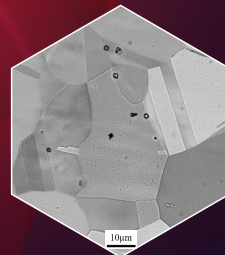
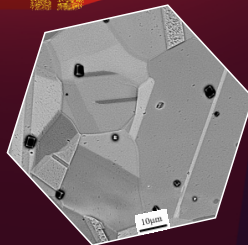
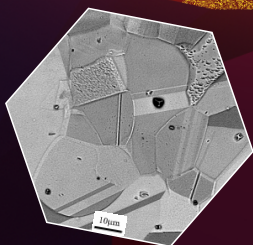
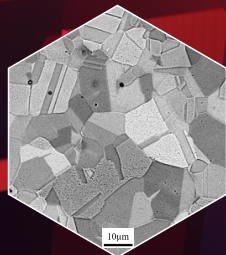


精密成形工程

OF NETSHAPE FORMING ENGINEERING

内置前驱粉体真空自耗熔炼法 制备ODS 钢锭的组织演变

作者：张潇月 / 侯晨阳 / 毛小东 / 沈楚伦 /
张元祥 / 赵彦云 / 宋长江



目次 CONTENTS

铸造工艺与凝固 Casting Processing and Solidification

1 Nb-Si 基合金高温抗氧化研究进展

Research Progress on High-temperature Oxidation Resistance of Nb-Si-based Alloys

陈德志, 王墅, 徐方东, 王琪, 王亮, 陈瑞润

CHEN De-zhi, WANG Shu, XU Fang-dong, WANG Qi, WANG Liang, CHEN Rui-run

13 高温合金定向凝固过程中枝晶生长与溶质对流数值模拟

Numerical Simulation of Dendrite Growth and Solute Convection during Directional Solidification of Superalloy

张勇佳, 周建新, 殷亚军, 沈旭, 计效园, 李文

ZHANG Yong-jia, ZHOU Jian-xin, YIN Ya-jun, SHEN Xu, JI Xiao-yuan, LI Wen

21 强磁场下 Cu-50%Ag 合金定向凝固过程中的组织及固液界面形貌演变

Evolution of Microstructure and Solid-liquid Interface of Cu-50%Ag Alloy during Directional Solidification under High Magnetic Field

周天儒, 刘铁, 阎金戈, 孙金妹, 郭晓玉, 苗鹏, 王强

ZHOU Tian-ru, LIU Tie, YAN Jin-ge, SUN Jin-mei, GUO Xiao-yu, MIAO Peng, WANG Qiang

31 变质处理对挤压态 Al-20Mg₂Si-4.5Cu 合金初生及共晶 Mg₂Si 变质形貌的影响机制

Influence Mechanism of Modification Treatment on Morphology of Primary and Eutectic Mg₂Si Modification in Extruded Al-20Mg₂Si-4.5Cu Alloy

李超, 陈思宇, 杨昊坤, 王理

LI Chao, CHEN Si-yu, YANG Hao-kun, WANG Cheng

38 内置先驱粉体真空自耗熔炼法制备 ODS 钢锭的组织演变

Microstructure Evolution of ODS Steel Prepared by Vacuum Consumable Melting Method with Built-in Precursor Powder

张潇月, 侯晨阳, 毛小东, 沈楚伦, 张元祥, 赵彦云, 宋长江

ZHANG Xiao-yue, HOU Chen-yang, MAO Xiao-dong, SHEN Chu-lun, ZHANG Yuan-xiang, ZHAO Yan-yun, SONG Chang-jiang

50 电磁搅拌作用下 CoCrMo 合金熔模铸件凝固细晶研究

Grain Refinement of Solidification Structure of CoCrMo Alloy Investment Castings under Electromagnetic Stirring

但泽宇, 赵江涛, 李彦华, 邓元鑫, 张云虎, 宋长江

DAN Ze-yu, ZHAO Jiang-tao, LI Yan-hua, DENG Yuan-xin, ZHANG Yun-hu, SONG Chang-jiang

