

目 次

结构材料

- 镁合金纯净化研究新进展 吴国华, 孙 明, 王 玮, 丁文江(1021)
往复挤压 Mg-4Al-2Si 合金的高温拉伸性能 郭学锋, 杨文朋, 宋佩维(1032)
Nd 在挤压态 AZ31 镁合金中的行为及作用 李明照, 王 帅, 王跃琪, 李 琦, 许并社(1039)
浇注温度对自孕育铸造法制备 AM60 镁合金半固态浆料的影响(I)

- 李元东, 杨 建, 马 颖, 曲俊峰, 张 鹏(1046)
铸造 Mg-3Zn-1.5Cu-0.6Zr 镁合金的时效硬化及析出相 李爱文, 刘江文, 伍翠兰, 罗承萍, 焦东玲, 朱红梅(1053)
钙与电磁搅拌对 Mg-Li-Al 合金微观组织和力学性能的影响 郝 海, 姚 磊, 谷松伟, 马蕾娟, 张兴国(1060)
钕添加及铸锭均匀化退火对 ZK20 镁合金组织与性能的影响 赵亚忠, 潘复生, 彭 建(1069)
原位合成 $Mg_2Si/Mg-2Al-Zn-2Gd$ 复合材料的微观组织与断裂行为 王旭东, 杜文博, 王朝辉, 李淑波(1075)
Al-Mg-Sc-Zr 合金中初生相的析出行为 杜 刚, 杨 文, 闫德胜, 戎利建(1083)
拉伸与轧制预变形对 2519A 铝合金组织与力学性能的影响 张新明, 刘 玲, 贾寓真(1088)
固溶处理对 7150 铝合金组织和力学性能的影响

- 韩小磊, 熊柏青, 张永安, 李志辉, 朱宝宏, 王 锋, 刘红伟(1095)
均匀化对 7050 铝合金板材淬火敏感性的影响 刘文军, 张新明, 刘胜胆, 周新伟(1102)
轨道交通车辆大型材用 7005 铝合金的热处理特性 王正安, 汪明朴, 李 周, 杨文超, 肖从文(1110)
TiAl 基合金高温氧化及防护的研究进展 彭小敏, 夏长清, 王志辉, 黄 珍, 王金惠(1116)
应变速率对 TP-650 钛基复合材料拉伸力学行为的影响 李 伟, 宋卫东, 宁建国, 毛小南(1131)
Ti-6Al-4V 表面等离子合金层中渗 Mo 的扩散系数 李 哲, 秦 林, 马连军, 范爱兰, 张万祯, 唐 宾(1137)
铁基高温合金氧化物强化相的形成和演化 刘东华, 刘 咏, 韩云娟, 刘祖铭(1143)
Super-Ni 叠层复合材料与 18-8 钢 TIG 焊接头区的显微组织 夏春智, 李亚江, U.A. Puchkov, 王 娟(1149)

功能材料

锂离子电池用金属锡电沉积层的储锂性能

- 王慧娟, 方文斌, 王建明, 万 辉, 沈 宸, 张鉴清, 曹楚南(1155)
喷砂工艺对钛阳极表面形貌、电催化活性和寿命的影响 姜俊峰, 孟惠民, 孙冬柏(1161)
层状 $LiNi_{1/3}Co_{1/3}Mn_{1/3}O_2$ 正极材料的多元掺杂改性 禹筱元, 胡国荣, 刘业翔(1170)

- 电沉积 Ni-P/纳米 Al₂O₃复合镀层的摩擦磨损与耐铝液侵蚀性能.....彭成章,朱玲玲(1177)
锂离子电池正极材料 LiMnO₂ 的表面修饰及电化学性能.....粟 智,翁之望,申 重(1183)
钎焊时效过程中化学镀 Ni-P 与 Sn-3.5Ag 的界面反应.....黄明亮,柏冬梅(1189)
生物医用 Ti-Nb-(Ta)-Zr 合金的微观结构与性能.....马秀梅,孙 威,杨永建(1195)
纳米羟基磷灰石的精氨酸表面修饰及其与基因的结合性能
.....赵颜忠,朱晒红,谭 娟,黄艳艳,李志友,周科朝(1203)
铝/镀银层/钢的扩散钎焊及界面化合物的生长行为.....吴铭方,司乃潮,陈 健(1209)
FAPAS 制备以微晶 Ni₃Al 为中间层的金属基功能梯度材料.....陈少平,刘泽峰,张 楠,薛鹏飞,孟庆森(1214)
掺杂 TEOS 的 YAG 透明陶瓷相转变、烧结及微观组织.....吕光哲,孙旭东(1220)

