

目录

一、 Additive manufacturing 增材制造	2
二、 Superalloys 高温合金	8
三、 High-entropy alloys 高熵合金	11
四、 Aluminium alloys 铝合金	13
五、 Magnesium alloys 镁合金	23
六、 Ti and TiAl based alloys 钛及钛铝基合金	29
七、 Cast steels and cast irons 铸钢、铸铁	34
八、 Copper alloys 铜合金	42
九、 Numerical simulation 数值模拟	44
十、 Others 其他	48

一、Additive manufacturing 增材制造

[Research progress in CALPHAD assisted metal additive manufacturing](#)

CALPHAD 辅助金属增材制造的研究进展 (Vol. 21 No. 4, 2024)

Ya-qing Hou, Xiao-qun Li, Wei-dong Cai, Qing Chen, Wei-ce Gao, Du-peng He, Xue-hui Chen, and Hang Su (中国钢研科技集团有限公司)

DOI: <https://doi.org/10.1007/s41230-024-3146-2>

引用格式: Hou Y Q, Li X Q, Cai W D, et al. Research progress in CALPHAD assisted metal additive manufacturing. China Foundry, 2024, 21(4): 295–310.

[Cracking on a nickel-based superalloy fabricated by direct energy deposition](#)

能量沉积镍基高温合金中的裂纹研究 (Vol. 21 No. 4, 2024)

Xue Zhang, Ya-hang Mu, Liang Ma, Jing-jing Liang, Yi-zhou Zhou, Xiao-feng Sun, and Jin-guo Li (中国科学技术大学)

DOI: <https://doi.org/10.1007/s41230-024-3111-0>

引用格式: Zhang X, Mu Y H, Ma L, et al. Cracking on a nickel-based superalloy fabricated by direct energy deposition. China Foundry, 2024, 21(4): 311–318.

[Elimination of cracks in stainless steel casings via 3D printed sand molds with an internal topology structure](#)

采用内部拓扑结构的 3D 打印砂型消除不锈钢机匣裂纹 (Vol. 21 No. 4, 2024)

Jun-hang Xu, Bao-zhi Li, Zhao-wei Song, Yun-bao Gao, Jing-ming Li, Yu Wang, Qiu-lin Wen, Heng Cao, and Zeng-rui Wang (中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-024-3118-6>

引用格式: Xu J H, Li B Z, Song Z W, et al. Elimination of cracks in stainless steel casings via 3D printed sand molds with an internal topology structure. China Foundry, 2024, 21(4): 319–326.

[Mechanical and damping performances of TPMS lattice metamaterials fabricated by laser powder bed fusion](#)

激光粉末床熔融法制备 TPMS 点阵超材料的力学和阻尼性能研究 (Vol. 21 No. 4, 2024)

Yan-peng Wei, Huai-qian Li, Jing-jing Han, Ying-chun Ma, Hao-ran Zhou, Jing-chang Cheng, Jian Shi, Zhi-quan Miao, Bo Yu, and Feng Lin (中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-024-4026-5>

引用格式: Wei Y P, Li H Q, Han J J, et al. Mechanical and damping performances of TPMS lattice metamaterials fabricated by laser powder bed fusion. China Foundry, 2024, 21(4): 327–333.

[Advancements in machine learning for material design and process optimization in the field of additive manufacturing](#)

基于机器学习的增材制造材料设计及工艺优化研究进展 (Vol. 21 No. 2, 2024)

Hao-ran Zhou, Hao Yang, Huai-qian Li, Ying-chun Ma, Sen Yu, Jian shi, Jing-chang Cheng, Peng Gao, Bo Yu, Zhi-quan Miao, and Yan-peng Wei (中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-024-3145-3>

引用格式: Zhou H R, Yang H, Li H Q, et al. Advancements in machine learning for material design and process optimization in the field of additive manufacturing. China Foundry, 2024, 21(2): 101–115.

[Droplet morphology analysis of drop-on-demand inkjet printing](#)

喷墨打印过程微液滴飞行形态模拟研究 (Vol. 21 No. 1, 2024)

Hu-xiang Xia, Takechi Kensuke, Tajima Shin, Kawamura Yoshiumi, and Qing-yan Xu (清华大学)

DOI: <https://doi.org/10.1007/s41230-023-2106-6>

引用格式: Xia H X, Kensuke T, Shin T, et al. Droplet morphology analysis of drop-on-demand inkjet printing. China Foundry, 2024, 21(1): 20-28.

[Effect of printing parameters on properties of 3D printing sand samples](#)

打印参数对 3D 打印砂样性能的影响 (Vol. 20 No. 6, 2023)

De-quan Shi, Yin-yu Hou, and Gui-li Gao (上海理工大学)

DOI: <https://doi.org/10.1007/s41230-023-3002-9>

[Preparation of coated sand for selective laser sintering and optimization of baking process of sand moulds](#)

选区激光烧结用覆膜砂的制备及砂模后处理工艺的优化 (Vol. 20 No. 6, 2023)

Peng-wei Wang, Rui-long Yu, Rui Tan, Yan Wang, Ying-wei Zhou, Yue-ting Ma, Yan-hai Li, Jia-jun Liu, and Shao-kui Yin (中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-023-3101-7>

[Effect of sintering temperature on microstructure and properties of 3D printing polysilazane reinforced \$\text{Al}_2\text{O}_3\$ core](#)

烧结温度对 3D 打印聚硅氮烷增强 Al_2O_3 型芯微观结构和性能的影响 (Vol. 20 No. 5, 2023)

Wen-jun Dong, Qiao-lei Li, Tian-ci Chen, Ming-ke Zou, Jing-jing Liang, Li-rong Liu, Hui Mei, and Jin-guo Li (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-023-2122-6>

[A novel Ti-5.55Al-6.70Zr-1.50V-0.70Mo-3.41Nb-0.21Si alloy designed using cluster-plus-glue-atom model for laser additive manufacturing](#)

基于团簇模型的激光增材制造用 Ti-5.55Al-6.70Zr-1.50V-0.70Mo-3.41Nb-0.21Si 合金成分设计 (Vol. 20 No. 5, 2023)

Tian-yu Liu, Yan-chun Lou, Shuang Zhang, Zhi-hao Zhu, Jun Zhao, Shi-bing Liu, Kun Shi, and Ning Zhao (中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-023-3019-0>

[Strengthening and toughening of additively manufactured Ti-6Al-4V alloy by hybrid deposition and synchronous micro-rolling](#)

混合沉积与同步微轧制增材制造Ti-6Al-4V的强韧化 (Vol. 20 No. 3, 2023)

Kui Cheng, Hao Song, Xin-wang Liu, Ming-bo Zhang, Fei-hu Shan, Kun He, Zi-tian Fan, Gui-lan Wang, and Hai-ou Zhang (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-023-2115-5>

[The compression behavior of 316L lattice structures produced by indirect additive manufacturing](#)

间接增材制造 316L 点阵结构的压缩力学行为研究 (Vol. 20 No. 2, 2023)

Yan-peng Wei, Hao Yang, Jing-chang Cheng, Peng Gao, Jian Shi, Feng Lin, and Bo Yu

(中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-023-2143-1>

[Fabrication of silica-based ceramic cores with internal lattice structures by stereolithography](#)

点阵结构中空陶瓷型芯的光固化增材制造 (Vol. 19 No. 5, 2022)

Ke-hui Hu, Hao-yuan Wang, Kuan Lu, Qian Feng, Dao-ding Yang, Jian Cao, Bo Zhang, Zhi-gang Lü, and Xing Ran (清华大学)

DOI: <https://doi.org/10.1007/s41230-022-2048-4>

[Application of transparent casting moulds prepared by additive manufacturing technology in hydraulic simulation](#)

基于增材制造技术制备的透明铸型在水力学模拟中的应用 (Vol. 19 No. 4, 2022)

Qian Feng, Xing Ran, Ke-hui Hu, Hao-yuan Wang, and Zhi-gang Lü (清华大学)

DOI: <https://doi.org/10.1007/s41230-022-1163-6>

[Effect of processing parameters on formability, microstructure, and micro-hardness of a novel laser additive manufactured Ti-6.38Al-3.87V-2.43Mo alloy](#)

工艺参数对激光增材制造Ti-6.38Al-3.87V-2.43Mo合金成形性、组织和显微硬度的影响 (Vol. 19 No. 2, 2022)

Tian-yu Liu, Zhi-hao Zhu, Shuang Zhang, Xiao-hua Min, and Chuang Dong (大连理工大学)

DOI: <https://doi.org/10.1007/s41230-022-1066-6>

[Microstructure and mechanical properties of laser additive manufactured novel titanium alloy after heat treatment](#)

激光增材制造新型钛合金热处理后的组织和力学性能 (Vol. 18 No. 6, 2021)

Tian-yu Liu, Hong-yu Liu, Qian Yao, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-021-1089-4>

[Effect of gel time of 3D sand printing binder system on quality of sand mold/core](#)

3D打印粘结剂凝胶时间对砂型/芯质量的影响 (Vol. 18 No. 6, 2021)

Yan Wang, Rui-long Yu, Shao-kui Yin, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-021-1085-8>

[Development of 3D printing entity slicing software](#)

3D打印实体切片软件开发 (Vol. 18 No. 6, 2021)

Yang Guan, Xun Sun, Lei Jin, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-021-1090-y>

[Effect of mould baffle technology on stray grain formation in single crystal blades by integral fabrication based on 3D printing](#)

基于3D打印的模具挡板技术对一体成型单晶叶片杂晶形成的影响 (Vol. 18 No. 5, 2021)

Zhe-feng Liu, Kai Miao, Wei-bo Lian, et al (西安交通大学)

DOI: <https://doi.org/10.1007/s41230-021-1073-z>

[Tailoring microstructure evolution and mechanical properties of a high-performance alloy steel through controlled thermal cycles of a direct laser depositing process](#)

通过控制激光直接沉积过程的热循环调整高性能合金钢的组织演变和力学性能 (Vol. 18 No. 5, 2021)

Shi-yun Dong, Xuan Zhao, Shi-xing Yan, et al (陆军装甲兵学院)

DOI: <https://doi.org/10.1007/s41230-021-1124-5>

[A review of additive manufacturing technology and its application to foundry in China](#)

增材制造技术在我国铸造领域中的应用综述 (Vol. 18 No. 4, 2021)

Shi-yan Tang, Li Yang, Zi-tian Fan, et al (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-021-1003-0>

[In situ monitoring methods for selective laser melting additive manufacturing process based on images - A review](#)

基于图像的选区激光熔化增材制造过程中的原位监测方法综述 (Vol. 18 No. 4, 2021)

Bo Wu, Xiao-yuan Ji, Jian-xin Zhou, et al (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-021-1111-x>

[Additive manufacturing and foundry innovation](#)

增材制造与创新铸造 (Vol. 18 No. 4, 2021)

Yu-sheng Shi, Jin-liang Zhang, Shi-feng Wen, et al (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-021-1008-8>

[Rapid casting technology based on selective laser sintering](#)

基于选区激光烧结的快速铸造技术 (Vol. 18 No. 4, 2021)

Li Yang, Shi-yan Tang, Zi-tian Fan, et al (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-021-1099-2>

[Mechanical properties of TiAl fabricated by electron beam melting - A review](#)

电子束熔化成型TiAl合金的力学性能综述 (Vol. 18 No. 4, 2021)

Bo-chao Lin, Wei Chen (中国航空制造技术研究院)

DOI: <https://doi.org/10.1007/s41230-021-1093-8>

[A review on metal additive manufacturing: modeling and application of numerical simulation for heat and mass transfer and microstructure evolution](#)

金属增材制造综述：传热、传质和组织演变数值模拟的建模与应用（Vol. 18 No. 4, 2021）

Chuan-ming Liu, Hua-bing Gao, Li-yu Li, et al（哈尔滨工程大学）

DOI: <https://doi.org/10.1007/s41230-021-1119-2>

[Binder jetting 3D printing process optimization for rapid casting of green parts with high tensile strength](#)

粘结剂喷射3D打印快速铸造用高抗拉强度型芯的工艺优化（Vol. 18 No. 4, 2021）

Zhao-fa Zhang, Li Wang, Lin-tao Zhang, et al（西安交通大学）

DOI: <https://doi.org/10.1007/s41230-021-1057-z>

[Sand-bed defect recognition for 3D sand printing based on deep residual network](#)

基于深度残差网络的3D打印砂床缺陷识别（Vol. 18 No. 4, 2021）

Lan-xiu Wang, Xuan-pu Dong, Shu-ren Guo（华中科技大学）

DOI: <https://doi.org/10.1007/s41230-021-1091-x>

[Performance of Ti6Al4V fabricated by electron beam and laser hybrid preheating and selective melting strategy](#)

电子束-激光混合预热选区熔化法制备Ti6Al4V合金的性能（Vol. 18 No. 4, 2021）

Mo-han Hao, Lei Zhang, Bin Zhou, et al（清华大学）

DOI: <https://doi.org/10.1007/s41230-021-1039-1>

[Laser ultrasonic testing for near-surface defects inspection of 316L stainless steel fabricated by laser powder bed fusion](#)

激光超声检测激光粉床熔覆制备316L不锈钢的近表面缺陷（Vol. 18 No. 4, 2021）

Ting Dai, Xiao-jian Jia, Jun Zhang, et al（东南大学）

DOI: <https://doi.org/10.1007/s41230-021-1063-1>

[Effects of geometrical characteristics on defect distributions in alloy components produced by selective laser melting](#)

几何特征对选区激光熔化制备合金部件中缺陷分布的影响（Vol. 18 No. 4, 2021）

Yao Cai, Tao Lu, Gui-dian Ma, et al（东南大学）

DOI: <https://doi.org/10.1007/s41230-021-1048-0>

[Influence of laser parameters on segregation of Nb during selective laser melting of Inconel 718](#)

激光参数对选区激光熔化Inconel 718过程中Nb偏析的影响（Vol. 18 No. 4, 2021）

Liang Wang, Ran Cui, Bin-qiang Li, et al（哈尔滨工业大学）

DOI: <https://doi.org/10.1007/s41230-021-1088-5>

[Influence of hot isostatic pressing on microstructure, properties and deformability of selective laser melting TC4 alloy](#)

热等静压对选区激光熔化TC4合金组织、性能和变形性能的影响 (Vol. 18 No. 4, 2021)

Tai-qi Yan, Bing-qing Chen, Xia Ji, et al (北京航空材料研究院)

DOI: <https://doi.org/10.1007/s41230-021-1086-7>

[Phase constitution, microstructure and mechanical properties of a Ni-based superalloy specially designed for additive manufacturing](#)

一种增材制造专用镍基高温合金的相组成、显微组织和力学性能 (Vol. 18 No. 4, 2021)

Bin Wu, Jing-jing Liang, Yan-hong Yang, et al (中国科学院金属研究所)

DOI: <https://doi.org/10.1007/s41230-021-9025-1>

[Transient printing characteristics with wavy build profiles for laser additive manufacturing of small size structures](#)

激光增材制造小尺寸结构过程中波形轮廓的瞬态打印特性 (Vol. 18 No. 4, 2021)

Fu-qin Liu, Hui-liang Wei, Lei Wei, et al (南京理工大学)

DOI: <https://doi.org/10.1007/s41230-021-1001-2>

[Microstructure and properties of AlSi7Mg alloy fabricated by selective laser melting](#)

选区激光熔化AlSi7Mg合金的组织与性能 (Vol. 18 No. 4, 2021)

Shuai Huang, Shao-qing Guo, Biao Zhou, et al (北京航空材料研究院)

DOI: <https://doi.org/10.1007/s41230-021-1004-z>

[Design for Ti-Al-V-Mo-Nb alloys for laser additive manufacturing based on a cluster model and on their microstructure and properties](#)

基于团簇模型的激光增材制造用Ti-Al-V-Mo-Nb合金成分设计及其组织性能研究 (Vol. 18 No. 4, 2021)

Tian-yu Liu, Zhi-hao Zhu, Shuang Zhang, et al (大连理工大学)

DOI: <https://doi.org/10.1007/s41230-021-1065-z>

[Impact of laser scanning speed on microstructure and mechanical properties of Inconel 718 alloys by selective laser melting](#)

激光扫描速度对选择性激光熔化 Inconel 718 合金组织和力学性能的影响 (Vol. 18 No. 3, 2021)

Hong-ying Wang, Bin-bin Wang, Liang Wang, et al (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-021-9011-7>

[Grain selection and growth orientation of prior- \$\beta\$ phase for Ti-6-4 during additive manufacturing: insights from a modeling perspective](#)

Ti-6-4增材制造过程中初生 β 相晶粒筛选与生长方向的模拟研究 (Vol. 18 No. 2, 2021)

Wei-zhao Sun, Fei-hu Shan, Nan-fu Zong, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-021-9002-8>

二、Superalloys 高温合金

[Cracking on a nickel-based superalloy fabricated by direct energy deposition](#)

能量沉积镍基高温合金中的裂纹研究 (Vol. 21 No. 4, 2024)

Xue Zhang, Ya-hang Mu, Liang Ma, Jing-jing Liang, Yi-zhou Zhou, Xiao-feng Sun, and Jin-guo Li (中国科学技术大学)

DOI: <https://doi.org/10.1007/s41230-024-3111-0>

引用格式: Zhang X, Mu Y H, Ma L, et al. Cracking on a nickel-based superalloy fabricated by direct energy deposition. China Foundry, 2024, 21(4): 311–318.

[Oxidation behavior of 4774DD1 Ni-based single-crystal superalloy at 980 °C in air](#)

4774DD1 镍基单晶高温合金的 980 °C 氧化行为研究 (Vol. 21 No. 2, 2024)

Yu Fang, Ya-zhou Li, Qiang Yang, Qun-gong He, Xiu-fang Gong, Qian Duan, Hai-yang Song, Fu Wang, Qiong-yuan Zhang, and Hong Zeng (东方汽轮机股份有限公司长寿命高温材料国家重点实验室)

DOI: <https://doi.org/10.1007/s41230-024-3088-8>

引用格式: Fang Y, Li Y Z, Yang Q, et al. Oxidation behavior of 4774DD1 Ni-based single-crystal superalloy at 980 °C in air. China Foundry, 2024, 21(2): 116–124.