60 大尺寸(CrCoNi)₉₄Al₃Ti₃ 中熵合金凝固行为

Solidification Behavior of (CrCoNi)₉₄Al₃Ti₃ Medium Entropy Alloy with Large Size

陆杰波, 吴博, 马腾飞, 王晓红, 李傲, 董多, 朱冬冬

LU Jie-bo, WU Bo, MA Teng-fei, WANG Xiao-hong, LI Ao, DONG Duo, ZHU Dong-dong

67 C18150 铜/1060 铝层状复合材料铸轧工艺优化及组织性能研究

Cast-rolling Process Optimization, Microstructure and Properties of C18150 Copper/1060 Aluminum Layered Composites

姬佳乐, 柳培, 王爱琴, 毛志平, 谢敬佩

Ji Jia-le, LIU Pei, WANG Ai-qin, MAO Zhi-ping, XIE Jing-pei

75 激冷快速凝固 Al-Cu 共晶合金的层片失稳研究

Destabilization of Lamellar Structure of Rapidly Solidified Al-Cu Eutectic Alloy

张连强, 张震任, 陈豫增

ZHANG Lian-qiang, ZHANG Zhen-ren, CHEN Yu-zeng

轻合金成形 Light Alloy Forming

82 铝锂合金薄板微结构辊压微成形缺陷及其电致塑性效应数值模拟研究

Numerical Simulation on Electrically-assisted Roll Micro-forming Defects of Micro-structures and Electroplastic Effects on Al-Li Alloy Sheets

汪鑫伟, 高鹏永, 石胜龙, 刘琛, 徐杰, 王春举, 李建伟, 郭斌, 单德彬

WANG Xin-wei, GAO Peng-yong, SHI Sheng-long, LIU Chen, XU Jie, WANG Chun-ju, LI Jian-wei, GUO Bin, SHAN De-bin

95 低压铸造铝合金轮毂模具热变形的数值模拟

Numerical Simulation of Thermal-deformation of Molds for Low Pressure Die-casting Aluminum Alloy Wheel Hubs

王果, 黄嘉敏, 陈振明, 赵海东

WANG Guo, HUANG Jia-min, CHEN Zhen-ming, ZHAO Hai-dong

104 ZL205A 铝合金动态力学性能及其本构模型

Dynamic Mechanical Properties and Constitutive Model of ZL205A Aluminum Alloy

时彦浩, 辛志杰, 鲁辉虎, 崔靖, 黄晓斌

SHI Yan-hao, XIN Zhi-jie, LU Hui-hu, CUI Jing, HUANG Xiao-bin

111 基于随动支撑的板料渐进成形数值模拟

Numerical Simulation of Incremental Sheet Forming Based on Follower Support

张泽昊, 王进

ZHANG Ze-hao, WANG Jin

120 25MN 电极压机压制过程模拟及模具的结构优化

Process Simulation of 25MN Electrode Press and Structure Optimization of Die

席凯凯, 孟满丁, 成培鑫, 杨帅, 向伟

XI Kai-kai, MENG Man-ding, CHENG Pei-xin, YANG Shuai, XIANG Wei

129 具有纳米调制结构的 AlTiN/AlCrN 复合涂层在干摩擦条件下的摩擦磨损性能研究

Friction and Wear Properties of AlTiN/AlCrN Composite Coatings with Nano Modulation Structure under Dry Friction Conditions

罗文芝, 赵容兵, 颜茜

LUO Wen-zhi, ZHAO Rong-bing, YAN Qian

136 未置氢及置氢 TC21 钛合金六角头螺栓冷镦成形及其成形后的显微组织与显微维氏硬度

Cold Heading of Nonhydrogenated and Hydrogenated TC21 Titanium Alloy Hexagonal Bolt and Its Microstructure and Microhardness after Forming