矿业工程 · 冶金工程 · 化学与化工

- 钠盐对高铝褐铁矿还原焙烧铝铁分离的影响.....姜 涛,刘牡丹,李光辉,孙 娜,曾精华,邱冠周(1226)
不同菌种对雌黄的生物浸出机理.....袁秋红,王跃虎,张广积,罗志雄,杨 超(1234)
溶胶-凝胶法制备 SiO₂包覆型水性铝粉.....瞿晓岳,朱宏伟,谢 辉,陈振兴(1241)

责任编辑: 杨 华, 龙怀中, 李艳红

[期刊基本参数] CN43—1238/TG*1991*m*A4*226*zh*P*¥40.0*1400*32*2010-06

The Chinese Journal of Nonferrous Metals
(ZHONGGUO YOUSE JINSHU XUEBAO)

Vol.20 No.6

(Sum 135)

June 2010

CONTENTS

Structural Materials

- New research development on purification technology of magnesium alloys WU Guo-hua, SUN Ming, WANG Wei, DING Wen-jiang(1021)
- Elevated temperature tensile properties of Mg-4Al-2Si alloy prepared by reciprocating extrusion GUO Xue-feng, YANG Wen-peng, SONG Pei-wei(1032)
- Behavior and effect of Nd in as-extruded AZ31 magnesium alloy LI Ming-zhao, WANG Shuai, WANG Yue-qi, LI Cong, XU Bing-she(1039)
- Effect of pouring temperature on AM60 Mg alloy semi-solid slurry prepared by self-inoculation method (I) LI Yuan-dong, YANG Jian, MA Ying, QU Jun-feng, ZHANG Peng(1046)
- Age-hardening behavior and precipitates of as-cast Mg-3Zn-1.5Cu-0.6Zr Mg alloy LI Ai-wei, LIU Jiang-wen, WU Cui-lan, LUO Cheng-ping, JIAO Dong-ling, ZHU Hong-mei(1053)
- Effects of Ca and electromagnetic stirring on microstructures and mechanical properties of Mg-Li-Al alloys HAO Hai, YAO Lei, GU Song-wei, MA Lei-juan, ZHANG Xing-guo(1060)
- Effects of Nd addition and homogenizing annealing of ingot on microstructure and properties of ZK20 Mg alloy ZHAO Ya-zhong, PAN Fu-sheng, PENG Jian(1069)
- Microstructure and fracture behavior of in-situ synthesized Mg₂Si/Mg-2Al-Zn-2Gd composite WANG Xu-dong, DU Wen-bo, WANG Zhao-hui, LI Shu-bo(1075)
- Precipitation behaviors of primary phases in Al-Mg-Sc-Zr alloy DU Gang, YANG Wen, YAN De-sheng, RONG Li-jian(1083)
- Effects of stretching and rolling pre-deformation on microstructures and mechanical properties of 2519A aluminum alloy ZHANG Xin-ming, LIU Ling, JIA Yu-zhen(1088)
- Effect of solution treatment on microstructures and mechanical properties of 7150 aluminum alloy HAN Xiao-lei, XIONG Bai-qing, ZHANG Yong-an, LI Zhi-hui, ZHU Bao-hong, WANG Feng, LIU Hong-wei(1095)
- Effect of homogenization on quenching sensitivity of 7050 aluminum alloy plates LIU Wen-jun, ZHANG Xin-ming, LIU Sheng-dan, ZHOU Xin-wei(1102)
- Heat treatment characteristic of 7005 Al alloy employed in railway trains WANG Zheng-an, WANG Ming-pu, LI Zhou, YANG Wen-chao, XIAO Cong-wen(1110)
- Development of high temperature oxidation and protection of TiAl-based alloy PENG Xiao-min, XIA Chang-qing, WANG Zhi-hui, HUANG Zhen, WANG Jin-hui(1116)
- Effect of strain rate on tensile mechanical behavior of TP-650 titanium matrix composite LI Wei, SONG Wei-dong, NING Jian-guo, MAO Xiao-nan(1131)
- Diffusion coefficient of molybdenum in alloying layer on Ti-6Al-4V by plasma surface alloying technique LI Zhe, QIN Lin, MA Lian-jun, FAN Ai-lan, ZHANG Wan-zhen, TANG Bin(1137)
- Formation and evolution of oxide strengthening phase in iron-based superalloy LIU Dong-hua, LIU Yong, HAN Yun-juan, LIU Zu-ming(1143)
- Microstructure of welding zone of super-Ni laminated composite and 18-8 steel TIG joint XIA Chun-zhi, LI Ya-jiang, U.A. Puchkov, WANG Juan(1149)