[On establishment of novel constitutive model for directionally solidified nickel-based superalloys utilizing machine learning methods](#)

利用机器学习方法建立定向凝固镍基高温合金新型本构模型 (Vol. 20 No. 5, 2023)

Jia-yan Sun, Rong Yin, Ye-yuan Hu, Yun-xiang Tan, and Qing-yan Xu (清华大学)

DOI: <https://doi.org/10.1007/s41230-023-3028-z>

[Effect of Ta on solidification characteristics and mechanical properties of DZ411 Ni-based superalloy](#)

Ta 对 DZ411 镍基高温合金凝固特性和力学性能的影响 (Vol. 20 No. 5, 2023)

Peng Peng, Zi-jie Liu, Yuan-li Xu, Xu-dong Zhang, Zhi-kun Ma, and Jia-tai Wang (兰州大学)

DOI: <https://doi.org/10.1007/s41230-023-2118-2>

[Effect of sintering temperature on microstructure and properties of 3D printing polysilazane reinforced Al₂O₃ core](#)

烧结温度对 3D 打印聚硅氮烷增强 Al₂O₃ 型芯微观结构和性能的影响 (Vol. 20 No. 5, 2023)

Wen-jun Dong, Qiao-lei Li, Tian-ci Chen, Ming-ke Zou, Jing-jing Liang, Li-rong Liu, Hui Mei, and Jin-guo Li (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-023-2122-6>

[Influence of heat treatments on incipient melting structures of DD5 nickel-based single crystal superalloy](#)

热处理对 DD5 镍基单晶合金初熔组织的影响 (Vol. 20 No. 5, 2023)

Zhi-hong Jia, Chen-yang Li, Wen-xiang Jing, Xiang-feng Liang, Ze-kun Zhang, Jia-le Xiao, and Yu-tao Zhao (江苏大学)

DOI: <https://doi.org/10.1007/s41230-023-2117-3>

[Elastic-viscoplastic constitutive equations of K439B superalloy and thermal stress simulation during casting process](#)

镍基高温合金 K439B 弹粘塑性本构方程与铸造热应力模拟 (Vol. 20 No. 5, 2023)

Da-shan Sui, Yu Shan, Dong-xin Wang, Jun-yi Li, Yao Xie, Yi-qun Yang, An-ping Dong, and Bao-de Sun (上海交通大学)

DOI: <https://doi.org/10.1007/s41230-023-2119-1>

[Effect of nitrogen on micro-pores in DD33 single crystal superalloy during solidification and homogenization](#)

N元素对单晶高温合金DD33铸态孔和固溶孔的影响 (Vol. 19 No. 4, 2022)

Xiang-wei Li, Chen Wang, You-zhao Zhang, Yu-mei Zhong, Li Wang, and Shu-yan Zhang (东莞材料基因高等理工研究院)

DOI: <https://doi.org/10.1007/s41230-022-1234-8>

[Optimization of investment casting process for K477 superalloy aero-engine turbine nozzle by simulation and experiment](#)

基于模拟和实验的 K477 高温合金航空发动机导向器熔模铸造工艺优化 (Vol. 19 No. 4, 2022)

Xin Hao, Guo-huai Liu, Ye Wang, Shi-ping Wu, and Zhao-dong Wang (中国航发南方工业有限公司)

DOI: <https://doi.org/10.1007/s41230-022-1092-4>

[Effect of competitive crystal growth on microstructural characteristics of directionally solidified nickel-based single crystal superalloy](#)

定向凝固镍基单晶高温合金中晶粒竞争生长对组织特性的影响 (Vol. 19 No. 2, 2022)

Mang Xu, Xiao-qi Geng, Xiang-long Zhang, Guo-huai Liu, Ye Wang, Zhao-dong Wang, and Jing-jie Guo (东北大学)

DOI: <https://doi.org/10.1007/s41230-022-1033-2>

[Effect of Zr on solidification and microstructure of a Ni-based superalloy with high Al and Ti contents](#)

Zr对高Al、Ti含量镍基高温合金凝固及组织的影响 (Vol. 19 No. 1, 2022)

Guang-di Zhao, Xi-min Zang, Fang Liu, Wei-wei Zhang, Shuo Gao, Xue Li, and Jing Guo (辽宁科技大学)

DOI: <https://doi.org/10.1007/s41230-022-1058-6>

[Evolution mechanism of recrystallization in a nickel-based single crystal superalloy under various cooling rates during heat treatment](#)

不同冷却速率下镍基单晶高温合金热处理中再结晶的演变机制 (Vol. 19 No. 1, 2022)

Yong-shun Li, Wei-dong Xuan, Jian Yang, Yu-hao Zhou, Ge Song, Xing-fu Ren, and Zhong-ming Ren (上海大学)

DOI: <https://doi.org/10.1007/s41230-022-1017-2>

[Evolution mechanism of crystallographic orientation in grain continuator bars of a Ni-based single-crystal superalloy prepared by Bridgman technology during directional solidification](#)

Bridgman技术制备的镍基单晶高温合金定向凝固过程中晶粒连续棒中晶体取向的演变机制 (Vol. 19 No. 1, 2022)

Jiu-han Xiao, Wei-guo Jiang, Dong-yu Han, Kai-wen Li, Guo-jun Tong, Yu-zhang Lu, and Lang-hong Lou (中国科学院金属研究所)

DOI: <https://doi.org/10.1007/s41230-022-1139-6>

[Effect of mould baffle technology on stray grain formation in single crystal blades by integral fabrication based on 3D printing](#)

基于3D打印的模具挡板技术对一体成型单晶叶片杂晶形成的影响 (Vol. 18 No. 5, 2021)

Zhe-feng Liu, Kai Miao, Wei-bo Lian, et al (西安交通大学)

DOI: <https://doi.org/10.1007/s41230-021-1073-z>

[Influence of platform position on stray grain nucleation in Ni-based single-crystal dummy blade clusters](#)

平台位置对镍基单晶仿制叶片簇杂晶形核的影响 (Vol. 18 No. 5, 2021)

Zhen-yu Yang, Chen-guang Liu, Song-song Hu, et al (北京航空材料研究院)

DOI: <https://doi.org/10.1007/s41230-021-1053-3>

[Influence of laser parameters on segregation of Nb during selective laser melting of Inconel 718](#)

激光参数对选区激光熔化Inconel718过程中Nb偏析的影响 (Vol. 18 No. 4, 2021)

Liang Wang, Ran Cui, Bin-qiang Li, et al (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-021-1088-5>

[Phase constitution, microstructure and mechanical properties of a Ni-based superalloy specially designed for additive manufacturing](#)

一种增材制造专用镍基高温合金的相组成、显微组织和力学性能 (Vol. 18 No. 4, 2021)

Bin Wu, Jing-jing Liang, Yan-hong Yang, et al (中国科学院金属研究所)

DOI: <https://doi.org/10.1007/s41230-021-9025-1>

[Effect of long-term thermal exposure on microstructure and creep properties of DD5 single crystal superalloy](#)

长期热暴露对DD5单晶高温合金组织和蠕变性能的影响 (Vol. 18 No. 3, 2021)

Xu-dong Wang, Zhong Yang, Qiang Gao, et al (西安工业大学)

DOI: <https://doi.org/10.1007/s41230-021-9010-8>

[Room temperature tensile deformation behavior of a Ni-based superalloy with high W content](#)

高W含量镍基高温合金的室温拉伸变形行为 (Vol. 18 No. 3, 2021)

De-long Shu, Jun Xie, Feng-jiang Zhang, et al (中国科学院金属研究所)

DOI: <https://doi.org/10.1007/s41230-021-9007-3>

[Impact of laser scanning speed on microstructure and mechanical properties of Inconel 718 alloys by selective laser melting](#)

激光扫描速度对选择性激光熔化 Inconel 718 合金组织和力学性能的影响 (Vol. 18 No. 3, 2021)

Hong-ying Wang, Bin-bin Wang, Liang Wang, et al (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-021-9011-7>

[Numerical simulation and experimental validation on fabrication of nickel-based superalloy Kagome lattice sandwich structures](#)

镍基高温合金戈薇晶格三明治结构的数值模拟和实验验证 (Vol. 17 No. 1, 2020)

Yan-peng Wei, Bo Yu, Quan-zhan Yang, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-020-9100-z>

三、High-entropy alloys 高熵合金

[GPa-level pressure-induced enhanced corrosion resistance in TiZrTaNbSn biomedical high-entropy alloy](#)

Pa 级压力强化 TiZrTaNbSn 生物医学高熵合金的耐腐蚀性能 (Vol. 21 No. 3, 2024)

Xiao-hong Wang, Yu-lei Deng, Qiao-yu Li, Zhi-xin Xu, Teng-fei Ma, Xing Yang, Duo Dong, Dong-dong Zhu, and Xiao-hong Yang (衢州学院)

DOI: <https://doi.org/10.1007/s41230-024-3068-z>

引用格式: Wang X H, Deng Y L, Li Q Y, et al. GPa-level pressure-induced enhanced corrosion resistance in TiZrTaNbSn biomedical high-entropy alloy. China Foundry, 2024, 21(3): 265–275.

[Effects of process parameters and annealing on microstructure and properties of CoCrFeMnNi high-entropy alloy coating prepared by plasma cladding](#)

工艺参数及退火对等离子熔覆 CoCrFeMnNi 高熵合金涂层组织和性能的影响 (Vol. 20 No. 6, 2023)

Shi-yong Wei, Chao-min Wang, Wen-yi Peng, Ru-kai Luo, Yun Chen, Zhen-zhen Wan, and Yin Jin (江西省科学院 应用物理研究所)

DOI: <https://doi.org/10.1007/s41230-023-3013-6>

[Strengthening CoCrFeNi high-entropy alloy by Laves and boride phases](#)

Laves 相和硼化物相强化 CoCrFeNi 高熵合金 (Vol. 19 No. 6, 2022)

Xiu-gang Chen, Gang Qin, Xue-feng Gao, Rui-run Chen, Qiang Song, and Hong-zhi Cui (山东科技大学)

DOI: <https://doi.org/10.1007/s41230-022-1007-4>

[Effect of Mo on microstructure, mechanical and corrosion properties of FeCrNiMnMo_x high-entropy alloys](#)

Mo 含量对 FeCrNiMnMo_x 高熵合金的微观组织、力学和耐腐蚀性能的影响 (Vol. 19 No. 6, 2022)

Xue-wei Xing, Jin-kang Hu, Ying Liu, and Wei Li (暨南大学)

DOI: <https://doi.org/10.1007/s41230-022-1161-8>

[Microstructure and wear resistance of AlCrFeNiMo_{0.5}Si_x high-entropy alloy coatings prepared by laser cladding](#)

激光熔覆制备 AlCrFeNiMo_{0.5}Si_x 高熵合金涂层的组织及耐磨性能研究 (Vol. 19 No. 6, 2022)

Xiao-cong Li, Hui Liang, Yan-zhou Zhao, Li Gao, Li Jiang, and Zhi-qiang Cao (大连理工大学)

DOI: <https://doi.org/10.1007/s41230-022-2042-x>

[As-cast microstructure and properties of non-equal atomic ratio TiZrTaNbSn high-entropy alloys](#)

非等原子比 TiZrTaNbSn 高熵合金铸态组织与性能 (Vol. 19 No. 6, 2022)

Teng-fei Ma, Qiao-yu Li, Yu-liang Jin, Xi Zhao, Xiao-hong Wang, Duo Dong, and Dong-dong Zhu (衢州学院)

DOI: <https://doi.org/10.1007/s41230-022-1196-x>

[Microstructure and mechanical properties of a low activation cast WTaHfTiZr refractory high-entropy alloy](#)

低活化铸态 WTaHfTiZr 难熔高熵合金的微观组织和力学性能 (Vol. 19 No. 6, 2022)

Xian-neng Ma, Yi-fei Hu, Kai Wang, Hai-long Zhang, Zi-tian Fan, Jin-ping Suo, and Xin-wang Liu (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-022-1230-z>

[Microstructure characteristics and mechanical properties of NbMoTiVWSi_x refractory high-entropy alloys](#)

NbMoTiVWSi_x 难熔高熵合金的组织特征与力学性能 (Vol. 19 No. 6, 2022)

Qin Xu, Qi Wang, De-zhi Chen, Yi-ang Fu, Qing-sheng Shi, Ya-jun Yin, and Shu-yan Zhang (河南工业大学)

DOI: <https://doi.org/10.1007/s41230-022-1206-z>

[Improvement in oxidation resistance of Cantor alloy through microstructure tailoring](#)

通过组织调控改善 Cantor 合金抗氧化性 (Vol. 19 No. 6, 2022)

Bao-lin Pang, Man Wang, Yue-gang Shen, Xiao-li Xi, and Zuo-ren Nie (北京工业大学)

DOI: <https://doi.org/10.1007/s41230-022-2031-0>

[Microstructure and mechanical properties of as-cast \(CuNi\)_{100-x}Co_x medium-entropy alloys](#)

铸态(CuNi)_{100-x}Co_x 中熵合金的微观组织与力学性能研究 (Vol. 19 No. 6, 2022)

Zhi-yong Yang, Wei-ping Chen, Liang-yan Hao, Chen-liang Chu, Da-hai Zeng, Wei Xiong, and Zhi-qiang Fu (华南理工大学)

DOI: <https://doi.org/10.1007/s41230-022-2085-z>

[Investigation on microstructures and properties of semi-solid Al₈₀Mg₅Li₅Zn₅Cu₅ light-weight high-entropy alloy during isothermal heat treatment process](#)

等温热处理过程中半固态 Al₈₀Mg₅Li₅Zn₅Cu₅ 轻质高熵合金组织性能研究 (Vol. 19 No. 6, 2022)

Yong Hu, Yuan-yuan Liu, Long-zhi Zhao, Yan-chuan Tang, Hai-tao Jiao, and De-jia Liu (华东交通大学)

DOI: <https://doi.org/10.1007/s41230-022-2069-z>

[Effect of TiO₂ nano-ceramic particles on microstructure and mechanical properties of Al_{0.4}CoCrFe₂Ni₂ high-entropy alloy](#)

TiO₂ 纳米陶瓷颗粒对 Al_{0.4}CoCrFe₂Ni₂ 高熵合金组织及力学性能的影响 (Vol. 19 No. 6, 2022)

Hao Qi, Guang-long Li, Wei Zhang, Qing-yao Lü, Rong-de Li, Si-chen Xie, Yu Shi, Bo Yu, Rui-run Chen, and Ying-dong Qu (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-022-2124-9>

[Wear and corrosion resistance of CoCrNi composite coatings by laser cladding](#)

激光熔覆 CoCrNi 基复合涂层耐磨耐蚀性能 (Vol. 19 No. 6, 2022)

Di Jiang, Hong-zhi Cui, Xiao-jie Song, Xiao-juan Lian, Xiao-feng Zhao, Hao Chen, and Guo-liang Ma (山东科技大学)

DOI: <https://doi.org/10.1007/s41230-022-1192-1>

[Composition formula of Al-TMs high-entropy alloys derived by cluster-plus-glue-atoms model and its experimental verification](#)

基于团簇加连接原子模型的 Al-TMs 系高熵合金成分式及其实验验证 (Vol. 19 No. 6, 2022)

Tian-yu Liu, Kun Shi, Jun Zhao, Shi-bing Liu, Hong-yu Liu, Bo-liang Liu, Xin-min Mei, Zhao-sheng Ning, and Xiao-ming Chen (沈阳铸造研究所)

DOI: <https://doi.org/10.1007/s41230-022-2140-9>

[Solution combustion synthesis of high-entropy metal spinel oxide as oxygen evolution reaction catalyst](#)

溶液燃烧合成高熵尖晶石型金属氧化物析氧反应催化剂 (Vol. 19 No. 6, 2022)

Tao Lu, Yue Zhang, Li Ding, Hao-yue Zheng, and Ye Pan (东南大学)

DOI: <https://doi.org/10.1007/s41230-022-2008-z>

四、Aluminium alloys 铝合金

[Ultra-large aluminum shape casting: Opportunities and challenges](#)

超大型铝件铸造：机遇与挑战（Vol. 21 No. 5, 2024）

Qi-gui Wang, Andy Wang, Jason Coryell (通用全球技术中心)

DOI: <https://doi.org/10.1007/s41230-024-4111-9>.

引用格式：Wang Q G, Wang A, Coryell J. Ultra-large aluminum shape casting: Opportunities and challenges. China Foundry, 2024, 21(5): 397-408.

[Characteristics and distribution of microstructures in high pressure die cast alloys with X-ray microtomography: A review](#)

压铸铝/镁合金微观组织三维断层扫描表征的研究进展（Vol. 21 No. 5, 2024）

Hai-dong Zhao, Xue-ling Wang, Qian Wan, Wen-hui Bai, and Fei Liu (华南理工大学)

DOI: <https://doi.org/10.1007/s41230-024-4109-3>.

引用格式：Zhao H D, Wang X L, Wan Q, et al. Characteristics and distribution of microstructures in high pressure die cast alloys with X-ray microtomography: A review. China Foundry, 2024, 21(5): 427-444.

[Role of alloying and heat treatment on microstructure and mechanical properties of cast Al-Li alloys: A review](#)

合金化和热处理对铸造铝锂合金微观组织和力学性能的影响：综述（Vol. 21 No. 5, 2024）

Guo-hua Wu, You-jie Guo, Fang-zhou Qi, Shen Zhang, Yi-xiao Wang, Xin Tong, and Liang Zhang (上海交通大学)

DOI: <https://doi.org/10.1007/s41230-024-4062-1>.

引用格式：Wu G H, Guo Y J, Qi F Z, et al. Role of alloying and heat treatment on microstructure and mechanical properties of cast Al-Li alloys: A review. China Foundry, 2024, 21(5): 445-460.

