

1978年创刊 全国中文核心期刊 中国科技核心期刊

ISSN 1004-244X

CN 33-1331/TJ

兵器材料科学与工程

Ordnance Material Science and Engineering

中国兵工学会 中国兵器工业集团第五二研究所 主办



2022
第45卷

3

目次

试验研究

基于BP神经网络的力学行为模型构建方法	李孟奇,屈美娇,何卫锋,庞智聪,季佳余(1)
Ni-Al ₂ O ₃ 复合镀层的组织及摩擦性能研究	冯松峰,刘冬梅(8)
氧化铈颗粒对铝合金阳极氧化膜性能的影响	赵刚,张伟华,赵铭涛(14)
连接工艺对铝合金搭接结构力学性能影响	回丽,李东澎,安金岚,崔浩,王坤宇(20)
柠檬酸钠对45钢锌锰系磷化膜耐蚀性能的影响	刘贵敏(25)
增强体表面镀钛对TiC/TC4复合材料耐磨性的影响	赵彦文,闫华(30)
铸坯斜轧穿孔制备大口径TA31钛合金无缝管材	张浩泽,余堃,钟海,姜浩(35)
热处理温度对6082铝合金焊接接头性能的影响	陈国宁,唐延川(41)
建筑用6063铝合金涂层耐腐蚀性能研究	孔艳丽(46)
热处理工艺对HHD模具钢复合材料耐腐蚀性能的影响	程丹,湛磊(51)
钨、石墨阴极等离子弧制备碳纳米管	张勇,葛泽龙,蔡秀玲(56)
纳米TiO ₂ 对TC4微弧氧化膜结构和性能的影响	王红杰,杨晓禹,吴瑜,陈刚,刘凯,钱坤明(61)
真空热处理对NiCrAlY涂层耐腐蚀性的影响	魏旭敏,杨德明,蔡林,魏宇廷,高阳(66)
异种铝合金铆接接头腐蚀疲劳行为研究	武永寿,韩晓辉,徐智宝,李刚卿,谈雅群,梁景恒,郑自芹(71)
喷射沉积Al-Zn-Mg-Cu合金挤压杯形件组织和性能研究	闫发发,杜喜望,李树昌,郭维敏,胡文硕,韩震,陈伟,郑顺奇(76)
汽车控制臂锻坯结构与浇注系统优化	胡文硕,郑顺奇,陈刚,闫发发,杨晓禹,王琛(81)
复合除气对Al-Mg-Si系铝合金除气净化效果的影响	宋运坤,曹召勋,王荫洋,王军,徐永东,陈小虎,邵志文,赵枢明,朱秀荣(87)
A356铝合金车轮Undercut减质量结构制造工艺及验证	阿拉腾,吴玲,董国疆,陈德胜,王柱兴(92)
异种铝合金MIG焊接接头的疲劳破坏行为	郑自芹,徐智宝,张文亮,张大江,梁景恒,张中东,王萌,于壮壮(99)

新型高密度高强度含钨钢的组织与性能 潘 磊,王 琳,刘安晋,程兴旺(104)

钛合金蜂窝结构抗冲击性能仿真与试验研究 田丰福,金忠庆(110)

理化检测、失效分析

煤矿设备用齿轮油中煤粉含量的检测方法 刘显贵,周俊丽(114)

风机叶片根部42Cr螺栓材料扭转失效研究 蒲 珉,何建军,揭 军,陈 标,曾子竞,程庆阳(119)

热轧带肋钢筋焊接接头断裂失效分析 韩焜焜,韩晶晶(124)

信 息

《兵器材料科学与工程》采编平台(24)·致谢本期审稿专家(55)

CONTENTS

Construction method of mechanical behavior model based on BP neural network

..... LI Mengqi, QU Meijiao, HE Weifeng, PANG Zhicong, JI Jiayu (1)

Microstructure and tribological properties of Ni-Al₂O₃ composite coating deposited by magnetic field pulse electrodeposition

..... FENG Songfeng, LIU Dongmei (6)

