

目次

综合评述



有机硅对环氧树脂涂层的改性研究与应用进展·····	张子昂 李 欢 郑少梅 等	1
火电领域激光熔覆金属防护涂层的研究与应用进展·····	胡 涵 徐金勇 吴多利 等	18
国内外航天器超黑消杂光涂层的研制现状及产业启示·····	张 北 张家强 张 东 等	31

研究论文



热镀锌表面超疏水膜层构筑及其耐腐蚀性能研究·····	曾连连 常 强 钟细明 等	40
AMT/ Na_2MoO_4 /EDTA有机-无机体系对带锈青铜的复效缓蚀作用研究·····	江 澜 和天逸 董文强 等	49
Q235和Q345钢在武汉大气环境中24个月的腐蚀行为·····	余建飞 陈志坚 张 明 等	56
铜-石墨自润滑材料与不同表面处理的对磨件配副的摩擦学行为研究·····	曹爱军 井慧哲 刘代平等	64
不同温度下CF/PPESK复合材料吸湿老化行为有限元分析·····	李昱鹏 佟 野 雷明凯	75
超声冲击对 $\text{Al}_2\text{FeCoNiCrW}_{0.5}$ 高熵合金涂层摩擦磨损性能的影响·····	张 冲 李庆达 郭建永 等	82
甘氨酸衍生物缓蚀剂的合成与性能研究·····	郭强强 赵海燕 石春杰	89
高功率脉冲磁控溅射制备TiN和TiAlSiN纳米涂层的腐蚀磨损性能·····	车智强 闫 旺 鄧 毅 等	97
超声滚压道次对AZ31B镁合金拉-拉疲劳性能的影响规律研究·····	孙幸子 李顺龙 陈庆强 等	103
核废处理回转煅烧炉用高温合金氧化行为研究·····	王 琴 王成旭 刘仲礼	109
交流输电线路对埋地管道的耦合干扰规律数值模拟研究·····	赵雅蕾 陈 炜 程 伟 等	116

应用技术



Al-Zn-In-Sn-Mg系五元铝基牺牲阳极材料在油田采出水中的性能研究 ·····	孙 良 韩鹏岳 曹燕燕 等	125
试片状态及环境因素对管道交流干扰测试影响规律研究·····	梁 栋 胡绍磊 郑宇恒 等	134
排水采气井场工艺管道腐蚀失效分析·····	宋成立 宁长春 方 艳 等	141
1100铝板阳极氧化过程中白条缺陷成因的研究分析·····	杨书瑜 朱冉冉 陈雨楠 等	149

Contents

//// Reviews



- Research and Application Progress of Silicone-Modified Epoxy Resin Coatings
ZHANG Ziang, LI Huan, ZHENG Shaomei, et al 1
- Research and Application Progress of Laser Cladding Metal Protective Coatings in the Thermal Power Field
HU Han, XU Jinyong, WU Duoli, et al 18
- Research Status and Industrial Enlightenment of Ultra-Black Coatings for Eliminating Stray Light in Spacecrafts at Home and Abroad.....ZHANG Bei, ZHANG Jiaqiang, ZHANG Dong, et al 31

//// Research Articles



- Construction of Superhydrophobic Coatings on Hot-Dip Galvanized Surface and Its Corrosion Resistance Properties.....ZENG Lianlian, CHANG Qiang, ZHONG Ximing, et al 40
- Synergistic Corrosion Inhibition Effect of AMT/Na₂MoO₄/EDTA Organic-Inorganic System on Rusted Bronzes
JIANG Lan, HE Tianyi, DONG Wenqiang, et al 49
- Corrosion Behavior of Q235 and Q345 Steel in Wuhan Atmospheric Environment for 24 Months
YU Jianfei, CHEN Zhijian, ZHANG Ming, et al 56
- Research on the Tribological Behavior of Copper-Graphite Self-Lubricating Material Paired with the Counterparts with Different Surface Treatments.....CAO Aijun, JING Huizhe, LIU Daiping, et al 64
- Finite Element Analysis of Moisture Absorption and Aging Behaviors of CF/PPEsk Composite at Different Temperatures.....LI Yupeng, TONG Ye, LEI Mingkai 75
- Effect of Ultrasonic Impact Treatment on the Friction and Wear Properties of Al₂FeCoNiCrW_{0.5} High Entropy Alloy Coatings.....ZHANG Chong, LI Qingda, GUO Jianyong, et al 82
- Study on the Synthesis and Properties of Glycine Derivative Corrosion Inhibitors
GUO Qiangqiang, ZHAO Haiyan, SHI Chunjie 89
- Study on the Corrosion and Wear Properties of TiN and TiAlSiN Nanocoatings Prepared by High-Power Pulsed Magnetron Sputtering.....CHE Zhiqiang, YAN Wang, FENG Yi, et al 97
- Research on the Influence Law of Ultrasonic Rolling Passes on the Tension-Tension Fatigue Properties of AZ31B Magnesium Alloy.....SUN Xingzi, LI Shunlong, CHEN Qingqiang, et al 103
- Study on the Oxidation Behavior of High-Temperature Alloys in Rotary Calciners for Nuclear Waste Treatment
WANG Qin, WANG Chengxu, LIU Zhongli 109
- Study on the Numerical Simulation of Coupling Interference Law of AC Transmission Lines to Buried Pipelines
ZHAO Yalei, CHEN Wei, CHENG Wei, et al 116

//// Practical Technology Articles



- Study on the Performance of Al-Zn-In-Sn-Mg Quinary Aluminum-Based Sacrificial Anode Materials in Oilfield Produced Water.....SUN Liang, HAN Pengyue, CAO Yanyan, et al 125
- Study on the Influence Law of Specimen State and Environmental Factors on Pipeline AC Interference Testing
LIANG Dong, HU Shaolei, ZHENG Yuheng, et al 134
- Analysis of Corrosion Failure of Process Pipelines in Drainage and Gas Extraction Well Sites
SONG Chengli, NING Changchun, FANG Yan, et al 141
- Research and Analysis of the Causes of White Stripe Defects in the Anodizing Process of 1100 Aluminum Plates
YANG Shuyu, ZHU Ranran, CHEN Yunan, et al 149