[Microstructure and properties of 35 kg large aluminum alloy flywheel housing components formed by squeeze casting with local pressure compensation](#)

局部压力补缩挤压铸造成形 35 kg 大型铝合金飞轮壳构件的组织与性能（Vol. 21 No. 5, 2024）

Ju-fu Jiang, Jing Yan, Ying-ze Liu, Ning Ge, Ying Wang, Chang-jie Ding, De-chao Zou (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-024-4061-2>.

引用格式：Jiang J J, Yan J, Liu Y Z, et al. Microstructure and properties of 35 kg large aluminum alloy flywheel housing components formed by squeeze casting with local pressure compensation. China Foundry, 2024, 21(5): 563-576.

[Combined effects of ultrasonic vibration and FeCoNiCrCu coating on interfacial microstructure and mechanical properties of Al/Mg bimetal by compound casting](#)

超声振动和高熵合金涂层对复合铸造 Al/Mg 双金属界面组织和力学性能的影响（Vol. 21 No. 5, 2024）

Yuan-cai Xu, Wen-ming Jiang, Qing-qing Li, Ling-hui Yu, Xiao-peng Yu, and Zi-tian Fan (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-024-4113-7>.

引用格式：Xu Y C, Jiang W M, Li Q Q, et al. Combined effects of ultrasonic vibration and FeCoNiCrCu coating on interfacial microstructure and mechanical properties of Al/Mg bimetal by compound casting. China Foundry, 2024, 21(5): 588-598.

[Microstructural characterization, tribological and corrosion behavior of AA7075-TiC composites](#)

AA7075-TiC 复合材料的显微组织表征、摩擦学和腐蚀行为 (Vol. 21 No. 4, 2024)

Surendarnath Sundaramoorthy, Ramesh Gopalan, and Ramachandran Thulasiram (DVR & Dr. HS MIC College of Technology (A))

DOI: <https://doi.org/10.1007/s41230-024-3070-5>

引用格式: Sundaramoorthy S, Gopalan R, Thulasiram R. Microstructural characterization, tribological and corrosion behavior of AA7075-TiC composites. China Foundry, 2024, 21(4): 334–342.

[Strength and ductility optimization of HPDC AlSi8MgCuZn2 alloys by modifying pre-aging treatment](#)

通过预时效处理实现高真空压铸 AlSi8MgCuZn2 合金强度和塑性的优化 (Vol. 21 No. 4, 2024)

Yuan-hang Jiang, Hui-ting Zheng, Fei Liu, and Hai-dong Zhao (华南理工大学)

DOI: <https://doi.org/10.1007/s41230-024-3165-z>

引用格式: Jiang Y H, Zheng H T, Liu F, et al. Strength and ductility optimization of HPDC AlSi8MgCuZn2 alloys by modifying pre-aging treatment. China Foundry, 2024, 21(4): 343–351.

[Effects of diamond particle size on microstructure and properties of diamond/Al-12Si composites prepared by vacuum-assisted pressure infiltration](#)

金刚石粒径对真空辅助压力渗流法制备 Diamond/Al-12Si 复合材料组织与性能的影响 (Vol. 21 No. 4, 2024)

Jia-ping Fu, Can-xu Zhou, Guo-fa Mi, and Yuan Liu (河南理工大学)

DOI: <https://doi.org/10.1007/s41230-024-3179-6>

引用格式: Fu J P, Zhou C X, Mi G F, et al. Effects of diamond particle size on microstructure and properties of diamond/Al-12Si composites prepared by vacuum-assisted pressure infiltration. China Foundry, 2024, 21(4): 360–368.

[Numerical simulation of melt flow and temperature field during DC casting 2024 aluminium alloy under different casting conditions](#)

不同铸造参数下 DC 铸造 2024 铝合金流场和温度场数值模拟 (Vol. 21 No. 4, 2024)

Jin-chuan Wang, Yu-bo Zuo, Qing-feng Zhu, Jing Li, Rui Wang, and Xu-dong Liu (东北大学)

DOI: <https://doi.org/10.1007/s41230-024-3099-5>

引用格式: Wang J C, Zuo Y B, Zhu Q F, et al. Numerical simulation of melt flow and temperature field during DC casting 2024 aluminium alloy under different casting conditions. China Foundry, 2024, 21(4): 387–396.

[Effects of cooling rate on microstructure and microhardness of directionally solidified Galvalume alloy](#)

冷却速度对定向凝固 Galvalume 合金微观组织及显微硬度影响 (Vol. 21 No. 3, 2024)

Ji-peng Li, De-gao Qiao, Jian Li, Xiao-yang Luo, Peng Peng, Xian-tao Yan, and Xu-dong Zhang (甘肃酒钢集团宏兴钢铁有限公司)

DOI: <https://doi.org/10.1007/s41230-024-3093-y>

引用格式: Li J P, Qiao D G, Li J, et al. Effects of cooling rate on microstructure and microhardness of directionally solidified Galvalume alloy. China Foundry, 2024, 21(3): 213–220.

[Effect of Sc on Al₃Fe phase and mechanical properties of as-cast AA5052 aluminum alloy](#)

Sc 对铸造 AA5052 铝合金中 Al₃Fe 相及其力学性能的影响 (Vol. 21 No. 3, 2024)

Yang Li, Qing Yu, Feng-feng Chen, Jia-wen He, Hong-mei Yang, and Meng-nie Li (昆明理工大学)

DOI: <https://doi.org/10.1007/s41230-024-3083-0>

引用格式: Li Y, Yu Q, Chen F F, et al. Effect of Sc on Al₃Fe phase and mechanical properties of as-cast AA5052 aluminum alloy. China Foundry, 2024, 21(3): 257–264.

[Phase-field lattice-Boltzmann study on fully coupled thermal-solute-convection dendrite growth of Al-Cu alloy](#)

基于相场-格子玻尔兹曼方法的热-质-流耦合下 Al-Cu 合金枝晶生长研究 (Vol. 21 No. 2, 2024)

Yin-qi Qiu, Meng-wu Wu, Xun-peng Qin, and Shou-mei Xiong (武汉理工大学)

DOI: <https://doi.org/10.1007/s41230-024-3127-5>

引用格式: Qiu Y Q, Wu M W, Qin X P, et al. Phase-field lattice-Boltzmann study on fully coupled thermal-solute-convection dendrite growth of Al-Cu alloy. China Foundry, 2024, 21(2): 125-136.

[Effect of Mn content on microstructure and properties of AlCrCuFeMn_x high-entropy alloy](#)

Mn 含量对 AlCrCuFeMn_x 高熵合金组织结构及性能的影响 (Vol. 21 No. 2, 2024)

Ning Wang, Kai Ma, Qiu-da Li, Yu-dong Yuan, Yan-chun Zhao, and Li Feng (兰州理工大学)

DOI: <https://doi.org/10.1007/s41230-024-3031-z>

引用格式: Wang N, Ma K, Li Q D, et al. Effect of Mn content on microstructure and properties of AlCrCuFeMn_x high-entropy alloy. China Foundry, 2024, 21(2): 147-158.

[To improve robustness of mechanical properties of semi-solid cast A356 alloy using taguchi design method](#)

基于田口设计方法优化半固态压铸件 A356 合金力学性能的稳健性 (Vol. 21 No. 2, 2024)

Yi-wu Xu, Hong-yi Zhan, Wei Tong, Jin-ping Li, Le-peng Zhang, De-jiang Li, and Xiao-qin Zeng (上海交通大学)

DOI: <https://doi.org/10.1007/s41230-023-3039-9>

引用格式: Xu Y W, Zhan H Y, Tong W, et al. To improve robustness of mechanical properties of semi-solid cast A356 alloy using taguchi design method. China Foundry, 2024, 21(2): 175-184.

[Effect of slow shot speed on externally solidified crystal, porosity and tensile property in a newly developed high-pressure die-cast Al-Si alloy](#)

慢射速度对新型高压压铸铝硅合金预结晶组织、孔隙率和拉伸性能的影响 (Vol. 21 No. 1, 2024)

Wen-ning Liu, Wei Zhang, Peng-yue Wang, Yi-xian Liu, Xiang-yi Jiao, Ao-xiang Wan, Cheng-gang Wang, Guo-dong Tong, and Shou-mei Xiong (清华大学)

DOI: <https://doi.org/10.1007/s41230-023-3037-y>

引用格式: Liu W N, Zhang W, Wang P Y, et al. Effect of slow shot speed on externally solidified crystal, porosity and tensile property in a newly developed high-pressure die-cast Al-Si alloy. China Foundry, 2024, 21(1): 11-19.

[Compression properties of cost-efficient porous expanded clay reinforced AA7075 syntactic foams fabricated by industrial-oriented die casting technology](#)

面向工业化的压铸技术制备的高效多孔膨胀粘土增强 AA7075 复合泡沫的压缩性能 (Vol. 21 No. 1, 2024)
İsmail Cem Akgün, Çağın Bolat, and Ali Göşnli (Istanbul Technical University)

DOI: <https://doi.org/10.1007/s41230-024-3079-9>

引用格式: Akgün İ C, Bolat Ç, and Göşnli A. Compression properties of cost-efficient porous expanded clay reinforced AA7075 syntactic foams fabricated by industrial-oriented die casting technology. China Foundry, 2024, 21(1): 60-70.

[Synergistic effect of Zr and Mo on precipitation and high-temperature properties of Al-Si-Cu-Mg alloys](#)

Zr 和 Mo 对 Al-Si-Cu-Mg 合金沉析和高温性能的协同效应 (Vol. 21 No. 1, 2024)

Chao Gao, Bing-rong Zhang, Yin-ming Li, Zhi-ming Wang, and Xiang-bin Meng (齐鲁工业大学 (山东省科学院))

DOI: <https://doi.org/10.1007/s41230-024-2147-5>

引用格式: Gao C, Zhang B R, Li Y M, et al. Synergistic effect of Zr and Mo on precipitation and high-temperature properties of Al-Si-Cu-Mg alloys. China Foundry, 2024, 21(1): 71-81.

[Effects of mechanical vibration on filling and solidification behavior, microstructure and performance of Al/Mg bimetal by lost foam compound casting](#)

机械振动对消失模复合铸造铝/镁双金属充型凝固行为、组织和性能的影响 (Vol. 20 No. 6, 2023)

Guang-yu Li, Feng Guan, Wen-ming Jiang, Yuan-cai Xu, Zheng Zhang, and Zi-tian Fan (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-023-2168-5>

[Effect of Mn and Mo on microstructure and mechanical properties of Al-Si-Cu-Mg-0.6Fe alloy](#)

Mn、Mo 对 Al-Si-Cu-Mg-0.6Fe 合金显微组织及力学性能的影响 (Vol. 20 No. 6, 2023)

Hao He, Jing Zou, Hai-tao Zhang, Da-chuan Hu, Zhi-jun Feng, Yu-fei Li, Ze-hua Li, and Hua-cheng Li (高端装备铸造技术全国重点实验室)

DOI: <https://doi.org/10.1007/s41230-023-3084-4>

[Effects of macrosegregation on mechanical and tribological properties of squeeze casting immiscible bearing alloys](#)

挤压铸造难混溶轴承合金宏观偏析对力学性能及摩擦学性能的影响 (Vol. 20 No. 5, 2023)

Ming Xu, Yan-guo Yin, Cong-min Li, Guo-tao Zhang, and Cong-chong Duan (合肥工业大学)

DOI: <https://doi.org/10.1007/s41230-023-2095-5>

[Mechanical properties and microstructural evolution of rheocast A356 semi-solid slurry prepared by annular electromagnetic stirring](#)

环形电磁搅拌制备 A356 流变铸造半固态浆料的力学性能及微观组织演变 (Vol. 20 No. 4, 2023)

Mohammad Taghi Asadi Khanouki (Shahid Bahonar University of Kerman)

DOI: <https://doi.org/10.1007/s41230-023-3041-2>

[Application of ultrasonic vibration to shape-casting based on resonance vibration analysis](#)

基于谐振设计的超声振动在金属型铸造中的应用研究 (Vol. 20 No. 4, 2023)

Zong-hang Han, Zhi-ming Wang, Zhi-ping Sun, Bing-rong Zhang, and Wei-feng Rao (山东省科学院)

DOI: <https://doi.org/10.1007/s41230-023-2171-x>

[Effect of mixing temperature on microstructure of an Al-Si alloy prepared by controlled diffusion solidification](#)

混合温度对受控扩散凝固 Al-Si 合金微观组织的影响 (Vol. 20 No. 3, 2023)

Han Xue, Ti-jun Chen, Xue-zheng Zhang, Guang-li Bi, Ying Ma, and Ren-guo Guan (兰州理工大学)

DOI: <https://doi.org/10.1007/s41230-023-2067-9>

[Effect of melt-to-solid volume ratio and preheating temperature on Mg/Al bimetals interface by centrifugal casting](#)

液固比和预热温度对离心铸造 Mg/Al 双金属界面的影响 (Vol. 20 No. 3, 2023)

Morteza Sarvari, Mehdi Divandari, Hassan Saghafian, and *Sina Ghaemi Khiavi
(Iran University of Science and Technology)

DOI: <https://doi.org/10.1007/s41230-023-2101-y>

[Effect of compound treatment of rotating magnetic field and Al-5Ti-1B refiner on microstructure and properties of Al-5Cu alloy](#)

旋转磁场与细化剂复合处理对 Al-5Cu 合金组织和性能的影响 (Vol. 20 No. 3, 2023)

Ao Wang, Kai-jiao Kang, Da-yong Li (哈尔滨理工大学)

DOI: <https://doi.org/10.1007/s41230-023-2123-5>

[Effect of mold and core preheating temperature on corrosion resistance of casting Al-12Si alloy U-shaped cooling channel](#)

铸造模具和型芯的预热对 Al-12Si 合金模具 U 形水冷通道耐蚀性能的影响 (Vol. 20 No. 3, 2023)

Guang-long Li, Jie Zhang, Meng-yu Wang, Rui-ming Su, Yang Cao, and Ying-dong Qu (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-023-2149-8>

[Effect of Ti content on microstructures and mechanical properties of cast Al-2Li-2Cu-0.5Mg alloy](#)

钛含量对铸造 Al-2Li-2Cu-0.5Mg 铝锂合金微观组织和力学性能的影响 (Vol. 20 No. 3, 2023)

You-jie Guo, Dong-chen Yang, Liang Zhang, Guo-hua Wu, Yi-xiao Wang, Pei-sen Li, Guang-xiao Ren, Liang-bin Li, and Xun-man Xiong (上海交通大学)

DOI: <https://doi.org/10.1007/s41230-023-3036-z>

[Squeeze casting for metal alloys and composites: An overview of influence of process parameters on mechanical properties and microstructure](#)

金属合金和复合材料的挤压铸造：工艺参数对力学性能和微观结构的影响——综述 (Vol. 20 No. 2, 2023)

Osarue Osaruene Edosa, Francis Kunzi Tekweme, and Kapil Gupta (University of Johannesburg)

DOI: <https://doi.org/10.1007/s41230-022-2030-1>

[Microstructure characteristics and thermodynamic properties of A357-SiC_p/A357 layered composites prepared by semi-solid vacuum stirring suction casting](#)

半固态真空搅拌吸铸制备 A357-SiC_p/A357 层状复合材料的组织特性及热力学性能 (Vol. 20 No. 2, 2023)

Zhen-lin Zhang, Ying Xiao, Jun Xu, Feng-liang Tan, Li Wang, and Min He (湖南省铝合金半固态成形工程技术研究中心)

DOI: <https://doi.org/10.1007/s41230-022-2003-4>

[Effect of rare earth on morphology and dispersion of TiB₂ phase in Al-Ti-B alloy refiner](#)

稀土对 Al-Ti-B 细化剂中 TiB₂ 相形貌及分布的影响 (Vol. 20 No. 2, 2023)

Zhi-qiang Chen, Wen-xin Hu, Lei Shi, and Wei Wang (包头稀土研究院)

DOI: <https://doi.org/10.1007/s41230-023-2113-7>

[Effect of Ti, Sc and Zr additions on microstructure and mechanical properties of rheo-diecasting Al-6Zn-2Mg-2Cu alloys](#)

Ti, Sc 和 Zr 添加对流变压铸 Al-6Zn-2Mg-2Cu 合金微观组织和力学性能的影响 (Vol. 20 No. 2, 2023)

Sai-heng Hou, Jian Feng, Song Chen, Fan Zhang, and Da-quan Li (中国有研科技集团有限公司)

DOI: <https://doi.org/10.1007/s41230-022-2028-8>

[Effects of magnesium and copper additions on tensile properties of Al-Si-Cr die casting alloy under as-cast and T5 conditions](#)

镁、铜对铸态和T5条件下Al-Si-Cr压铸合金拉伸性能的影响 (Vol. 20 No. 1, 2023)

Hong-yi Zhan, Yi-wu Xu, Pan Wang, Jian-feng Wang, Jin-ping Li, and Le-peng Zhang (通用汽车全球研发, 中国科学实验室&上海交通大学)

DOI: <https://doi.org/10.1007/s41230-022-2082-2>

[Evaluation of microstructure and mechanical properties of squeeze overcast Al7075-Cu composite joints](#)

挤压整体铸造Al7075-Cu复合材料接头的微观组织和力学性能 (Vol. 20 No. 1, 2023)

Muhammad Waqas Hanif, Ahmad Wasim, Muhammad Sajid, Salman Hussain, Muhammad Jawad, and Mirza Jahanzaib (University of Engineering and Technology Taxila, Pakistan)

DOI: <https://doi.org/10.1007/s41230-022-1242-8>

[Effect of wide-spectrum pulsed magnetic field on grain refinement of pure aluminium](#)

宽谱脉冲磁场对纯铝晶粒细化的影响 (Vol. 20 No. 1, 2023)

Ya-ming Bai, Gang Li, Ya-wei Sun, Yong-yong Gong, and Qi-jie Zhai (上海大学)