张小雪, 宗胜杰, 马志远, 袁宝国

ZHANG Xiao-xue, ZONG Sheng-jie, MA Zhi-yuan, YUAN Bao-guo

143 热处理对 ZL205A 铝合金焊接接头组织与性能的影响

Effect of Heat Treatment on Microstructure and Properties of ZL205A Aluminum Alloy Welded Joints

刘浩, 温泉, 姜波舟, 邹文, 闫华伟, 黄晶洪

LIU Hao, WEN Quan, JIANG Bo-zhou, ZOU Wen, YAN Hua-wei, HUANG Jing-hong

钢铁成形 Iron and Steel Forming

152 Q355 钢板对接接头裂纹扩展所致焊接残余应力重分布研究

Redistribution of Welding Residual Stress Caused by Crack Propagation in Butt Joint of Q355 Steel Plate

古松, 林晓宇, 顾颖, 赵亚杰, 孔超, 任松波

GU Song, LIN Xiao-yu, GU Ying, ZHAO Ya-jie, KONG Chao, REN Song-bo

160 马氏体含量对合金化热镀锌双相钢电阻点焊接头组织与性能的影响

Effect of Martensite Content on Microstructure and Properties of Resistance Spot Welded Joint of Alloyed Hot-dip Galvanized Dual Phase Steel

王鹏博, 张永强, 蔡宁, 付参, 伊日贵, 鞠建斌, 陈炜焯, 余洋

WANG Peng-bo, ZHANG Yong-qiang, CAI Ning, FU Can, YI Ri-gui, JU Jian-bin, CHEN Wei-xuan, YU Yang

168 高强汽车双相钢的连续退火与组织性能研究

Continuous Annealing and Microstructure and Properties of High Strength Automotive Dual Phase Steel

杨灿, 校振华, 冯启生, 罗志辉

YANG Can, XIAO Zhen-hua, FENG Qi-sheng, LUO Zhi-hui

177 汽车高强度钢 SG1000 激光复合焊接力学性能研究

Laser Composite Welding Mechanical Properties for Automobile High-strength Steel SG1000

倪晋尚

NI Jin-shang

技术创新 Technology Innovation

187 定向凝固镍基高温合金 CM247LC 热处理工艺优化及持久性能研究

Heat Treatment Optimization and Stress Rupture Properties of Directionally Solidified Ni-based Superalloy CM247LC

孔志强, 刘满平, 崔壮, 马辉, 赵国平, 孙少纯

KONG Zhi-qiang, LIU Man-ping, CUI Zhuang, MA Hui, ZHAO Guo-ping, SUN Shao-chun

196 激光粉末床熔融成形腔内非稳态流场特性研究

Characteristics of Unsteady Flow Field in Forming Chamber of Laser Powder Bed Fusion

姚杨, 孙占朋, 张茹, 杨光

YAO Yang, SUN Zhan-peng, ZHANG Ru, YANG Guang

204 小孔流道内容积交变空化流场特性分析

Analysis of Cavitation Flow Field Characteristics of Small Hole Runner Based on Volume Alternating Cavitation

张博, 李富柱, 王匀, 申坤伦, 胡龙飞, 许江琦, 张恒杰

ZHANG Bo, LI Fu-zhu, WANG Yun, SHEN Kun-lun, HU Long-fei, XU Jiang-qi, ZHANG Heng-jie