Functional Materials

- Lithium storage performance of electrodeposited tin coatings as electrode material for lithium-ion battery WANG Hui-juan, FANG Wen-bin, WANG Jian-ming, WAN Hui, SHEN Chen, ZHANG Jian-qing, CAO Chu-nan(1155)
- Effect of sand-blasting pretreatment on surface morphology, electrocatalytic activities and service life of Ti/IrO₂·Ta₂O₅ anodes JIANG Jun-feng, MENG Hui-min, SUN Dong-bai(1161)
- Modification of layered LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂ cathode materials with doping multiple components YU Xiao-yuan, HU Guo-rong, LIU Ye-xiang(1170)
- Tribological properties and erosion resistance of electroplated Ni-P/nano-Al₂O₃ composite coatings to aluminum liquid PENG Cheng-zhang, ZHU Ling-ling(1177)
- Surface modification and electrochemical properties of LiMnO₂ as cathode materials for lithium-ion batteries SU Zhi, WENG Zhi-wang, SHEN Zhong(1183)
- Interfacial reactions between Sn-3.5Ag solder and electroless Ni-P during soldering and aging HUANG Ming-liang, BAI Dong-mei(1189)
- Microstructures and properties of biomedical Ti-Nb-(Ta)-Zr alloys MA Xiu-me, SUN Wei, YANG Yong-jian(1195)
- Arginine modification and gene binding property of hydroxyapatite nanoparticles ZHAO Yan-zhong, ZHU Shai-hong, TAN Juan, HUANG Yan-yan, LI Zhi-you, ZHOU Ke-chao(1203)
- Diffusion brazing of Al/Ag plating layer/steel and growth behavior of interface compound WU Ming-fang, SI Nai-chao, CHEN Jian(1209)
- Functionally graded materials based on metallic substrate with media layer of fine Ni₃Al prepared by FAPAS CHEN Shao-ping, LIU Ze-feng, ZHANG Nan, XUE Peng-fei, MENG Qing-sen(1214)
- Phase transformation, sintering and microstructures of transparent YAG ceramics doping TEOS LÜ Guang-zhe, SUN Xu-dong(1220)

Mine Engineering, Metallurgical Engineering, Chemistry and Chemical Engineering

- Effects of sodium-salt on Al-Fe separation by reduction roasting for high-aluminum content limonite JIANG Tao, LIU Mu-dan, LI Guang-hui, SUN Na, ZENG Jing-hua, QIU Guan-zhou(1226)
- Bioleaching mechanism of orpiment with different bacteria strains YUAN Qiu-hong, WANG Yue-hu, ZHANG Guang-ji, LUO Zhi-xiong, YANG Chao(1234)
- Waterborne aluminum powders coated with SiO₂ by sol-gel method QU Xiao-yue, ZHU Hong-wei, XIE Hui, CHEN Zhen-xing(1241)

(Managing Editors: YANG Hua, LONG Huai-zhong, LI Yan-hong)