DOI: <https://doi.org/10.1007/s41230-023-1108-8>

[Microstructure evolution and precipitation behavior of Al-Mg-Si alloy during initial aging](#)

Al-Mg-Si合金早期时效阶段组织演变及析出行为 (Vol. 20 No. 1, 2023)

Ya-ya Zheng, Bing-hui Luo, Wei Xie, and Wang Li (湖南人文科技学院)

DOI: <https://doi.org/10.1007/s41230-023-1113-y>

[A comparative study on Sn macrosegregation behavior of ternary Al-Sn-Cu alloys prepared by gravity casting and squeeze casting](#)

重力铸造和挤压铸造对比研究三元Al-Sn-Cu合金中Sn的宏观偏析行为 (Vol. 20 No. 1, 2023)

Ming Xu, Yan-guo Yin, Cong-min Li, and Cong-chong Duan (合肥工业大学)

DOI: <https://doi.org/10.1007/s41230-023-2046-1>

[Effect of secondary aging on microstructure and properties of cast Al-Cu-Mg alloy](#)

二次时效对铸造Al-Cu-Mg合金组织和性能的影响 (Vol. 20 No. 1, 2023)

Rui-ming Su, Yong-xin Jia, Jian Xiao, Guang-long Li, Ying-dong Qu, and Rong-de Li (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-023-1049-2>

[Effect of Ti on microstructure and properties of electromagnetic stirred Al-18wt.%Mg₂Si alloy](#)

Ti对电磁搅拌法制备Al-18wt.%Mg₂Si合金显微组织和性能的影响 (Vol. 20 No. 1, 2023)

Yu-yan Ren, Sheng-yuan Chen, Tong-yu Liu, Song-Zhang, and Ying-min Li (潍坊科技学院)

DOI: <https://doi.org/10.1007/s41230-023-1171-1>

[Effects of Ag, Co, and Ge additions on microstructure and mechanical properties of Be-Al alloy fabricated by investment casting](#)

Ag, Co和Ge添加对精密铸造Be-Al合金微观组织及机械性能的影响 (Vol. 19 No. 5, 2022)

Yao Xie, Ya-jun Yin, Dong-xin Wang, Jian-xin Zhou, Jun-yi Li, Xiao-yuan Ji, Zhao-gang Liu, Xu Shen, and Wei Fu (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-022-1193-0>

[Influence of non-uniform ultrasonic vibration on casting fluidity of liquid aluminum alloy](#)

不均匀超声波振动对铝合金熔体流动性的影响 (Vol. 19 No. 5, 2022)

Zi-heng Han, Zhi-ming Wang, Zhi-ping Sun, Bing-rong Zhang, and Wei-feng Rao (齐鲁工业大学)

DOI: <https://doi.org/10.1007/s41230-022-2039>

[Effects of Cu content on microstructure and mechanical properties of rheo-diecasting Al-6Zn-2Mg-xCu alloys](#)

铜元素对于 Al-6Zn-2Mg-xCu 铝合金半固态铸造状态下微观及机械性能的影响 (Vol. 19 No. 4, 2022)

Zhi-guang Ding, Sai-heng Hou, Song Chen, Ze-hua Liu, Da-quan Li, Jian Feng, Fan Zhang, and Li-ming Peng (上海交通大学)

DOI: <https://doi.org/10.1007/s41230-022-1138-7>

[Design and application of a multichannel “cross” hot tearing tendency device: A study on hot tearing tendency of Al alloys](#)

多通道“十字型”热裂倾向性测试装置的设计与应用：铝合金热裂倾向性研究 (Vol. 19 No. 4, 2022)

Ming Su, Wen-tao Zheng, Deng-ke Fu, Hong-jun Huang, Xiao-jiao Zuo, Chun-yu Yue, Yu-xiang Wang, and Xiao-guang Yuan (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-022-1184-5>

[High-strength aluminum alloys hollow billet prepared by two-phase zone continuous casting](#)

两相区连铸制备高强铝合金管坯的研究 (Vol. 19 No. 3, 2022)

Yao-hua Yang, Xue-feng Liu, and Wang-zhang Chen (北京科技大学)

DOI: <https://doi.org/10.1007/s41230-022-1036-z>

[Design and preparation of aluminum alloy with high thermal conductivity based on CALPHAD and first-principles calculation](#)

基于CALPHAD方法和第一性原理计算的高导热铝合金设计制备 (Vol. 19 No. 3, 2022)

Ye Wang, Hui-jun Kang, Yu Guo, Hong-tao Chen, Mao-liang Hu, and Ze-sheng Ji (哈尔滨理工大学)

DOI: <https://doi.org/10.1007/s41230-022-1122-2>

[Effect of solution treatment on microstructure and mechanical properties of as-cast Al-12Si-4Cu-2Ni-0.8Mg-0.2Gd alloy](#)

固溶处理对铸造Al-12Si-4Cu-2Ni-0.8Mg-0.2Gd合金微观组织和力学性能的影响 (Vol. 19 No. 3, 2022)

Yu-dong Sui, Ye-hua Jiang, and Qu-dong Wang (昆明理工大学)

DOI: <https://doi.org/10.1007/s41230-022-1076-4>

[Fabrication and compressive behavior of open-cell aluminum foams via infiltration casting using spherical CaCl₂ space-holders](#)

利用球形CaCl₂颗粒渗流制备开孔泡沫铝及其压缩性能研究 (Vol. 19 No. 2, 2022)

Tan Wan, Gang-qiang Liang, Zhao-ming Wang, Can-xu Zhou, and Yuan Liu (清华大学)

DOI: <https://doi.org/10.1007/s41230-022-1159-2>

[Simulation of \$\alpha\$ -Al grain formation in high vacuum die-casting Al-Si-Mg alloys with multi-component quantitative cellular automaton method](#)

基于多元量化元胞自动机法的高真空压铸Al-Si-Mg合金 α -Al晶粒的形成模拟 (Vol. 19 No. 2, 2022)

Yong-zhi Hao, Hai-dong Zhao, Xu Shen, Xue-ling Wang, and Hui-ting Zheng (华南理工大学)

DOI: <https://doi.org/10.1007/s41230-022-1176-1>

[Efficient fabrication of semisolid nondendritic Al alloy slurry with high quality](#)

高效率制备高质量非枝晶半固态铝合金浆料 (Vol. 19 No. 2, 2022)

Zong-xu Zhang, Ti-jun Chen, Kun Liu, Han Xue, Jia-chen Qi, Guang-li Bi, and Ying Ma (兰州理工大学)

DOI: <https://doi.org/10.1007/s41230-022-1134-y>

[An Al-12Si/ZnS powder inoculant for eutectic silicon in Al-12Si alloy](#)

用于Al-12Si合金中共晶硅的一种Al-12Si/ZnS粉末孕育剂 (Vol. 19 No. 2, 2022)

Ying Wang, Pan-yu Chen, Yu-hui Lin, Mei Zhao, and Cheng-dong Li (青岛科技大学)

DOI: <https://doi.org/10.1007/s41230-022-9003-2>

[Effects of cooling rates on microporosity in DC casting Al-Li alloy](#)

冷却速率对半连续铸造Al-Li合金显微缩松的影响 (Vol. 19 No. 2, 2022)

Yu-xuan Zhang, Jun-sheng Wang, Dong-xu Chen, Bing Wang, Chi Zhang, and Zheng-an Wang (北京理工大学)

DOI: <https://doi.org/10.1007/s41230-022-1183-2>

[Structures and macrosegregation of a 2024 aluminum alloy fabricated by direct chill casting with double cooling field](#)

双冷场半连铸2024铝合金的组织与宏观偏析 (Vol. 19 No. 1, 2022)

Cheng Zhu, Zhi-hao Zhao, Qing-feng Zhu, Gao-song Wang, Yu-bo Zuo, and Gao-wu Qin (东北大学)

DOI: <https://doi.org/10.1007/s41230-022-1030-5>

[Effects of Zr additions on structure and tensile properties of an Al-4.5Cu-0.3Mg-0.05Ti \(wt.%\) alloy](#)

Zr对Al-4.5Cu-0.3Mg-0.05Ti (wt.%)合金组织和拉伸性能的影响 (Vol. 19 No. 1, 2022)

Hamed Kamali, Erfan Kamali, and Massoud Emamy (德黑兰大学, 伊朗)

DOI: <https://doi.org/10.1007/s41230-022-1094-2>

[Regulative effect of Mg/Si ratio on microstructure evolution and mechanical properties of cast Al-Li-Mg-Si alloys](#)

Mg/Si比对铸态Al-Li-Mg-Si合金组织演变和力学性能的协同调控作用 (Vol. 19 No. 1, 2022)

Xue-jian Zhang, Hong-wei Wang, Feng-bai Ye, Chun-ming Zou, and Zun-jie Wei (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-022-1105-3>

[Effects of particle size, bimodality and heat treatment on mechanical properties of pumice reinforced aluminum syntactic foams produced by cold chamber die casting](#)

浮岩粒度和热处理对冷室压铸浮岩增强泡沫铝力学性能的影响 (Vol. 18 No. 6, 2021)

Çağın Bolat, İsmail Cem Akgün, Ali Gökşenli (土耳其伊斯坦布尔理工大学)

DOI: <https://doi.org/10.1007/s41230-021-1133-4>

[Effects of rare earth elements on microstructure and tensile properties of Al-Si-Cu alloy at 250 °C](#)

稀土元素对Al-Si-Cu合金250 °C组织和拉伸性能的影响 (Vol. 18 No. 5, 2021)

Shuai-bo Zhang, Yong Su, and Wen-gang Gong (合肥工业大学)

DOI: <https://doi.org/10.1007/s41230-021-1020-z>

[Effect of La addition on microstructure and mechanical properties of hypoeutectic Al-7Si aluminum alloy](#)

La对亚共晶Al-7Si铝合金组织和性能的影响 (Vol. 18 No. 5, 2021)

Xiao-yan Wu, Wei Luo, Hua-rui Zhang, et al (北京科技大学)

DOI: <https://doi.org/10.1007/s41230-021-0137-4>

[Microstructure and properties of AlSi7Mg alloy fabricated by selective laser melting](#)

选区激光熔化AlSi7Mg合金的组织与性能 (Vol. 18 No. 4, 2021)

Shuai Huang, Shao-qing Guo, Biao Zhou, et al (北京航空材料研究院)

DOI: <https://doi.org/10.1007/s41230-021-1004-z>

[Effect of Gd on microstructure and refinement performance of Al-5Ti-B alloy](#)

Gd对Al-5Ti-B合金组织及细化性能的影响 (Vol. 18 No. 3, 2021)

Dong-song Yin, Ning Zhang, Ke-ju Chen, et al (黑龙江科技大学)

DOI: <https://doi.org/10.1007/s41230-021-9021-5>

[Effect of ultrasonic field treatment on degassing of 2024 alloy](#)

超声场处理对2024合金除气效果的影响 (Vol. 18 No. 2, 2021)

Zheng Jia, Bing Yu, Qing Lan, et al (沈阳大学)

DOI: <https://doi.org/10.1007/s41230-021-9001-9>

[Grain refinement of primary silicon in hypereutectic Al-Si alloys by different P-containing compounds](#)

不同含磷化合物对过共晶Al-Si合金初生硅的晶粒细化作用 (Vol. 18 No. 1, 2021)

Benson Kihono Njuguna, Jia-yan Li, Yi Tan, et al (大连理工大学)

DOI: <https://doi.org/10.1007/s41230-021-0074-2>

[Segregation in squeeze casting 6061 aluminum alloy wheel spokes and its formation mechanism](#)

挤压铸造6061铝合金轮辐中的偏析及其形成机理 (Vol. 18 No. 1, 2021)

Fan-bo Meng, Hong-jun Huang, Xiao-guang Yuan, et al (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-021-0079-x>

[Effects of process parameters on semi-solid squeeze casting performance of aluminum alloy scrolls for scroll compressors](#)

工艺参数对涡旋压缩机铝合金卷轴半固态挤压铸造性能的影响 (Vol. 17 No. 5, 2020)

Yong-fei Wang, Sheng-dun Zhao, Yi Guo, et al (西安交通大学)

DOI: <https://doi.org/10.1007/s41230-020-0028-0>

[Influence of Al-B grain refiner on porosity formation of directionally solidified Al-Si alloys](#)

Al-B晶粒细化剂对定向凝固Al-Si合金缩松形成的影响 (Vol. 17 No. 5, 2020)

Muhammet Uludağ (土耳其Bursa Technical University)

DOI: <https://doi.org/10.1007/s41230-020-0012-8>

[Microstructural evolution of Al-Cu-Li alloys with different Li contents by coupling of near-rapid solidification and two-stage homogenization treatment](#)

通过近快速凝固和两阶段均质化处理相结合研究不同Li含量Al-Cu-Li合金的微观组织演变 (Vol. 17 No. 3, 2020)

Lei Luo, Liang-shun Luo, Zhi-ping Li, et al (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-020-0001-y>

[Effect of Si addition on microstructure and mechanical properties of Al-Mg-Si-Zn alloy](#)

Si对Al-Mg-Si-Zn合金组织和力学性能的影响 (Vol. 17 No. 1, 2020)

Fan-bo Meng, Hong-jun Huang, Xiao-guang Yuan, et al (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-020-9102-x>

五、Magnesium alloys 镁合金

[Characteristics and distribution of microstructures in high pressure die cast alloys with X-ray microtomography: A review](#)

压铸铝/镁合金微观组织三维断层扫描表征的研究进展 (Vol. 21 No. 5, 2024)

Hai-dong Zhao, Xue-ling Wang, Qian Wan, Wen-hui Bai, and Fei Liu (华南理工大学)

DOI: <https://doi.org/10.1007/s41230-024-4109-3>.

引用格式: Zhao H D, Wang X L, Wan Q, et al. Characteristics and distribution of microstructures in high pressure die cast alloys with X-ray microtomography: A review. China Foundry, 2024, 21(5): 427-444.

[Research progress on semi-continuous casting of magnesium alloys under external field](#)

外场作用下镁合金半连续铸造研究进展 (Vol. 21 No. 5, 2024)

Qi-yu Liao, Qi-chi Le, Da-zhi Zhao, Lei Bao, Tong Wang, and Yong-hui Jia (东北大学)

DOI: <https://doi.org/10.1007/s41230-024-4059-9>.

引用格式: Liao Q Y, Le Q C, Zhao D Z, et al. Research progress on semi-continuous casting of magnesium alloys under external field. China Foundry, 2024, 21(5): 516-524.

[Thin-walled and large-sized magnesium alloy die castings for passenger car cockpit: Application, materials, and manufacture](#)

乘用车座舱用薄壁大型镁合金压铸件: 应用、材料及制造 (Vol. 21 No. 5, 2024)

Lei Zhan, Yu-meng Sun, Yang Song, Chun-hua Kong, Kai Ma, Bai-xin Dong, Hong-yu Yang, Shi-li Shu & Feng Qiu (吉林大学)

DOI: <https://doi.org/10.1007/s41230-024-4100-z>.

引用格式: Zhan L, Sun Y M, Song Y, et al. Thin-walled and large-sized magnesium alloy die castings for passenger car cockpit: Application, materials, and manufacture. China Foundry, 2024, 21(5): 525-545.

[Combined effects of ultrasonic vibration and FeCoNiCrCu coating on interfacial microstructure and mechanical properties of Al/Mg bimetal by compound casting](#)

超声振动和高熵合金涂层对复合铸造 Al/Mg 双金属界面组织和力学性能的影响 (Vol. 21 No. 5, 2024)

Yuan-cai Xu, Wen-ming Jiang, Qing-qing Li, Ling-hui Yu, Xiao-peng Yu, and Zi-tian Fan (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-024-4113-7>.

引用格式: Xu Y C, Jiang W M, Li Q Q, et al. Combined effects of ultrasonic vibration and FeCoNiCrCu coating on interfacial microstructure and mechanical properties of Al/Mg bimetal by compound casting. China Foundry, 2024, 21(5): 588-598.

[Effect of heat treatment on corrosion behaviors of Mg-6Gd-3Y-0.5Zr alloy](#)

热处理对 Mg-6Gd-3Y-0.5Zr 合金腐蚀行为的影响 (Vol. 21 No. 5, 2024)

Fei Wang, Bin-guo Fu, Yu-feng Wang, Tian-shun Dong, Guo-lu Li, and Jin-hai Liu (河北工业大学)

DOI: <https://doi.org/10.1007/s41230-024-4110-x>.

引用格式: Wang F, Fu B G, Wang Y F, et al. Effect of heat treatment on corrosion behaviors of Mg-6Gd-3Y-0.5Zr alloy. China Foundry, 2024, 21(5): 599-612.

[Segregation of Mg-6Gd alloy under natural convection: From macro solute distribution to micro dendrite growth](#)

自然对流作用下 Mg-6Gd 合金的偏析行为研究：从宏观的溶质分布到微观的枝晶生长（Vol. 21 No. 5, 2024）
Hong-xu Chen, Ang Zhang, Hao Li, Yu Gao, Yu-hong Cui, Guang-sheng Huang, Bin Jiang, and Fu-sheng Pan

DOI: <https://doi.org/10.1007/s41230-024-4126-2>.

引用格式: Chen H X, Zhang A, Li H, et al. Segregation of Mg-6Gd alloy under natural convection: From macro solute distribution to micro dendrite growth. China Foundry, 2024, 21(5): 613-624.

[Interfacial reaction between AZ91D magnesium alloy melt and mild steel under high temperature](#)

高温下 AZ91D 镁合金熔体与低碳钢的界面反应（Vol. 21 No. 2, 2024）

Jia-hong Dai, Jian-yue Zhang, Bin Jiang, Xiang-jun Xu, Zhong-tao Jiang, Hong-mei Xie, Qing-shan Yang, and Guo-qing Zhang（长江师范学院）

DOI: <https://doi.org/10.1007/s41230-024-3018-9>

引用格式: Dai J H, Zhang J Y, Jiang B, et al. Interfacial reaction between AZ91D magnesium alloy melt and mild steel under high temperature. China Foundry, 2024, 21(2): 159-167.