212 超声波检测试块真实缺陷的精度验证

Precision Validation of Real Flaws in Ultrasonic Testing Plates

杨涛, 边春华, 李嘉渊, 张国丰, 俞照辉

YANG Tao, BIAN Chun-hua, LI Jia-yuan, ZHANG Guo-feng, YU Zhao-hui

广告索引

封二、封三 国防科技工业复杂构件挤压成形技术创新中心 插页

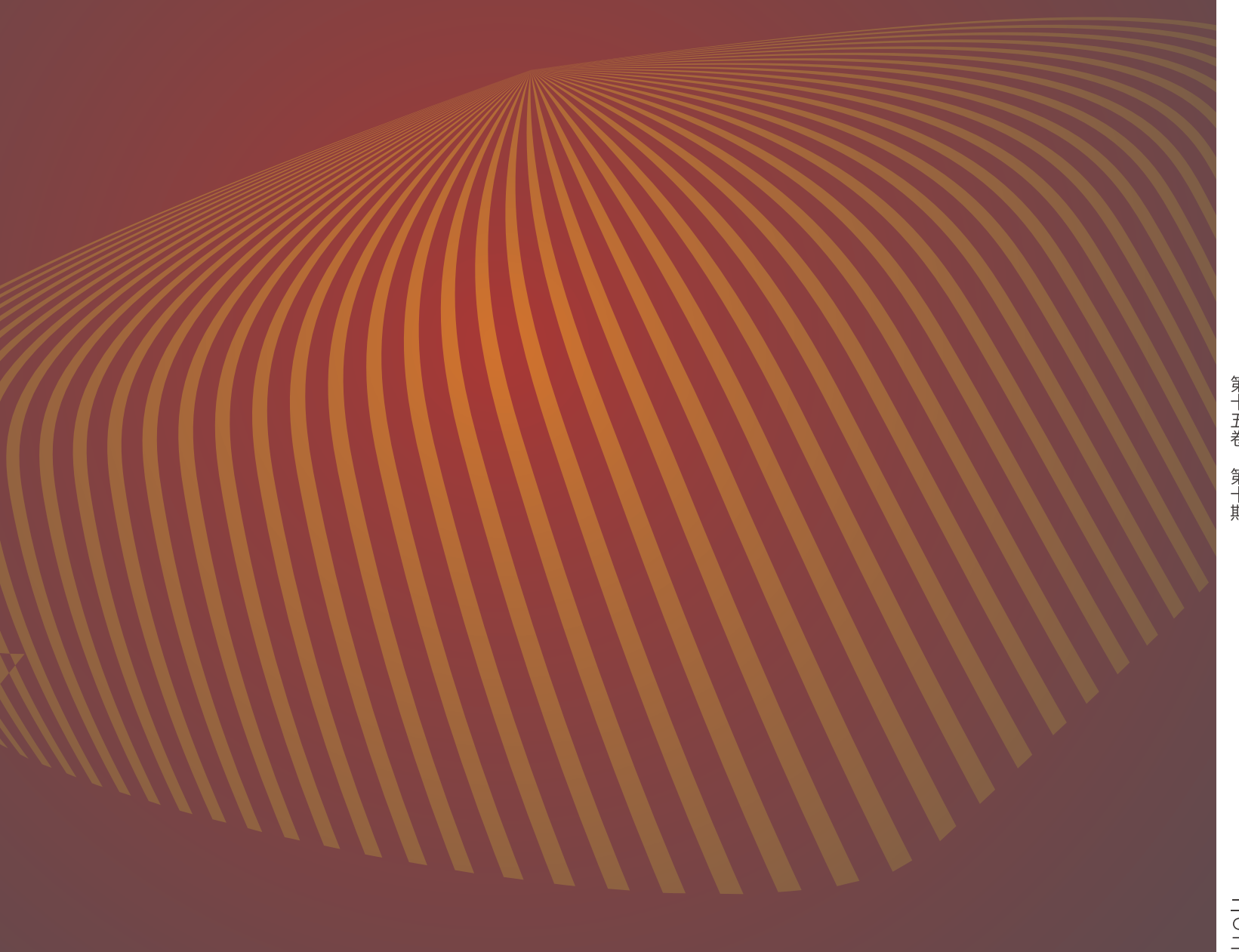
A1 专题序言

A2 表面技术杂志



精密成形工程

主办单位：
西南技术工程研究所
国防科技工业精密塑性成形技术研究应用中心



精密成形工程

第十五卷 第一期

二〇二三年十月

ISSN 1674-6457



9 771674 645231

10

连续出版物号

ISSN 1674-6457
CN 50-1199/TB

邮发代号:78-235 定价:35.00元