

目次

□综述

工程陶瓷磨削加工损伤及其抑制关键技术研究进展····· 严 灿 刘 伟 邓朝晖 吕黎曙 卓荣锦(1)

□计算材料学

钛合金钻削轴向力预测模型与实验研究····· 徐建新 王吉远 刘礼平 邓国杰 刘德隆(15)

人工软骨仿生材料缓震吸能性能的实验与数值研究····· 刘一然 刘志鹏 季长程 袁定新 姜 林(24)

□新材料新工艺

Al-50wt% Si合金钻削孔壁形貌与棱边缺陷实验研究····· 牛秋林 王星华 张深圳 荆 露(31)

不同SiC颗粒本构模型在SiC_p/Al复合材料切削仿真中的应用·····
····· 林洁琼 孟繁昊 卢明明 杜永盛 高 强(38)

基于DMDMS/VTMS共前驱体法制备柔性硅基气凝胶····· 吕红丽 罗丽娟 郑振荣 李红晨 赵晓明(44)

原料对比对酚醛气凝胶结构和性能的影响····· 郑振荣 吕红丽 罗丽娟 李红晨 郑柳春(52)

高回弹有机硅改性聚酰亚胺泡沫材料的设计及性能····· 徐 阳 王延东 徐昊成 袁 锴(59)

无人机超轻碳纤维复合材料结构件成型技术研究····· 孔 娜 王增加 王希杰 王 华 师 慧(65)

机织复合材料变曲率薄壳件固化特性分析····· 姚文标 牛雪娟(71)

0Cr17Ni4Cu4Nb与3Cr19Ni9Mo2N不锈钢带激光焊接接头组织及性能·····
····· 郭晨亮 武婧亭 焦云雷 薛江红(78)

□测试分析

50CrVA弹簧断裂机理及预防····· 王 影 马兆庆 袁建宇 逢锦程 韩 露(85)

一种金属增材结构中微缺陷的工业CT检测灵敏度验证方法····· 孟 嘉 肖 鹏(91)

碳纤维增强环氧树脂复合材料的紫外老化及寿命预测····· 周飞宇 时中猛 邹 超 赵建平(98)

羧基亚硝基氟橡胶在液相四氧化二氮中的老化行为····· 李少范 苏允兰 张 欢 许 文 赵 莹(105)

□工程实践

活塞环自由形状曲线及校形工艺的研究····· 唐 帅 贺飞飞 陈 勇 杨睿萌 朱 志(113)

钛合金钻削的刀具断屑槽设计与钻削仿真····· 熊德山 李鹏南 李树健 邱新义 李常平(119)

基于镜像铣削加工的飞机蒙皮残余应力与诱导变形分析·····
····· 高秋阁 张立强 钱 枕 杨 杰 辜 茂(129)

湿热环境对铝蜂窝夹层复合材料性能的影响····· 郑国栋 郭子民 李桂洋 李伟明 肖 瑛(136)

□信息

《宇航材料工艺》征订启示····· (51)

本期责任编辑 任涛

英文编辑 雷琴

版权声明:版权所有,未经许可不得转载

AEROSPACE MATERIALS & TECHNOLOGY
YUHAN CAILIAO GONGYI

(Bimonthly)

(Starting Publication in 1971)

ISSN 1007-2330
CN 11-1824/V

Vol.54 No.6 December 2024 (Series No.316)

CONTENTS

Research Progress on Key Technologies for Grinding Damages Suppression in Engineering Ceramics YAN Can LIU Wei DENG Zhaohui LV Lishu ZHUO Rongjin(1)

Research on Prediction Model and Experiment of Axial Drilling Force in Drilling Titanium Alloy XU Jianxin WANG Jiyuan LIU Liping DENG Guojie LIU Delong(15)

Experimental and Numerical Study on Cushioning and Energy Absorption Properties of Artificial Cartilage Biomimetic Material LIU Yiran LIU Zhipeng JI Changcheng YUAN Dingxin JIANG Lin(24)

Experimental Study on Drilling Hole Wall Morphology and Edge Defects of Al-50wt% Si Alloy NIU Qiulin WANG Xinghua ZHANG Shenzheng JING Lu(31)

Application of Different SiC Particle Constitutive Models in Cutting Simulation of SiCp/Al Composites LIN Jieqiong MENG Fanhao LU Mingming DU Yongsheng GAO qiang(38)

Preparation of Flexible Silicon-based Aerogels by DMDMS / VTMS Co-precursor Method LV Hongli LUO Lijuan ZHENG Zhenrong LI Hongchen ZHAO Xiaoming(44)

Effects of Material Composition on Structure and Properties of Phenolic Aerogel ZHENG Zhenrong LV Hongli LUO Lijuan LI Hongchen ZHENG Liuchun(52)

Design and Properties of High Resilience Silicone Modified Polyimide Foam Materials XU Yang WANG Yandong XU Haocheng XI Kai(59)

Research on Molding Technology of Ultra-light Carbon Fiber Composites Parts for UAV KONG Na WANG Zengjia WANG Xijie WANG Hua SHI Hui(65)

Analysis of Curing Characteristics of Thin Shell Woven Composites With Variable Curvature YAO Wenbiao NIU Xuejuan(71)

Microstructure and Properties of 0Cr17Ni4Cu4Nb and 3Cr19Ni9Mo2N Stainless Steel Joint With Laser Welding GUO Chenliang WU Jingting JIAO Yunlei XUE Jianghong(78)

Failure Analysis of 50CrVA Spring and Precautions WANG Ying MA Zhaoqing YUAN Jianyu PANG Jincheng HAN Lu(85)

A Sensitivity Verification Method of Industrial CT Detection for Micro-defects in Metal Additive Manufacturing Structures MENG Jia XIAO Peng(91)

UV Aging and Life Prediction of Carbon Fiber Reinforced Epoxy Resin Composites ZHOU Feiyu SHI Zhongmeng ZOU Chao ZHAO Jianping(98)

Study on Aging Behavior of Carboxy Nitroso Fluororubber in Liquid Dinitrogen Tetroxide LI Shaofan SU Yunlan ZHANG Huan XU Wen ZHAO Ying(105)

Research on Free Shape Curve of Piston Ring and Correction Process TANG Shuai HE Feifei CHEN Yong YANG Ruimeng ZHU Zhi(113)

Tool Chip Breaker Design and Drilling Simulation for Titanium Drilling XIONG Deshan LI Pengnan LI Shujian QIU Xinyi LI Chanping(119)

Analysis of Residual Stress and Induced Deformation of Aircraft Skin Based on Mirror Milling GAO Qiuge ZHANG Liqiang QIAN Long YANG Jie GU Mao(129)

Effect of Humid and Hot Environment on Properties of Aluminum Honeycomb Sandwich Composites ZHENG Guodong GUO Zimin LI Guiyang LI Weiming NAN Xun(136)