[Progress in preparation of AlN-reinforced magnesium matrix composites: A review](#)

氮化铝增强镁基复合材料的制备技术进展（Vol. 21 No. 1, 2024）

Lu Chen, Shu-lin Lü, Di-jia Zhao, Wei Guo, Jian-yu Li, and Shu-sen Wu（华中科技大学）

DOI: <https://doi.org/10.1007/s41230-023-3035-0>

引用格式: Chen L, Lü S L, Zhao D J, et al. Progress in preparation of AlN-reinforced magnesium matrix composites: A review. China Foundry, 2024, 21(1): 1-10.

[Understanding the spatial interaction of ultrasounds based on three-dimensional dual-frequency ultrasonic field numerical simulation](#)

基于三维双频超声场数值模拟的超声波空间交互研究（Vol. 21 No. 1, 2024）

Zhao-yang Yin, Qi-chi Le, Yan-chao Jiang, Da-zhi Zhao, Qi-yu Liao, and Qi Zou（东北大学）

DOI: <https://doi.org/10.1007/s41230-023-3042-1>

引用格式: Yin Z Y, Le Q C, Jiang Y C, et al. Understanding the spatial interaction of ultrasounds based on three-dimensional dual-frequency ultrasonic field numerical simulation. China Foundry, 2024, 21(1): 29-43.

[Effects of mechanical vibration on filling and solidification behavior, microstructure and performance of Al/Mg bimetal by lost foam compound casting](#)

机械振动对消失模复合铸造铝/镁双金属充型凝固行为、组织和性能的影响（Vol. 20 No. 6, 2023）

Guang-yu Li, Feng Guan, Wen-ming Jiang, Yuan-cai Xu, Zheng Zhang, and Zi-tian Fan（华中科技大学）

DOI: <https://doi.org/10.1007/s41230-023-2168-5>

[Effect of Ce on microstructure and mechanical properties of Mg-Zn-Ce magnesium alloys](#)

Ce 对 Mg-Zn-Ce 镁合金微观组织和力学性能的影响（Vol. 20 No. 4, 2023）

Hong-fei Wu, Wen-xin Hu, Shao-bo Ma, Zheng-hua Yang, Wei Wang, Feng Liu, and Wei He
（白云鄂博稀土资源研究与综合利用全国重点实验室，包头稀土研究院）

DOI: <https://doi.org/10.1007/s41230-023-2183-6>

[Study on anisotropy of microstructure and mechanical properties of AZ31 magnesium alloy fabricated by wire arc additive manufacturing](#)

电弧增材制造AZ31镁合金显微组织与力学性能的各向异性研究 (Vol. 20 No. 4, 2023)

Dong Ma, Chun-jie Xu, Jun Tian, Shang Sui, Can Guo, Xiang-quan Wu, and Zhong-ming Zhang (西安理工大学)

DOI: <https://doi.org/10.1007/s41230-023-2187-2>

[Microstructure and mechanical properties of a cast heat-resistant rare-earth magnesium alloy](#)

铸造耐热稀土镁合金的组织与力学性能 (Vol. 20 No. 4, 2023)

Xiao-ping Zhu, Jun-qing Yao, Hai-long Wu, Xin-wang Liu, Hua Liu, Zi-tian Fan, Shu-lin Lü, Kai Wang, and Zi-dong Wang (北京科技大学)

DOI: <https://doi.org/10.1007/s41230-023-2015-8>

[Effect of Zn addition on microstructure and mechanical properties of Mg-3Y-2Nd-0.5Zr alloy](#)

Zn 对 Mg-3Y-2Nd-0.5Zr 合金微观组织和力学性能的影响 (Vol. 20 No. 4, 2023)

Fei-yu He, Wen-xin Hu, Li-juan Liu, Shao-bo Ma, and Wei He (白云鄂博稀土资源研究与综合利用国家重点实验室, 包头稀土研究院)

DOI: <https://doi.org/10.1007/s41230-023-2107-5>

[Effects of aging treatment processes on microstructures and mechanical properties of AZ63 casting magnesium alloy](#)

时效处理工艺对 AZ63 铸造镁合金组织和力学性能的影响 (Vol. 20 No. 4, 2023)

Chun-yu Li, Hao-bo Wei, Shi-hui Ruan, Jie-yi Chen, Zong-gang Wu, and Ming-bo Yang

DOI: <https://doi.org/10.1007/s41230-023-2169-4>

[Effect of melt-to-solid volume ratio and preheating temperature on Mg/Al bimetals interface by centrifugal casting](#)

液固比和预热温度对离心铸造 Mg/Al 双金属界面的影响 (Vol. 20 No. 3, 2023)

Morteza Sarvari, Mehdi Divandari, Hassan Saghaian, and *Sina Ghaemi Khiavi
(Iran University of Science and Technology)

DOI: <https://doi.org/10.1007/s41230-023-2101-y>

[Effect of HEA/Al composite interlayer on microstructure and mechanical property of Ti/Mg bimetal composite by solid-liquid compound casting](#)

HEA/Al复合夹层对固液复合铸造Ti/Mg双金属复合材料组织和力学性能的影响 (Vol. 20 No. 1, 2023)

Jin Cheng, Jian-hua Zhao, Chun Wang, Jing-jing Shanguan, Cheng Gu, and Ya-jun Wang (重庆大学)

DOI: <https://doi.org/10.1007/s41230-022-2105-z>

[Effect of La addition on semi-solid microstructure evolution of Mg-7Zn magnesium alloy](#)

添加La对Mg-7Zn镁合金半固态组织演变的影响 (Vol. 19 No. 5, 2022)

Zhan-yu Zhang, Xiao-feng Huang, Fan Yang, Sheng Zhang, and Jiao-li Fu (兰州理工大学)

DOI: <https://doi.org/10.1007/s41230-022-1191-2>

[Improvement of microstructure, mechanical properties, and corrosion resistance of WE43 alloy by squeeze casting](#)

用挤压铸造工艺改善WE43合金的显微组织、力学性能和耐腐蚀性能 (Vol. 19 No. 5, 2022)

Jian-cong Bian, Bao-yi Yu, Jian-fei Hao, Hui-wen Zhu, Hui-shu Wu, Bin Chen, Wei-rong Li, Yan-fang Li, Li Zheng, and Run-xia Li (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-022-1181-4>

[Effect of electromagnetic parameters on melt flow and heat transfer of AZ80 Mg alloy during differential phase electromagnetic DC casting based on numerical simulation](#)

电磁参数对AZ80镁合金差相电磁DC铸造熔体流动和传热影响的数值模拟研究 (Vol. 19 No. 3, 2022)

Yong-hui Jia, Cheng-lu Hu, Qi-chi Le, and Wen-yi Hu (东北大学)

DOI: <https://doi.org/10.1007/s41230-022-1156-5>

[Defect band formation in high pressure die casting AE44 magnesium alloy](#)

压铸镁合金AE44缺陷带的形成研究 (Vol. 19 No. 3, 2022)

Ying-ying Hou, Meng-wu Wu, Feng Huang, Xiao-bo Li, and Shou-mei Xiong (武汉理工大学)

DOI: <https://doi.org/10.1007/s41230-022-1220-1>

[Microstructure evolution and age-hardening response in Mg-Sn-Sm alloys under a wide range of Sm/Sn ratio](#)

Sm/Sn质量比对Mg-Sn-Sm镁合金显微组织及时效硬化行为的影响 (Vol. 19 No. 3, 2022)

Feng Liu, Wen-xin Hu, Zheng-hua Yang, Wei Wang, and Wei He (包头稀土研究院)

DOI: <https://doi.org/10.1007/s41230-022-1120-4>

[Effect of Gd content on hot-tearing susceptibility of Mg-6Zn-xGd casting alloys](#)

Gd含量对铸造Mg-6Zn-xGd合金热裂敏感性的影响 (Vol. 19 No. 2, 2022)

He Qin, Guang-yu Yang, Xun-wei Zheng, Shi-feng Luo, Tong Bai, and Wan-qi Jie (西北工业大学)

DOI: <https://doi.org/10.1007/s41230-022-1117-z>

[Influence of different high pressure die casting processes on 3D porosity distribution of Mg-3.0Nd-0.3Zn-0.6Zr alloy](#)

不同压铸工艺对Mg-3.0Nd-0.3Zn-0.6Zr合金三维缩孔分布的影响 (Vol. 18 No. 6, 2021)

Yi-hu Ma, Wen-bo Yu, Yu-qi Zhou, et al (北京交通大学)

DOI: <https://doi.org/10.1007/s41230-021-1068-9>

[Effects of SiC_p on microstructures of semisolid extruded AZ91D magnesium alloys in recrystallization process](#)

SiC_p对半固态挤压AZ91D镁合金再结晶过程中组织的影响 (Vol. 18 No. 6, 2021)

Ao-xue Jiang, Zhi-yong You, Zhuang-zheng Duan, et al (太原理工大学)

DOI: <https://doi.org/10.1007/s41230-021-1005-y>

[Influence of a low-frequency alternating magnetic field on hot tearing susceptibility of EV31 magnesium alloy](#)

低频交变磁场对EV31镁合金热裂敏感性的影响 (Vol. 18 No. 3, 2021)

Xin Su, Jing-fu Huang, Xu-dong Du, et al (沈阳铸造研究所)

DOI: <https://doi.org/10.1007/s41230-021-1011-0>

[\(Y, Gd\)H₂ phase formation in as-cast Mg-6Gd-3Y-0.5Zr alloy](#)

铸态Mg-6Gd-3Y-0.5Zr合金中(Y, Gd)H₂相的形成 (Vol. 18 No. 3, 2021)

Fei Wang, Bin-guo Fu, Yu-feng Wang, et al (河北工业大学)

DOI: <https://doi.org/10.1007/s41230-021-1013-y>

[Effect of ageing treatment on microstructures, mechanical properties and corrosion behavior of Mg-Zn-RE-Zr alloy micro-alloyed with Ca and Sr](#)

时效处理对Ca、Sr微合金化Mg-Zn-RE-Zr合金组织、力学性能及腐蚀行为的影响 (Vol. 18 No. 2, 2021)

Yu Fu, Chen Liu, Hai Hao, et al (中国兵器科学研究院宁波分院)

DOI: <https://doi.org/10.1007/s41230-021-0146-3>

[Microstructure evolution and mechanical properties of Mg-12Zn-2Y alloy containing quasicrystal phase fabricated by different casting processes](#)

不同铸造工艺制备含准晶相的Mg-12Zn-2Y合金的组织演变及力学性能 (Vol. 18 No. 2, 2021)

Ji-guang Liu, Bu-ke Dong, Xiao-gang Fang, et al (合肥工业大学)

DOI: <https://doi.org/10.1007/s41230-021-0132-9>

[Microstructure and mechanical properties of AZ91D magnesium alloy by expendable pattern shell casting with different mechanical vibration amplitudes and pouring temperatures](#)

不同机械振动振幅和浇注温度下消失模铸造AZ91D镁合金的组织 and 力学性能 (Vol. 18 No. 1, 2021)

Suo Fan, He-bao Wu, Jin-xiu Fang (武汉工程大学)

DOI: <https://doi.org/10.1007/s41230-021-0113-z>

[Microstructures and tensile properties of as-cast Mg-5Sn-1Si magnesium alloy modified with trace elements of Y, Bi, Sb and Sr](#)

微量Y、Bi、Sb、Sr元素改性Mg-5Sn-1Si镁合金的铸态组织与拉伸性能 (Vol. 18 No. 1, 2021)

He-shuai Yu, Xue-feng Guo, Hong-bao Cui (河南理工大学)

DOI: <https://doi.org/10.1007/s41230-021-0117-8>

[Hot tearing behavior of NZ30K Mg alloy under progressive solidification](#)

顺序凝固NZ30K镁合金的热裂行为 (Vol. 18 No.1, 2021)

Ke Wang, Peng-huai Fu, Li-ming Peng, et al (上海交通大学)

DOI: <https://doi.org/10.1007/s41230-021-0066-2>

[Corrosion and chemical behavior of Mg₉₇Zn₁Y₂-1wt.%SiC under different corrosion solutions](#)

Mg₉₇Zn₁Y₂-1wt.%SiC在不同腐蚀液中的腐蚀与化学行为 (Vol. 18 No. 1, 2021)

Di-qing Wan, Yan-dan Xue, Jia-jun Hu, et al (华东交通大学)

DOI: <https://doi.org/10.1007/s41230-021-0009-y>

[Effect of Gd addition on mechanical and microstructural properties of Mg-xGd-2.6Nd-0.5Zn-0.5Zr cast alloys](#)

添加Gd对铸造Mg-xGd-2.6Nd-0.5Zn-0.5Zr合金力学性能和显微组织的影响 (Vol. 17 No. 3, 2020)

Liang Zhan, Yi-zhi Le, Zhi-jun Feng, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-020-9070-1>

[Effect of heat treatment on microstructure and properties of semi-solid squeeze casting AZ91D](#)

热处理对半固态挤压铸造AZ91D合金组织和性能的影响 (Vol. 17 No. 3, 2020)

Zhi-yong You, Ao-xue Jiang, Zhuang-zheng Duan, et al (太原理工大学)

DOI: <https://doi.org/10.1007/s41230-020-9103-9>

[Aging kinetics of 14H-LPSO precipitates in Mg-Zn-Y alloy](#)

Mg-Zn-Y合金14H-LPSO析出相的时效动力学 (Vol. 17 No. 1, 2020)

Di-ging Wan, Hou-bin Wang, Zhu-min Li, et al (华东交通大学)

DOI: <https://doi.org/10.1007/s41230-020-9088-4>

六、Ti and TiAl based alloys 钛及钛铝基合金

[Modification of BCC phase and the enhanced reversible hydrogen storage properties of Ti-V-Fe-Mn alloys with varied V/Fe ratios](#)

具有不同 V/Fe 比 Ti-V-Fe-Mn 合金的 BCC 相转变及可逆储氢性能优化 (Vol. 21 No. 5, 2024)

Xiang-feng Ma, Xin Ding, En-lai Liu, Rui-run Chen, Xin-xiu Wang, Yong Zhang, and Jing-jie Guo (哈尔滨大学)

DOI: <https://doi.org/10.1007/s41230-024-4122-6>.

引用格式: Ma X F, Ding X, Liu E L, et al. Modification of BCC phase and the enhanced reversible hydrogen storage properties of Ti-V-Fe-Mn alloys with varied V/Fe ratios. China Foundry, 2024, 21(5): 546-554.

[Microstructural characterization and mechanical properties of \(TiC+TiB\)/TA15 composites prepared by an in-situ synthesis method](#)

原位合成法制备 (TiC+TiB)/TA15 复合材料的微观组织和力学性能 (Vol. 21 No. 2, 2024)

Zhi-yong Zhang, Jiao-jiao Cheng, Jia-qi Xie, Shi-bing Liu, Kun Shi, and Jun Zhao (中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-024-3026-9>

引用格式: Zhang Z Y, Cheng J J, Xie J Q, et al. Microstructural characterization and mechanical properties of (TiC+TiB)/TA15 composites prepared by an in-situ synthesis method. China Foundry, 2024, 21(2): 168-174.

[A novel Ti-5.55Al-6.70Zr-1.50V-0.70Mo-3.41Nb-0.21Si alloy designed using cluster-plus-glue-atom model for laser additive manufacturing](#)

基于团簇模型的激光增材制造用 Ti-5.55Al-6.70Zr-1.50V-0.70Mo-3.41Nb-0.21Si 合金成分设计 (Vol. 20 No. 5, 2023)

Tian-yu Liu, Yan-chun Lou, Shuang Zhang, Zhi-hao Zhu, Jun Zhao, Shi-bing Liu, Kun Shi, and Ning Zhao (中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-023-3019-0>

[Corrosion and wear properties of in situ \(TiB+TiC\)/TA15 composites with a high volume percentage of reinforcement](#)

原位自生高体积分数(TiB+TiC)/TA15 复合材料的腐蚀磨损性能 (Vol. 20 No. 5, 2023)

Wei-long Wang, Kun Shi, Jun Zhao, Shi-bing Liu, Jiao-jiao Cheng, Wei-chen Qiu, Tian-yu Liu, and Zhi-yong Zhang (中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-023-2185-4>

[Strengthening and toughening of additively manufactured Ti-6Al-4V alloy by hybrid deposition and synchronous micro-rolling](#)

混合沉积与同步微轧制增材制造Ti-6Al-4V的强韧化 (Vol. 20 No. 3, 2023)

Kui Cheng, Hao Song, Xin-wang Liu, Ming-bo Zhang, Fei-hu Shan, Kun He, Zi-tian Fan, Gui-lan Wang, and Hai-ou Zhang (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-023-2115-5>

[Effect of heat treatment on microstructure, mechanical and tribological properties of in-situ \(TiC+TiB\)/TC4 composites by casting](#)

热处理对原位自生 (TiB+TiC) /TC4 复合材料微观结构、力学及摩擦性能的影响 (Vol. 20 No. 3, 2023)

Bo-wen Zheng, Shuai Chen, Chun-yu Yue, Xue-jian Lin, Fu-yu Dong, Hong-jun Huang, Xiao-jiao Zuo, Yin-xiao Wang, and Xiao-guang Yuan (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-023-3003-8>

[Solidification microstructure of Ti-43Al alloy by twin-roll strip casting](#)

双辊薄带连铸 Ti-43Al 合金的凝固组织 (Vol. 20 No. 2, 2023)

Yang Chen, Guo-huai Liu, Ye Wang, and Zhao-dong Wang (东北大学)

DOI: <https://doi.org/10.1007/s41230-023-2138-y>

[Effect of HEA/Al composite interlayer on microstructure and mechanical property of Ti/Mg bimetal composite by solid-liquid compound casting](#)

HEA/Al复合夹层对固液复合铸造Ti/Mg双金属复合材料组织和力学性能的影响 (Vol. 20 No. 1, 2023)

Jin Cheng, Jian-hua Zhao, Chun Wang, Jing-jing Shangguan, Cheng Gu, and Ya-jun Wang (重庆大学)

