C/Al复合材料的相及其显微组织的研究·····彭可武, 马贺利, 吴文远, 等 96  
Study on Phase and Microstructure of B<sub>4</sub>C/Al Composite

## 表面改性技术 *Surface Modification Technology*

- 汽车配件铝材微弧氧化工艺研究·····刘远彬 99  
Study on Micro-arc Oxidation Technology of Aluminum in Auto Parts
- 热处理工艺对Ni-P化学镀层硬度的影响·····刘贯军, 徐尧锋, 王帅兵, 等 103  
Effect of Heat Treatment Process on Hardness of Chemical Plating Ni-P
- 高合金钢管穿孔顶头氧化工艺研究·····王 萍, 黄贞益, 王光朋 106  
Study on Oxidation Process for Piercing Plug Made of High-alloy Steel
- 热锻模膛等离子喷涂-重熔和喷焊制备Ni60-SiC涂层的实验研究·····王华昌, 汪 潇, 邹庆强 110  
Research on Ni60-SiC Coating on Surface of Hot Forging Die Prepared by Plasma Spraying-plasma Re-melting and Plasma Spray Welding
- Cu-1.0Cr-0.2Zr合金的时效析出研究·····温盛发, 周海涛, 刘克明, 等 113  
Study on Microstructure and Properties of Aging Cu-1.0Cr-0.2Zr Alloy
- 离子注入AZ91镁合金表面结构和耐蚀性能研究·····林 波, 刘洪喜, 曾维华, 等 117  
Study on Surface Structure and Corrosion Resistance of AZ91 Alloy After Injecting Ion
- 涂层受冲击载荷作用下的性能研究·····彭如恕, 欧阳敏玲, 樊湘芳 120  
Study on Properties of Coating Under Shock Load
- 连续抽油杆热反应表面防腐研究·····门晓微, 孙永兴, 黄万群, 等 123  
Study on Surface Hot Reaction for Corrosion Resistance of Continuous Sucker Rod
- 热镀锌助镀剂低浓度双氧水除铁工艺研究·····刘福燕, 何明奕, 赵晓军 126  
Study on Process of Removing Ferric Ions from Prefluxing of Hot-dip Galvanizing with Low-concentration Hydrogen Peroxide
- NaOH加入量对AZ91D镁合金微弧氧化单位能耗和膜层质量影响·····姚晓菊, 樊康乐, 王 瑶, 等 129  
Effect of NaOH Addition in Electrolyte on Power Consumption and Film Quality of Micro-arc Oxidation Coatings Formed on AZ91D Alloys
- 铸造铝合金化学镀Ni-Cu-P性能研究·····任 鑫, 初 鑫 132  
Study on Properties of Electroless Ni-Cu-P Coating on Al Alloy As-cast
- 等离子喷涂Ni基WC涂层的组织与性能研究·····王 敏, 王海东 134  
Study on Microstructure and Properties of Ni-based WC Coating Prepared by Plasma Spraying
- 高速火焰喷涂Ni60B涂层抗蚀性能研究·····刘晓明, 董俊慧, 徐润生, 等 137  
Study on Corrosion Resistance of Ni60B Coating Prepared by High Velocity Flame Spraying

读者若发现本刊有印刷、装订质量问题, 请寄回编辑部调换。

### 表面改性技术 *Surface Modification Technology*

- TA2钛合金表面激光熔覆Ni60涂层的研究 ..... 吴宏亮, 王文先, 崔泽琴, 等 140  
 Study on Ni60 Coatings on TA2 Alloy Substrate by Laser Cladding  
 镍基碳纳米管复合镀层的制备及耐腐蚀性的研究 ..... 秦亚伟, 孙永兴, 龚魏伟, 等 144  
 Study on Preparation and Corrosion Resistance of Ni-carbon Nano-tubes Compound Coating