Effect of cerium oxide particles on properties of anodic oxide films on aluminum alloy ... ZHAO Gang, ZHANG Weihua, ZHAO Mingtao (14)

Effect of connection process on mechanical properties of aluminum alloy lap structure

..... HUI Li, LI Dongpeng, AN Jinlan, CUI Hao, WANG Kunyu (20)

Effect of sodium citrate on corrosion resistance of zinc-manganese phosphating films on 45 steel LIU Guimin (25)

Effect of titanium plating on the surface of reinforcement on wear resistance of TiC/TC4 composites ZHAO Yanwen, YAN Hua (30)

Preparation of large-diameter TA31 titanium alloy seamless pipe by directly cross rolling and perforating casting blanks

..... ZHANG Haoze, YU Kun, ZHONG Hai, JIANG Hao (35)

Effect of heat treatment temperature on welding joint properties of 6082 aluminum alloy CHEN Guoning, TANG Yanchuan (41)

Study on corrosion resistance of coating on 6063 aluminum alloy used for building KONG Yanli (46)

Effect of heat treatment process on corrosion resistance of HHD die steel composites CHENG Dan, SHEN Lei (51)

Preparation of carbon nanotubes by plasma arc with tungsten and graphite cathode ZHANG Yong, GE Zelong, QI Xiuling (56)

Effect of nano-TiO₂ on the structure and properties of TC4 micro arc oxidation coating

..... WANG Hongjie, YANG Xiaoyu, WU Yu, CHEN Gang, LIU Kai, QIAN Kunming (61)

Effects of vacuum heat treatment on corrosion resistance of NiCrAlY coating

..... WEI Xumin, YANG Deming, CAI Lin, WEI Yuting, GAO Yang (66)

Corrosion fatigue behavior of dissimilar aluminum alloy rivet joints

..... WU Yongshou, HAN Xiaohui, XU Zhibao, LI Gangqing, TAN Yaqun, LIANG Jingheng, ZHENG Ziqin (71)

Microstructure and properties of spray deposited Al-Zn-Mg-Cu alloy extruded cup-shaped part

..... YAN Fafa, DU Xiwang, LI Shuchang, GUO Weimin, HU Wenshuo, HAN Zhen, CHEN Wei, ZHENG Shunqi (76)

Optimization of forging billet structure and gating system of automobile control arm

..... HU Wenshuo, ZHENG Shunqi, CHEN Gang, YAN Fafa, YANG Xiaoyu, WANG Rou (81)

Effect of multistage degassing on degassing and purification of Al-Mg-Si aluminum alloy

SONG Yunkun, CAO Zhaoxun, WANG yinyang, WANG jun, XU Yongdong, CHEN Xiaohu, SHAO Zhiwen, ZHAO Shuming, ZHU Xiurong (87)

Manufacturing process and verification of Undercut structure of A356 aluminum alloy wheel

..... A Lateng, WU Ling, DONG Guojiang, CHEN Desheng, WANG Zhuxing (92)

Fatigue and fracture behavior of MIG welded joint of dissimilar aluminum alloys

ZHENG Ziqin, XU Zhibao, ZHANG Wenliang, ZHANG Dajiang, LIANG Jingheng, ZHANG Zhongdong, WANG Meng, YU Zhuanzhuang (99)

Microstructure and properties of novel high density and high strength tungsten steel
..... PAN Lei, WANG Lin, LIU Anjin, CHENG Xingwang(104)

Simulation and test of impact resistance of titanium alloy honeycomb structure TIAN Fengfu, JIN Zhongqing(110)

Research on method of determination on coal powder content in gear oil for equipment used in coal mine ... LIU Xiangui, ZHOU Junli(114)

Research on torsion failure of 42Cr bolt material at fan blade root
..... PU Min, HE Jianjun, JIE Jun, CHEN Biao, ZENG Zijing, CHENG Qingyang(119)

Fracture failure analysis of welded joint of hot rolled ribbed rebar HAN Kunkun, HAN Jingjing(124)