DOI: <https://doi.org/10.1007/s41230-022-2105-z>

[High-strength Ti-Al-V-Zr cast alloys designed using \$\alpha\$ and \$\beta\$ cluster formulas](#)

采用 α 和 β 团簇公式设计高强度Ti-Al-V-Zr合金 (Vol. 20 No. 1, 2023)

Zhi-hao Zhu, Yu-han Liu, Zhi-peng Chen, Tian-yu Liu, Shuang Zhang, Dan-dan Dong, and Chuang Dong (大连理工大学)

DOI: <https://doi.org/10.1007/s41230-023-2071-0>

[Effect of hot isostatic pressing processing parameters on microstructure and properties of Ti60 high temperature titanium alloy](#)

热等静压工艺参数对Ti60高温钛合金组织和性能的影响 (Vol. 20 No. 1, 2023)

Tian-yu Liu, Kun Shi, Jun Zhao, Shi-bing Liu, You-wei Zhang, Hong-yu Liu, Tian-yi Liu, Xiao-ming Chen, and Xin-min Mei (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-022-2070-6>

[High-temperature oxidation behavior of a cast Ti-47.5Al-2.5V-1.0Cr-0.2Zr alloy](#)

铸造Ti-47.5Al-2.5V-1.0Cr-0.2Zr合金高温氧化行为 (Vol. 19 No. 5, 2022)

Xue-jian Lin, Hong-jun Huang, Xiao-guang Yuan, Yin-xiao Wang, Bo-wen Zheng, Xiao-jiao Zuo, and Ge Zhou (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-022-2041-y>

[Effect of processing parameters on formability, microstructure, and micro-hardness of a novel laser additive manufactured Ti-6.38Al-3.87V-2.43Mo alloy](#)

工艺参数对激光增材制造Ti-6.38Al-3.87V-2.43Mo合金成形性、组织和显微硬度的影响 (Vol. 19 No. 2, 2022)

Tian-yu Liu, Zhi-hao Zhu, Shuang Zhang, Xiao-hua Min, and Chuang Dong (大连理工大学)

DOI: <https://doi.org/10.1007/s41230-022-1066-6>

[Finite element simulation of real cavity closure in cast Ti6Al4V alloy during hot isostatic pressing](#)

铸态Ti6Al4V合金热等静压过程中真实孔闭合的有限元模拟 (Vol. 19 No. 1, 2022)

Qian Xu, Wen Li, Ya-jun Yin, Jian-xin Zhou, and Hai Nan (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-022-1173-4>

[Microstructure and mechanical properties of laser additive manufactured novel titanium alloy after heat treatment](#)

激光增材制造新型钛合金热处理后的组织和力学性能 (Vol. 18 No. 6, 2021)

Tian-yu Liu, Hong-yu Liu, Qian Yao, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-021-1089-4>

[Microstructure and corrosion resistance of Ti-Ni/steel composite materials](#)

钛-镍/钢复合材料的组织与耐蚀性 (Vol. 18 No. 5, 2021)

Long You, Chang-ji Wang, Zhou Wang, et al (河南科技大学)

DOI: <https://doi.org/10.1007/s41230-021-9012-6>

[Mechanical properties of TiAl fabricated by electron beam melting - A review](#)

电子束熔化成型TiAl合金的力学性能综述 (Vol. 18 No. 4, 2021)

Bo-chao Lin, Wei Chen (中国航空制造技术研究院)

DOI: <https://doi.org/10.1007/s41230-021-1093-8>

[Performance of Ti6Al4V fabricated by electron beam and laser hybrid preheating and selective melting strategy](#)

电子束-激光混合预热选区熔化法制备Ti6Al4V合金的性能 (Vol. 18 No. 4, 2021)

Mo-han Hao, Lei Zhang, Bin Zhou, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-021-1039-1>

[Influence of hot isostatic pressing on microstructure, properties and deformability of selective laser melting TC4 alloy](#)

热等静压对选区激光熔化TC4合金组织、性能和变形性能的影响 (Vol. 18 No. 4, 2021)

Tai-qi Yan, Bing-qing Chen, Xia Ji, et al (北京航空材料研究院)

DOI: <https://doi.org/10.1007/s41230-021-1086-7>

[Design for Ti-Al-V-Mo-Nb alloys for laser additive manufacturing based on a cluster model and on their microstructure and properties](#)

基于团簇模型的激光增材制造用Ti-Al-V-Mo-Nb合金成分设计及其组织性能研究 (Vol. 18 No. 4, 2021)

Tian-yu Liu, Zhi-hao Zhu, Shuang Zhang, et al (大连理工大学)

DOI: <https://doi.org/10.1007/s41230-021-1065-z>

[Grain selection and growth orientation of prior- \$\beta\$ phase for Ti-6-4 during additive manufacturing: insights from a modeling perspective](#)

Ti-6-4增材制造过程中初生 β 相晶粒筛选与生长方向的模拟研究 (Vol. 18 No. 2, 2021)

Wei-zhao Sun, Fei-hu Shan, Nan-fu Zong, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-021-9002-8>

[Influence of niobium and yttrium on plastic deformation energy and plasticity of Ti-based amorphous alloys](#)

铌和钇对钛基非晶合金塑性变形能和塑性的影响 (Vol. 18 No. 1, 2021)

Sheng-feng Shan, Hao Wang, Bing Zhang, et al (济宁学院)

DOI: <https://doi.org/10.1007/s41230-021-0139-2>

[Effects of Ru content on phase transformation and compression property of cast TiAl alloys](#)

钌含量对铸造TiAl合金相变和压缩性能的影响 (Vol. 17 No. 6, 2020)

Jie-ren Yang, Zi-xiang Jiao, Dong-dong Zhu, et al (西北工业大学)

DOI: <https://doi.org/10.1007/s41230-020-0089-0>

[Microstructures and phase transformation in directionally solidified TiAl-Nb alloys](#)

定向凝固TiAl-Nb合金组织和相变 (Vol. 17 No. 6, 2020)

Fu-qiang Zhang, Xian-fei Ding, Hai Nan, et al (北京科技大学)

DOI: <https://doi.org/10.1007/s41230-020-0098-z>

[Characteristics of interfacial reactions between Ti-6Al-4V alloy and ZrO₂ ceramic mold](#)

Ti-6Al-4V合金与ZrO₂陶瓷型界面反应特征 (Vol. 17 No. 6, 2020)

Shi-chen Sun, Er-tuan Zhao, Chen Hu, et al (山东理工大学)

DOI: <https://doi.org/10.1007/s41230-020-0106-3>

[Microstructure evolution and its effect on mechanical properties of cast Ti₄₈Al₆Nb_xSi alloys](#)

铸造Ti₄₈Al₆Nb_xSi合金组织演变及其对力学性能的影响 (Vol. 17 No. 6, 2020)

Qin Xu, Hong-ze Fang, Chao Wu, et al (河南工业大学)

DOI: <https://doi.org/10.1007/s41230-020-0099-y>

[Microstructure and cellular transition characteristic of Ti-42Al-3Nb-1Mo-0.1B alloy](#)

Ti-42Al-3Nb-1Mo-0.1B合金组织和胞晶转变特征 (Vol. 17 No. 6, 2020)

Hong Feng, Qi-bin Wang, Shu-zhi Zhang, et al (太原理工大学)

DOI: <https://doi.org/10.1007/s41230-020-0086-3>

[Microstructure and microhardness of Ti-48Al alloy prepared by rapid solidification](#)

快速凝固Ti-48Al合金的组织和显微硬度 (Vol. 17 No. 6, 2020)

Xiao-yu Chen, Hong-ze Fang, Qi Wang, et al (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-020-0090-7>

[Influence of heat treatment on microstructure and mechanical properties of TiAl alloy solidified under high pressure](#)

热处理对高压凝固TiAl合金组织和力学性能的影响 (Vol. 17 No. 6, 2020)

Dong-dong Zhu, Duo Dong, Jie-ren Yang, et al (衢州学院)

DOI: <https://doi.org/10.1007/s41230-020-0090-7>

[Chemical composition analysis on industrial scale ingots and castings of TiAl alloys](#)

工业化生产TiAl合金铸锭和铸件的化学成分分析 (Vol. 17 No. 6, 2020)

Xian-fei Ding, Yi-qun Zhao, Jia-bin Zuo, et al (中国航发北京航空材料研究院)

DOI: <https://doi.org/10.1007/s41230-020-0091-6>

[Effect of heat treatment and thermomechanical processing on microstructure and tensile properties of Ti-44Al-8Nb-0.2W-0.2B-0.5Y alloy](#)

热处理和形变热处理对Ti-44Al-8Nb-0.2W-0.2B-0.5Y合金组织和拉伸性能的影响 (Vol. 17 No. 6, 2020)

Xiao-peng Wang, Fan-tao Kong, Xiao-ping Cao, et al (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-020-0097-0>

[Microstructure and dry sliding wear behavior of as-cast TiC_p/Ti-1100-0.5Nb titanium matrix composite at elevated temperatures](#)

铸造TiC_p/Ti-1100-0.5Nb钛基复合材料高温组织和干滑动磨损行为 (Vol. 17 No. 6, 2020)

Chao-zhi Li, Bin-guo Fu, Tian-shun Dong, et al (河北工业大学)

DOI: <https://doi.org/10.1007/s41230-020-0030-6>

[High-temperature deformation resistance and creep resistance of a TiAl-based alloy fabricated by cold crucible directional solidification technology](#)

一种冷坩埚定向凝固TiAl基合金的高温抗变形和抗蠕变性能 (Vol. 17 No. 5, 2020)

Shu-lin Dong, Xin Ding, Rui-run Chen, et al (东北大学)

DOI: <https://doi.org/10.1007/s41230-020-0088-1>

[Effect of growth rate on microstructure and microhardness of directionally solidified Ti-44Al-5Nb-1.5Cr-1.5Zr-1Mo-0.1B alloy](#)

生长速率对定向凝固Ti-44Al-5Nb-1.5Cr-1.5Zr-1Mo-0.1B合金组织和显微硬度的影响 (Vol. 17 No. 4, 2020)

Zhi-ping Li, Hong-ying Xia, Liang-shun Luo, et al (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-020-9159-6>

[Elimination of misrun and gas hole defects of investment casting TiAl alloy turbocharger based on numerical simulation and experimental study](#)

基于数值模拟和实验研究的熔模精铸TiAl合金涡轮增压器浇不足和气孔缺陷的去除 (Vol. 17 No. 1, 2020)

Jun Zhao, Zhi-yong Zhang, Shi-bing Liu, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-020-8151-5>

七、Cast steels and cast irons 铸钢、铸铁

[Lightweight innovation ADIs help development of renewable energy and new technology industries in China](#)

轻量化新型奥贝球铁有助于中国可再生能源和新技术产业的发展 (Vol. 21 No. 5, 2024)

Qi-dong Yan, Xu-dong Gong, Wen-bang Gong, and Jin-cheng Liu (WFO 铁基材料委员会)

DOI: <https://doi.org/10.1007/s41230-024-4141-3>.

引用格式: Yan Q D, Gong X D, Gong W B, et al. Lightweight innovation ADIs help development of renewable energy and new technology industries in China. China Foundry, 2024, 21(5): 507-515.

[High temperature oxidation of inoculated high Si/SiMo ductile cast irons in air and combustion atmospheres](#)

高硅/硅钼球墨铸铁在空气和燃烧气氛中的高温氧化行为 (Vol. 21 No. 5, 2024)

Iuliana Stan, Mihai Chisamera, Robert Lascu, Codrut Cariga, Eduard Stefan, Stelian Stan, Denisa Anca, and Iulian Riposan (布加勒斯特国立理工大学)

DOI: <https://doi.org/10.1007/s41230-024-4063-0>.

引用格式: Stan I, Chisamera M, Lascu R, et al. High temperature oxidation of inoculated high Si/SiMo ductile cast irons in air and combustion atmospheres. China Foundry, 2024, 21(5): 555-562.

[Effect of Mn addition on microstructure and mechanical properties of GX40CrNiSi25-12 austenitic heat resistant steel](#)

Mn 含量对 GX40CrNiSi25-12 奥氏体耐热钢微观组织和力学性能的影响 (Vol. 21 No. 3, 2024)

Guan-yu Jiang, Meng-wu Wu, Xiao-guang Yang, Hui Wang, and Yu-yuan Zhu (武汉理工大学)

DOI: <https://doi.org/10.1007/s41230-024-3134-6>

引用格式: Jiang G Y, Wu M W, Yang X G, et al. Effect of Mn addition on microstructure and mechanical properties of GX40CrNiSi25-12 austenitic heat resistant steel. China Foundry, 2024, 21(3): 205-212.

[Microstructure and mechanical properties of a cast TRIP-assisted multiphase stainless steel](#)

一种铸造 TRIP 型多相不锈钢的微观结构和力学性能研究 (Vol. 21 No. 3, 2024)

Meng-xin Wang, Zi-xiang Wu, Jing-yu He, and Xiang Chen (清华大学)

DOI: <https://doi.org/10.1007/s41230-024-3080-3>

引用格式: Wang M X, Wu Z X, He J Y, et al. Microstructure and mechanical properties of a cast TRIP-assisted multiphase stainless steel. China Foundry, 2024, 21(3): 221-228.

[Volume-averaged modeling of multiphase solidification with equiaxed crystal sedimentation in a steel ingot](#)

钢锭中等轴晶沉降多相凝固的体积平均建模 (Vol. 21 No. 3, 2024)

Xiao-lei Zhu, Shuang Cao, Rui Guan, Ji Yang, Zhe Ning, Xin-gang Ai, Sheng-li Li, and Xin-cheng Miao (辽宁省材料成型与组织性能控制重点实验室)

DOI: <https://doi.org/10.1007/s41230-024-3038-5>

引用格式: Zhu X L, Cao S, Guan R, et al. Volume-averaged modeling of multiphase solidification with equiaxed crystal sedimentation in a steel ingot. China Foundry, 2024, 21(3): 229-238.

[Thermal fatigue and wear of compacted graphite iron brake discs with various thermomechanical properties](#)

热机械性能变化时蠕墨铸铁刹车盘的热疲劳和磨损 (Vol. 21 No. 3, 2024)

Gui-quan Wang, Zhuo Xu, Zhong-li Liu, Xiang Chen, and Yan-xiang Li (烟台大学)

DOI: <https://doi.org/10.1007/s41230-024-4009-6>

引用格式: Wang G Q, Xu Z, Liu Z L, et al. Thermal fatigue and wear of compacted graphite iron brake discs with various thermomechanical properties. China Foundry, 2024, 21(3): 248–256.

[Microstructure and properties of LZQT600-3 HCCDIBs for plunger pump cylinder](#)

柱塞泵缸体用型材 LZQT600-3 的组织与性能研究 (Vol. 21 No. 2, 2024)

Chun-jie Xu, Yuan-ying Jin, Dong Ma, Zhen Zhao, Jia-wei Qi, Shang Sui, Xiang-quan Wu, Can Guo, Zhong-ming Zhang, Yong-hui Liu, and Dan Shechtman (西安理工大学)

DOI: <https://doi.org/10.1007/s41230-024-3061-6>

引用格式: Xu C J, Jin Y Y, Ma D, et al. Microstructure and properties of LZQT600-3 HCCDIBs for plunger pump cylinder. China Foundry, 2024, 21(2): 197-204.

[Effect of electrical parameters and slag system on macrostructure of electroslag ingot](#)

电参数及渣系对电渣锭低倍组织的影响 (Vol. 21 No. 1, 2024)

Bing-jie Wang, Yu Wang, Meng-jun Wang, Lei Zhao, Li-zhong Chang, and Xiao-fang Shi (安徽工业大学)

DOI: <https://doi.org/10.1007/s41230-024-3064-3>

引用格式: Wang B J, Wang Y, Wang M J, et al. Effect of electrical parameters and slag system on macrostructure of electroslag ingot. China Foundry, 2024, 21(1): 44-50.

[Multi-physical fields distribution in billet during helical electromagnetic stirring: A numerical simulation research](#)

小方坯螺旋电磁搅拌过程中多物理场分布的数值模拟研究 (Vol. 21 No. 1, 2024)

Dong Pan, Qing-tao Guo, Kai-lun Zhang, Fu-zhi Yu, Yu-ying Li, and Yu-bao Xiao (海洋装备用金属材料及其应用国家重点实验室概况)

DOI: <https://doi.org/10.1007/s41230-023-3065-7>

引用格式: Pan D, Guo Q T, Zhang K L, et al. Multi-physical fields distribution in billet during helical electromagnetic stirring: A numerical simulation research. China Foundry, 2024, 21(1): 51-59.

[Effect of FeSi additive in dual-chamber sample cup on thermal analysis characteristic values and vermiculating rate of compacted graphite iron](#)

双室样杯中 FeSi 添加剂对蠕墨铸铁热分析特性值和蠕化率的影响 (Vol. 21 No. 1, 2024)

De-quan Shi, Ze-yu Liu, Gui-li Gao, and Yi-cheng Feng (上海理工大学)

DOI: <https://doi.org/10.1007/s41230-024-2142-x>

引用格式: Shi D Q, Liu Z Y, Gao G L, et al. Effect of FeSi additive in dual-chamber sample cup on thermal analysis characteristic values and vermiculating rate of compacted graphite iron. China Foundry, 2024, 21(1): 91-100.