### 热处理技术 *Heat Treatment Technology*

- 20CrMnTi钢超饱和渗碳工艺的研究 ..... 石巨岩, 于静, 田晓青, 等 147  
 Study on Supersaturated Carburization Process for 20CrMnTi Steel  
 铸造硅黄铜的热处理工艺研究 ..... 周世杰 150  
 Study on Heat Treatment Technology for Casting Silicon Brass  
 调整处理对沉淀硬化不锈钢组织和性能的影响 ..... 陈国辉, 张小聪, 刘江文, 等 152  
 Effect of Adjusting Treatment on Microstructure and Properties of Precipitation-hardening Stainless Steel  
 固溶处理对MX246A合金持久性能的影响 ..... 王建涛, 骆合力, 李尚平, 等 153  
 Effect of Solution Treatment on Stress Rupture Property of MX246A Alloy  
 热处理次数对16MnR钢焊接接头强度和微观组织的影响 ..... 宫艳斌, 高嵩, 闫风琴, 等 159  
 Effect of Multi-heat-treatment on Microstructure and Strength of Welded Joint of 16MnR Steel  
 Zr含量对高纯铜锻件热处理工艺及性能的影响 ..... 李学浩, 徐玉松, 孙爱俊 162  
 Effect of Zr Content on Heat Treatment Process and Properties of High Purity Copper Forge Piece  
 回火对30CrNiWV钢及焊接接头性能的影响 ..... 马拯, 贺永海, 吴军 167  
 Influence of Tempering on Properties of 30CrNiWV Steel and Welded Joint  
 大型筒体零件焊后固溶处理的变形控制 ..... 周文凤, 李昌安, 李洪卫 169  
 Deformation Controlling of As-welded Large-sized Cylinder by Solution Treatment  
 提高2Cr13马氏体不锈钢疲劳强度的工艺研究 ..... 李明珠, 赵云龙 171  
 Study on Improving Fatigue Strength Technology of 2Cr13 Martensitic Stainless Steel  
 40CrNi2Mo钢中频淬火后组织和性能的研究 ..... 黄晓夏, 张伟强, 张世英, 等 173  
 Study on Microstructure and Properties of 40CrNi2Mo Steel After Medium Frequency Quenching  
 滚丝模热处理工艺的研究 ..... 汪新衡, 唐明华 176  
 Study on Heat Treatment Process of Rolling Die  
 38CrMoAlA钢的表面激光相变硬化层组织分析 ..... 代永朝, 陈宜参, 王东锋 178  
 Analysis on Microstructural of 38CrMoAlA Steel Surface-hardened by Laser Phase Transformation  
 钢丝连续退火的数学模拟及PLC控制 ..... 范永哲, 胡帅显, 曹晓明, 等 181  
 Mathematical Simulation and PLC Control for Wire-line Continuous Annealing  
 热处理消除Q235钢焊接残余应力的研究 ..... 王国庆, 孙超, 闫萍 184  
 Study on PWHT Relieved Welding Residual Stress of Q235 Steel  
 离子渗氮-渗硫对Ti-6Al-4V复合渗层组织与性能的影响 ..... 王利捷, 王红波, 杨军胜 186  
 Effect of Plasma Nitriding-sulfurizing on Structure and Property of Ti-6Al-4V Composite Layer

### 失效分析 *Failure Analysis*

- 高压油管断裂失效分析 ..... 张耀丰, 师红旗, 丁毅, 等 189  
 Analysis on Fracture Failure of High Pressure Fule Tube  
 安全阀弹簧断裂失效分析 ..... 马李洋, 师红旗, 丁毅, 等 191  
 Failure Analysis of Fracture for Safety Valve Spring  
 某型牵引车后半轴断裂失效分析 ..... 李晓鹏, 李明珠, 魏红军 194  
 Analysis on Fracture Failure of Rear Semi-axle of Certain Type Tractor  
 TA15钛合金管材开裂失效分析 ..... 杨胜, 李莹, 何玉怀, 等 196  
 Failure Analysis of Cracking of Ta15 Titanium Alloy Pipe