[Controlling oxygen content in electro-slag remelting steel by optimizing melt-slag reaction process](#)

通过优化渣金反应过程控制电渣重熔钢中氧含量 (Vol. 20 No. 6, 2023)

Dian-dong Sun, Yong Wang, Lei Jin, Zong-xu Pang, Jian Huang, Jian-ping Zhang (鞍钢集团钢铁研究院)

DOI: <https://doi.org/10.1007/s41230-023-2062-1>

[Effect of electromagnetic stirrer centered outside the mold on steel flow field of bloom continuous casting](#)

大方坯连铸电磁搅拌器中心位于结晶器外时对钢液流场的影响 (Vol. 20 No. 5, 2023)

Li-dong Xing, Yan-ping Bao, Min Wang, and Yi-hong Li (北京科技大学)

DOI: <https://doi.org/10.1007/s41230-023-2155-x>

[Effect of heat treatment on microstructure and mechanical properties of Ti-containing low alloy martensitic wear-resistant steel](#)

热处理对含钛低合金马氏体耐磨钢组织和力学性能的影响 (Vol. 20 No. 4, 2023)

Kai Lan, Wang Ding, and Yi-tao Yang (上海大学)

DOI: <https://doi.org/10.1007/s41230-023-3023-4>

[Microstructure and mechanical properties of Fe/NbC composite layer prepared by in-situ reaction](#)

原位反应制备Fe/NbC复合层的微观组织和力学性能研究 (Vol. 20 No. 4, 2023)

Le Chen, Ji-lin Li, Meng-jun Wang, Jie Zheng, Yao Zhu, Zhuo-lin Liu, and Bing-gui Lü (中南大学)

DOI: <https://doi.org/10.1007/s41230-023-3024-3>

[Interface characteristics and wear resistance of Ni-B₄C plated ZTA reinforced high chromium cast iron composite](#)

Ni-B₄C 镀覆 ZTA 颗粒增强高铬铸铁复合材料的界面特性和耐磨性 (Vol. 20 No. 3, 2023)

Ke-liang Li, Wei Li, and Yan-liang Yi (暨南大学)

DOI: <https://doi.org/10.1007/s41230-023-2160-0>

[Friction and wear behavior and mechanism of low carbon microalloyed steel containing Nb](#)

含 Nb 低碳微合金钢摩擦磨损行为及机理研究 (Vol. 20 No. 3, 2023)

Mei-yi Yuan, Jia-cheng Zhang, and Yi-tao Yang (上海大学)

DOI: <https://doi.org/10.1007/s41230-023-2104-8>

[The compression behavior of 316L lattice structures produced by indirect additive manufacturing](#)

间接增材制造 316L 点阵结构的压缩力学行为研究 (Vol. 20 No. 2, 2023)

Yan-peng Wei, Hao Yang, Jing-chang Cheng, Peng Gao, Jian Shi, Feng Lin, and Bo Yu

(中国机械总院集团沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-023-2143-1>

[Effect of V and Sn on microstructure and mechanical properties of gray cast iron](#)

钒和锡对灰铸铁组织和力学性能的影响 (Vol. 19 No. 5, 2022)

Yi-li Li, Rui-run Chen, Qi Wang, Wen-chao Cao, Xin-xiu Wang, Yuan Xia, Guo-ping Zhou, Ying-dong Qu, and Guang-long Li (哈尔滨工业大学)

DOI: <https://doi.org/10.1007/s41230-022-2001-6>

[An accelerated aging assisted by electric current in a Fe-Mn-Al-C low-density steel](#)

电流加速Fe-Mn-Al-C低密度钢的时效过程研究 (Vol. 19 No. 5, 2022)

Zhi-gang Wang, Chu-lun Shen, Jian-lei Zhang, Chang-jiang Song, and Qi-jie Zhai (上海大学)

DOI: <https://doi.org/10.1007/s41230-022-2033-y>

[Revealing effect of aluminum alloying on work hardening and impact behaviors of low-density Fe-18Mn-1.3C-2Cr-\(4, 11\)Al casting steel](#)

铝合金化对低密度 Fe-18Mn-1.3C-2Cr-(4, 11)Al 铸钢加工硬化和冲击行为的影响 (Vol. 19 No. 4, 2022)

Zhi-bin Zheng, Hao-kun Yang, A. P. Shatrava, Wai-wah Lai, Jun Long, and Kai-hong Zheng (广东省科学院新材料研究所)

DOI: <https://doi.org/10.1007/s41230-022-2004-3>

[Different thermal fatigue behaviors between gray cast iron and vermicular graphite cast iron](#)

灰铸铁与蠕墨铸铁热疲劳行为的差异 (Vol. 19 No. 3, 2022)

Gui-quan Wang, Zhong-li Liu, Yan-xiang Li, and Xiang Chen (烟台大学)

DOI: <https://doi.org/10.1007/s41230-022-1204-1>

[Effect of surface Cr/C infiltration on microstructure, mechanical properties and wear resistance of high chromium cast iron](#)

表面渗Cr/C对高铬铸铁显微组织、力学性能和耐磨性的影响 (Vol. 19 No. 3, 2022)

Peng Chen, Zhao-yang Wu, Yan-liang Yi, Jian-bin Huang, Tao Shang, and Wei Li (暨南大学)

DOI: <https://doi.org/10.1007/s41230-022-1110-6>

[Microstructure evolution and mechanical properties of high-boron steel with different ratios of boron and carbon](#)

不同碳、硼含量高硼钢的组织演变和力学性能 (Vol. 19 No. 2, 2022)

Ming-chen Ma, Chao-qing Luo, Si-min Chen, Hong-qun Tang, Shan-shan Hu, Yu-mei Zhou, and Jian-lin Liang (广西大学)

DOI: <https://doi.org/10.1007/s41230-022-1034-1>

[Effect of electromagnetic stirring on metallurgical quality of GCr15 electroslag ingot](#)

电磁搅拌对GCr15电渣锭冶金质量的影响 (Vol. 19 No. 1, 2022)

Xiao-fang Shi, Tao Xu, and Li-zhong Chang (安徽工业大学)

DOI: <https://doi.org/10.1007/s41230-022-1107-1>

[Solidification structure simulation and casting process optimization of GCr15 bloom alloy](#)

GCr15方坯合金凝固组织模拟及铸造工艺优化 (Vol. 19 No. 1, 2022)

Jie Li, Hao-tian Wu, Yang Liu, and Yan-hui Sun (北京科技大学)

DOI: <https://doi.org/10.1007/s41230-022-0077-7>

[Enrichment characteristic of carbon atoms in solid-liquid zone of high carbon steel under different directional solidification rates](#)

不同定向凝固速率下高碳钢固液区碳原子的富集特性 (Vol. 18 No. 5, 2021)

Yong Wan, Shan Gao, Meng-hua Li, et al (安徽工业大学)

DOI: <https://doi.org/10.1007/s41230-021-0145-4>

[Tailoring microstructure evolution and mechanical properties of a high-performance alloy steel through controlled thermal cycles of a direct laser depositing process](#)

通过控制激光直接沉积过程的热循环调整高性能合金钢的组织演变和力学性能 (Vol. 18 No. 5, 2021)

Shi-yun Dong, Xuan Zhao, Shi-xing Yan, et al (陆军装甲兵学院)

DOI: <https://doi.org/10.1007/s41230-021-1124-5>

[Laser ultrasonic testing for near-surface defects inspection of 316L stainless steel fabricated by laser powder bed fusion](#)

激光超声检测激光粉床熔覆制备316L不锈钢的近表面缺陷 (Vol. 18 No. 4, 2021)

Ting Dai, Xiao-jian Jia, Jun Zhang, et al (东南大学)

DOI: <https://doi.org/10.1007/s41230-021-1063-1>

[Effect of melting rate on microsegregation and primary MC carbides in M2 high-speed steel during electrosag remelting](#)

熔化速率对M2高速钢电渣重熔过程中微观偏析和初生MC碳化物的影响 (Vol. 18 No. 3, 2021)

Fu-xing Yin, Ming Su, Fa Ji, et al (河北工业大学)

DOI: <https://doi.org/10.1007/s41230-021-9009-1>

[TiN/ \$\gamma\$ -Fe interface orientation relationship and formation mechanism of TiN precipitates in Mn18Cr2 steel](#)

Mn18Cr2钢中TiN/ γ -Fe界面取向关系及TiN析出相的形成机理 (Vol. 18 No. 3, 2021)

Zheng-hui Wang, Jing-pei Xie, Qian Li, et al (郑州大学)

DOI: <https://doi.org/10.1007/s41230-021-9020-6>

[Casting properties of ASTM A128 Gr. E1 steel modified with Mn-alloying and titanium ladle treatment](#)

Mn合金化和钛包处理改性ASTM A128 Gr. E1钢的铸造性能 (Vol. 18 No. 3, 2021)

Uğur Gürol, Erdal Karadeniz, Ozan Çoban, et al (土耳其Sakarya大学)

DOI: <https://doi.org/10.1007/s41230-021-1002-1>

[Effect of annealing treatment on microstructures and properties of austenite-based Fe-28Mn-9Al-0.8C lightweight steel with addition of Cu](#)

退火处理对含铜奥氏体基Fe-28Mn-9Al-0.8C钢组织和性能的影响 (Vol. 18 No. 3, 2021)

Zhuo Chen, Ming-xiang Liu, Jian-kang Zhang, et al (上海大学)

DOI: <https://doi.org/10.1007/s41230-021-1026-6>

[Internal shrinkage crack in a 10 t water-cooled steel ingot with a large height-to-diameter ratio](#)

10吨大高径比水冷钢锭内部收缩裂纹 (Vol. 18 No. 2, 2021)

Jing-an Yang, Hou-fa Shen (北京航空航天大学)

DOI: <https://doi.org/10.1007/s41230-021-0141-8>

[Quantitative models for microstructure and thermal conductivity of vermicular graphite cast iron cylinder block based on cooling rate](#)

基于冷却速率的蠕墨铸铁缸体组织与导热系数的定量模型 (Vol. 18 No. 1, 2021)

Qing-yi Liu, Xiao-fu Zhang, Yu-cheng Sun, et al (潍柴动力股份有限公司)

DOI: <https://doi.org/10.1007/s41230-021-0005-2>

[Precipitation and evolution of nodular graphite during solidification process of ductile iron](#)

球墨铸铁凝固过程中球墨的析出与演变 (Vol. 17 No. 4, 2020)

Jin-hai Liu, Jian-shuai Yan, Xue-bo Zhao, et al (河北工业大学)

DOI: <https://doi.org/10.1007/s41230-020-0042-2>

[Microstructural analysis of EN-GJS-450-10 ductile cast iron via vibrational casting](#)

振动铸造EN-GJS-450-10球墨铸铁显微组织分析 (Vol. 17 No. 4, 2020)

Çağlar Yüksel (土耳其Atatürk University)

DOI: <https://doi.org/10.1007/s41230-020-0058-7>

[Calculating the effective thermal conductivity of gray cast iron by using an interconnected graphite model](#)

利用关联石墨模型计算灰铸铁的有效导热系数 (Vol. 17 No. 3, 2020)

Guang-hua Wang, Yan-xiang Li (清华大学)

DOI: <https://doi.org/10.1007/s41230-020-0029-z>

[Simulation on stress of large diameter CADI grinding ball based on ANSYS](#)

基于ANSYS大直径CADI磨球的应力模拟 (Vol. 17 No. 3, 2020)

Xue-bo Zhao, Jian-shuai Yan, Jin-hai Liu, et al (河北工业大学)

DOI: <https://doi.org/10.1007/s41230-020-9132-4>

[Study on primary carbides precipitation in H13 tool steel regarding cooling rate during solidification](#)

H13工具钢凝固过程中初生碳化物析出与冷却速度关系的研究 (Vol. 17 No. 3, 2020)

Guang-di Zhao, Xi-min Zang, Wan-ming Li, et al (辽宁科技大学)

DOI: <https://doi.org/10.1007/s41230-020-9092-8>

[Correlation between current and cross-sectional area of parallel fixed-movable dual electrodes in ESC](#)

电渣熔铸中平行固定-可移动双电极电流与横截面积的关系 (Vol. 17 No. 3, 2020)

Li-ting Zhao, Yun-long Xiong, Rui Chen, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-020-8147-1>

[90 years of thermal analysis as a control tool in the melting of cast iron](#)

铸铁熔炼的控制手段——热分析的九十年发展 (Vol. 17 No. 2, 2020)

Doru Michael Stefanescu, Ramon Suarez, and Sung Bin Kim (美国The Ohio State University)

DOI: <https://doi.org/10.1007/s41230-020-0039-x>

[Thermal conductivity of cast iron - A review](#)

铸铁导热系数综述 (Vol. 17 No. 2, 2020)

Guang-hua Wang, Yan-xiang Li (清华大学)

DOI: <https://doi.org/10.1007/s41230-020-9112-8>

[Simultaneous thermal and contraction/ expansion curves analysis for solidification control of cast irons](#)

铸铁凝固控制的同步热收缩/热膨胀曲线分析 (Vol. 17 No. 2, 2020)

Iulian Riposan, Stelian Stan, Mihai Chisamera, et al (罗马尼亚Politehnica University of Bucharest)

DOI: <https://doi.org/10.1007/s41230-020-9147-x>

[Application of nanoparticles in cast steel: An overview](#)

纳米颗粒在铸钢中的应用概述 (Vol. 17 No. 2, 2020)

Feng Qiu, Tian-shu Liu, Xin Zhang, et al (吉林大学)

DOI: <https://doi.org/10.1007/s41230-020-0037-z>

[Density and thermal expansion coefficients of liquid and austenite phase in lamellar cast iron](#)

片状石墨铸铁中液相和奥氏体相密度与热膨胀系数分析 (Vol. 17 No. 2, 2020)

Kristina Hellström, Vasile-Lucian Diaconu, Attila Diószegi (瑞典Jönköping University)

DOI: <https://doi.org/10.1007/s41230-020-0004-8>

[Aluminium in compacted graphite iron](#)

铝在蠕墨铸铁中的作用 (Vol. 17 No. 2, 2020)

Grzegorz Gumienny, Barbara Kurowska, Leszek Klimek (波兰Lodz University of Technology)

DOI: <https://doi.org/10.1007/s41230-020-9013-x>

[Modelling of compacted graphite cast iron solidification - Discussion of microstructure parameters](#)

蠕墨铸铁凝固过程的建模—微观组织参数的讨论 (Vol. 17 No. 2, 2020)

Jacques Lacaze, Urko de la Torre, Jon Sertucha, et al (法国Université de Toulouse)

DOI: <https://doi.org/10.1007/s41230-020-0050-2>

[Influence of inoculation on cast iron machinability: Case studies](#)

孕育剂对铸铁切削性能的影响—实例分析 (Vol. 17 No. 2, 2020)

Aurélie FAY (法国Ferroglobe公司)

DOI: <https://doi.org/10.1007/s41230-020-9152-0>

[Effect of cooling rate on microstructure and mechanical properties of CB2 tempered martensitic steel](#)

冷却速度对CB2回火马氏体钢组织和力学性能的影响 (Vol. 17 No. 2, 2020)

Yu-lin Ma, Yue Liu, Li-ping Zhang, et al (东北大学)

DOI: <https://doi.org/10.1007/s41230-020-8012-2>

[Failure analysis of ring die of a feed pellet machine](#)

饲料颗粒机环形模具的失效分析 (Vol. 17 No. 2, 2020)

He-da Bai, Bao-chao Zheng, Wei Li, et al (暨南大学)

DOI: <https://doi.org/10.1007/s41230-020-9104-8>

[Casting process design and practice for coolant pump impeller in AP1000 nuclear power station](#)

AP1000核电站冷却水泵叶轮的铸造工艺设计与实践 (Vol. 17 No. 2, 2020)

Ping Zhao, Zhong-li Liu, Gui-quan Wang, et al (烟台大学)

DOI: <https://doi.org/10.1007/s41230-020-9164-9>

[Application of ADI in a crushed coal delivery and filtering system](#)

奥氏体球铁在碎煤输送及过滤系统中的应用 (Vol. 17 No. 2, 2020)

Arron Rimmer (英国ADI Treatments Limited)

DOI: <https://doi.org/10.1007/s41230-020-9153-z>

[Effect of vibration frequency on primary phase and properties of grey cast iron fabricated by lost foam casting](#)

振动频率对消失模铸造灰铁初生相和性能的影响 (Vol. 17 No. 1, 2020)

Bo-tao Xiao, Zi-tian Fan, Wen-ming Jiang, et al (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-019-9083-9>

[Up-pulling force analysis for ESC hollow cylindrical casting](#)

电渣熔铸空心环形件上提拉力分析 (Vol. 17 No. 1, 2020)

An-guo Wang, Zhou-hua Jiang, Yan-chun Lou, et al (沈阳航空航天大学)

DOI: <https://doi.org/10.1007/s41230-020-7043-z>

八、Copper alloys 铜合金

[Thermal and mechanical behavior of casting copper alloy wheel during wheel and belt continuous casting process](#)

轮带式连铸过程中铜合金结晶轮的热力行为研究 (Vol. 21 No. 1, 2024)

Kun Gao and Yan Peng (燕山大学)

DOI: <https://doi.org/10.1007/s41230-024-2145-7>

引用格式: Gao K and Peng Y. Thermal and mechanical behavior of casting copper alloy wheel during wheel and belt continuous casting process. China Foundry, 2024, 21(1): 82-90.

[Effect of high magnetic field on solidification microstructure evolution of a Cu-Fe immiscible alloy](#)

强磁场对难混溶 Cu-Fe 合金凝固组织演变的影响 (Vol. 19 No. 4, 2022)

Yu-jie Yan, Chen Wei, Yi-xuan He, Chao Li, Ping-xiang Zhang, Jin-shan Li, and Jun Wang (西北工业大学)

DOI: <https://doi.org/10.1007/s41230-022-1243-7>

[Microstructural characteristics and mechanical properties of bronze/steel bimetallic laminated composite prepared by protective atmosphere casting process](#)

保护气氛下铸造青铜/钢双金属层压复合材料的组织特征和力学性能 (Vol. 18 No. 5, 2021)

Bin Liu, Da-shan Sui, Zhi-min Guo, et al (林德液压(中国)有限公司液压传动研究所, 上海交通大学)

DOI: <https://doi.org/10.1007/s41230-021-1006-x>

[Corrosion behavior of Cu/Al casting-rolled clad plates in different alkaline solution](#)

铸轧铜/铝复合板在不同碱性溶液中的腐蚀行为 (Vol. 18 No. 5, 2021)

Yi-fan Zhang, Xiao-guang Yuan, Xiao-jiao Zuo, et al (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-021-1078-7>

[Effect of harmonic magnetic field and pulse magnetic field on microstructure of high purity Cu during electromagnetic direct chill casting](#)

谐波磁场和脉冲磁场对半连续铸造高纯铜组织的影响 (Vol. 18 No. 2, 2021)

Lei Bao, Da-zhi Zhao, Yin-ji Zhao, et al (东北大学)

DOI: <https://doi.org/10.1007/s41230-021-0087-x>

[Effects of laser shock processing, solid solution and aging, and cryogenic treatments on microstructure and thermal fatigue performance of ZCuAl₁₀Fe₃Mn₂ alloy](#)

激光冲击处理、固溶时效和深冷处理对ZCuAl₁₀Fe₃Mn₂合金组织和热疲劳性能的影响 (Vol. 18 No. 2, 2021)

Guang-lei Liu, Yu-hao Cao, Lu-xin Shi, et al (江苏大学)

DOI: <https://doi.org/10.1007/s41230-021-0072-4>

[Pore structure analysis of directionally solidified porous copper](#)

定向凝固多孔铜气孔结构分析 (Vol. 17 No. 5, 2020)

Xiao-bang Liu, Yan-xiang Li, Hua-wei Zhang, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-020-0006-6>

[Microstructure evolution of \$\text{Ti}_5\text{Si}_3\$ in Cu-Ti-Si alloys](#)

Cu-Ti-Si合金中 Ti_5Si_3 的微观组织演变 (Vol. 17 No. 4, 2020)

Qing Liu, Xiao-cui Zhang, Qiang Wang, et al (华北电力大学)

DOI: <https://doi.org/10.1007/s41230-020-9140-4>

[A study of metal/die interfacial heat transfer behavior of vacuum die cast pure copper](#)

真空压铸纯铜金属/模具界面热传递行为的研究 (Vol. 17 No. 3, 2020)

Hong-mei Yang, Zhou-meng Pu, Zhi-peng Guo, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-020-9157-8>

[Microstructure and thermal expansion of copper-based amorphous alloys during structural relaxation](#)

铜基非晶合金结构松弛过程中的组织演变和热膨胀行为 (Vol. 17 No. 1, 2020)

Jin-bei Zhao, Xin-hui Fan, Bing Li, et al (西安工业大学)

DOI: <https://doi.org/10.1007/s41230-020-9099-1>

九、Numerical simulation 数值模拟

[Numerical simulation on directional solidification and heat treatment processes of turbine blades](#)

涡轮叶片定向凝固及其热处理过程数值模拟 (Vol. 21 No. 5, 2024)

Ye-yuan Hu, Ju-huai Ma, and Qing-yan Xu (清华大学)

DOI: <https://doi.org/10.1007/s41230-024-4103-9>.

引用格式: Hu Y Y, Ma J H, and Xu Q Y. Numerical simulation on directional solidification and heat treatment processes of turbine blades. China Foundry, 2024, 21(5): 476-490.

[Numerical simulation study on the mold strength of magnetic mold casting based on a coupled electromagnetic-structural method](#)

基于电磁-结构耦合方法的磁型铸造铸型强度数值模拟研究 (Vol. 21 No. 5, 2024)

Wei-li Peng, Jian-hua Zhao, Cheng Gu, and Ya-jun Wang (重庆大学)

DOI: <https://doi.org/10.1007/s41230-024-4116-4>.

引用格式: Peng W L, Zhao J H, Gu C, et al. Numerical simulation study on the mold strength of magnetic mold casting based on a coupled electromagnetic-structural method. China Foundry, 2024, 21(5): 577-587.

[Numerical simulation of melt flow and temperature field during DC casting 2024 aluminium alloy under different casting conditions](#)

不同铸造参数下 DC 铸造 2024 铝合金流场和温度场数值模拟 (Vol. 21 No. 4, 2024)

Jin-chuan Wang, Yu-bo Zuo, Qing-feng Zhu, Jing Li, Rui Wang, and Xu-dong Liu (东北大学)

DOI: <https://doi.org/10.1007/s41230-024-3099-5>

引用格式: Wang J C, Zuo Y B, Zhu Q F, et al. Numerical simulation of melt flow and temperature field during DC casting 2024 aluminium alloy under different casting conditions. China Foundry, 2024, 21(4): 387-396.

[Phase-field lattice-Boltzmann study on fully coupled thermal-solute-convection dendrite growth of Al-Cu alloy](#)

基于相场-格子玻尔兹曼方法的热-质-流耦合下 Al-Cu 合金枝晶生长研究 (Vol. 21 No. 2, 2024)

Yin-qi Qiu, Meng-wu Wu, Xun-peng Qin, and Shou-mei Xiong (武汉理工大学)

DOI: <https://doi.org/10.1007/s41230-024-3127-5>

引用格式: Qiu Y Q, Wu M W, Qin X P, et al. Phase-field lattice-Boltzmann study on fully coupled thermal-solute-convection dendrite growth of Al-Cu alloy. China Foundry, 2024, 21(2): 125-136.

[Data-driven casting defect prediction model for sand casting based on random forest classification algorithm](#)

基于随机森林分类算法的数据驱动砂型铸造缺陷预测模型 (Vol. 21 No. 2, 2024)

Bang Guan, Dong-hong Wang, Da Shu, Shou-qin Zhu, Xiao-yuan Ji, and Bao-de Sun (上海交通大学)

DOI: <https://doi.org/10.1007/s41230-024-3090-1>

引用格式: Guan B, Wang D H, Shu D, et al. Data-driven casting defect prediction model for sand casting based on random forest classification algorithm. China Foundry, 2024, 21(2): 137-146.

[Effect of droplet characteristics on liquid-phase distribution in spray zone of internal mixing air-mist nozzle](#)

液滴特征对内混式气水雾化喷嘴喷淋区液相分布的影响 (Vol. 21 No. 2, 2024)

Wei-li Wu, Chang-gui Cheng, Yang Li, Shi-fa Wei, and De-li Chen (武汉大学)

DOI: <https://doi.org/10.1007/s41230-024-3059-0>

引用格式: Wu W L, Cheng C G, Li Y, et al. Effect of droplet characteristics on liquid-phase distribution in spray zone of internal mixing air-mist nozzle. China Foundry, 2024, 21(2): 185-196.

[Understanding the spatial interaction of ultrasounds based on three-dimensional dual-frequency ultrasonic field numerical simulation](#)

基于三维双频超声场数值模拟的超声波空间交互研究 (Vol. 21 No. 1, 2024)

Zhao-yang Yin, Qi-chi Le, Yan-chao Jiang, Da-zhi Zhao, Qi-yu Liao, and Qi Zou (东北大学)

DOI: <https://doi.org/10.1007/s41230-023-3042-1>

引用格式: Yin Z Y, Le Q C, Jiang Y C, et al. Understanding the spatial interaction of ultrasounds based on three-dimensional dual-frequency ultrasonic field numerical simulation. China Foundry, 2024, 21(1): 29-43.

[Multi-physical fields distribution in billet during helical electromagnetic stirring: A numerical simulation research](#)

小方坯螺旋电磁搅拌过程中多物理场分布的数值模拟研究 (Vol. 21 No. 1, 2024)

Dong Pan, Qing-tao Guo, Kai-lun Zhang, Fu-zhi Yu, Yu-ying Li, and Yu-bao Xiao

DOI: <https://doi.org/10.1007/s41230-023-3065-7>

引用格式: Pan D, Guo Q T, Zhang K L, et al. Multi-physical fields distribution in billet during helical electromagnetic stirring: A numerical simulation research. China Foundry, 2024, 21(1): 51-59.

[Three dimensional phase-field simulation for non-isothermal binary alloy solidification: Comparison with LKT theory](#)

二元合金非等温凝固三维相场模拟: 与 LKT 理论的对比 (Vol. 20 No. 6, 2023)

Jun Wu, Ting-yi Liu, Gui-chao Hu, Rong Ma, Xiao-peng Zhang, Yu-fei Li, and Chao Luo (中国工程物理研究院材料研究所)

DOI: <https://doi.org/10.1007/s41230-023-2086-6>

[Simulation of inclined dendrites under natural convection by KKS phase field model based on CUDA](#)

基于 CUDA 的 KKS 相场模型对自然对流条件下的倾斜枝晶模拟 (Vol. 20 No. 5, 2023)

Chang-sheng Zhu, Tian-yu Li, Bo-rui Zhao, Cang-long Wang, and Zi-hao Gao (兰州理工大学)

DOI: <https://doi.org/10.1007/s41230-023-2128-0>

[Distribution pattern of acoustic and streaming field during multi-source ultrasonic melt treatment process](#)

多源超声熔体处理过程中声场和流场分布规律的研究 (Vol. 20 No. 5, 2023)

Xiao-gang Fang, Qi Wei, Tian-yang Zhang, Ji-guang Liu, You-wen Yang, Shu-lin Lü, Shu-sen Wu, and Yi-qing Chen (合肥工业大学)

DOI: <https://doi.org/10.1007/s41230-023-2146-y>

[Melting and floating processes of inorganic materials in molten steel: Visualization physical simulation and mathematical modelling](#)

无机材料在钢液中的熔化和上浮过程：可视化物理模拟和数值模拟（Vol. 20 No. 2, 2023）

Jin-hu Lai, Sheng Yu, Yang-jian Xu, Dan-qing Jiang, San-san Shuai, Jiang Wang, and Zhong-ming Ren（上海大学）

DOI: <https://doi.org/10.1007/s41230-023-2099-1>

[Image processing based three-dimensional model reconstruction for cross-platform numerical simulation](#)

基于图像处理的跨平台数值模拟三维模型重建（Vol. 20 No. 2, 2023）

Yu-cheng Sun, Yu-hang Huang, Na Li, Xiao Han, Ai-long Jiang, Jin-wu Kang, Ji-wu Wang, and Hai-liang Yu（潍柴动力股份有限公司内燃机可靠性国家重点实验室）

DOI: <https://doi.org/10.1007/s41230-023-2133-3>

[Numerical simulation on fluid flow behavior during 3-dimensional dendrite growth with random preference angle](#)

随机择优角度三维枝晶生长过程中流体流动行为的数值模拟（Vol. 19 No. 5, 2022）

DOI: Qi Wang, Ke-jie Feng, Shi-jie Zhang, Chen-yu Li, and Ri Li（河北工业大学）

<https://doi.org/10.1007/s41230-022-1157-4>

[Iterative reverse deformation optimization design of castings based on numerical simulation of solidification thermal stress](#)

基于凝固热应力数值模拟的铸件迭代反变形尺寸优化设计（Vol. 19 No. 4, 2022）

Yu-hao Chen, Dun-ming Liao, Wei-dong Li, Tao Chen, Ming Yang, and Jun-ke Shi（华中科技大学）

DOI: <https://doi.org/10.1007/s41230-022-2034-x>

[Quantitative multi-phase-field modeling of non-isothermal solidification in hexagonal multicomponent alloys](#)

HCP结构多元合金非等温凝固的定量多相场模拟（Vol. 19 No. 3, 2022）

Yong-biao Wang, Ming-guang Wei, Xin-tian Liu, Cong Chen, Jian-xiu Liu, Yu-juan Wu, Shuai Dong, and Li-ming Peng（郑州轻工业大学）

DOI: <https://doi.org/10.1007/s41230-022-1123-y>

[Phase-field modeling of dendritic growth of magnesium alloys with a parallel-adaptive mesh refinement algorithm](#)

基于并行自适应网格细化算法的镁合金枝晶生长相场模拟（Vol. 18 No. 6, 2021）

Bing-hui Tian, Meng-wu Wu, Ang Zhang, et al（武汉理工大学）

DOI: <https://doi.org/10.1007/s41230-021-1116-5>

[Three-dimensional multi-phase-field simulation of eutectoid alloy based on OpenCL parallel](#)

基于OpenCL并行的共析合金三维多相场模拟（Vol. 18 No. 3, 2021）

Chang-sheng Zhu, Yu-jie Li, Fang-lan Ma, et al（兰州理工大学）

DOI: <https://doi.org/10.1007/s41230-021-0123-x>

[Distinctions of dendritic behavior influenced by constant pressure and periodic pressure](#)

恒压和周期性压力对枝晶行为影响的区别 (Vol. 18 No. 2, 2021)

Shan Shang, Zhi-peng Guo, Zhi-qiang Han, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-021-0149-0>

[Confluence and cold shut computation based on time field in casting simulation](#)

铸造数值模拟中基于时间场计算交汇位置和冷隔缺陷 (Vol. 18 No. 2, 2021)

Yong-shuai Feng, Dun-ming Liao, Tao Chen (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-021-9008-2>

[Multi-phase field simulation of multi-grain peritectic transition in multiple phase transformation](#)

多相相变中多晶粒包晶转变的多相场模拟 (Vol. 17 No. 5, 2020)

Li Feng, Jun-he Zhong, Chang-sheng Zhu, et al (兰州理工大学)

DOI: <https://doi.org/10.1007/s41230-020-9136-0>

[Influence of periodic pressure on dendritic morphology and sidebranching](#)

周期压力对枝晶形态和侧枝的影响 (Vol. 17 No. 4, 2020)

Shan Shang, Zhi-peng Guo, Zhi-qiang Han, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-020-0025-3>

[Phase field simulation of liquid-solid-eutectoid multiple phase transformations of a Fe-C binary alloy](#)

Fe-C 二元合金液-固-共析多相转变的相场模拟 (Vol. 17 No. 4, 2020)

Li Feng, Jun-he Zhong, Chang-sheng Zhu, et al (兰州理工大学)

DOI: <https://doi.org/10.1007/s41230-020-9125-3>

[Three dimensional modeling method of MIMICS adjacent mask spherical open cell aluminum foam-polyurethane composites based on DICOM data](#)

基于 DICOM 数据下 MIMICS 相邻蒙版球体开孔泡沫铝-聚氨酯复合材料三维重建的方法 (Vol. 17 No. 4, 2020)

Ming-si Qi, Wei Zhang, Guang-ming Ren, et al (中北大学)

DOI: <https://doi.org/10.1007/s41230-020-9094-6>

[Numerical simulation and optimization of shell mould casting process for leaf spring bracket](#)

壳型铸造板簧支架数值模拟及工艺优化 (Vol. 17 No. 1, 2020)

Ji-guang Liu, Lei Yang, Xiao-gang Fang, et al (合肥工业大学)

DOI: <https://doi.org/10.1007/s41230-020-9089-3>

[Effect of ladle outlet geometry on internal porosity in gravity casting automotive brackets: An experimental investigation](#)

基于实验的浇包出铁口几何尺寸对重力浇注汽车支架内部缩松的影响研究 (Vol. 17 No. 1, 2020)

Jaehoon Choi, Hoyoung Hwang, and Shinill Kang (韩国Yonsei University)

DOI: <https://doi.org/10.1007/s41230-020-9123-5>

[Numerical simulation and experimental validation on fabrication of nickel-based superalloy Kagome lattice sandwich structures](#)

镍基高温合金戈薇晶格三明治结构的数值模拟和实验验证 (Vol. 17 No. 1, 2020)

Yan-peng Wei, Bo Yu, Quan-zhan Yang, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-020-9100-z>

十、Others 其他

[Intelligent casting: Empowering the future foundry industry](#)

智能铸造——赋能未来铸造业 (Vol. 21 No. 5, 2024)

Jin-wu Kang, Bao-lin Liu, Tao Jing, and Hou-fa Shen (清华大学)

DOI: <https://doi.org/10.1007/s41230-024-4056-z>.

引用格式: Kang J W, Liu B L, Jing T, et al. Intelligent casting: Empowering the future foundry industry. China Foundry, 2024, 21(5): 409-426.

[Research, application and development of inorganic binder for casting process](#)

铸造用无机黏结剂的研究应用及发展 (Vol. 21 No. 5, 2024)

Xiao-long Gong, Sheng-li Hu, and Zi-tian Fan (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-024-4060-3>.

引用格式: Gong X L, Hu S L, Fan Z T. Research, application and development of inorganic binder for casting process. China Foundry, 2024, 21(5): 461-475.

[Growth process, defects, and dopants of bulk \$\beta\$ -Ga₂O₃ semiconductor single crystals](#)

β -Ga₂O₃ 单晶生长工艺、缺陷及掺杂剂研究 (Vol. 21 No. 5, 2024)

Yan-shen Wang, Ming-zhi Zhu, and Yuan Liu (清华大学)

DOI: <https://doi.org/10.1007/s41230-024-4131-5>.

引用格式: Wang Y S, Zhu M Z, and Liu Y. Growth process, defects, and dopants of bulk β -Ga₂O₃ semiconductor single crystals. China Foundry, 2024, 21(5): 491-506.

[Effect of microalloying on wettability and interface characteristics of Zr-based bulk metallic glasses with W substrate](#)

微合金化对Zr基金属玻璃与W基片之间的润湿性及界面特征的影响 (Vol. 21 No. 4, 2024)

Zhen Zhang, Lin-na Feng, Jin-he Wang, Zheng-kun Li, Hua-meng Fu, Hong Li, Zheng-wang Zhu, and Hai-feng Zhang (沈阳工业大学)

DOI: <https://link.springer.com/article/10.1007/s41230-024-3169-8>

引用格式: Zhang Z, Feng L N, Wang J H, et al. Effect of microalloying on wettability and interface characteristics of Zr-based bulk metallic glasses with W substrate. China Foundry, 2024, 21(4): 352-359.

[Microstructure and mechanical properties of Co-28Cr-6Mo-0.22C investment castings by current solution treatment](#)

电流固溶处理对熔模铸造CoCrMo合金的影响 (Vol. 21 No. 4, 2024)

Ze-yu Dan, Jun Liu, Jian-lei Zhang, Yan-hua Li, Yuan-xin Deng, Yun-hu Zhang, and Chang-jiang Song (上海大学)

DOI: <https://doi.org/10.1007/s41230-024-3158-y>

引用格式: Dan Z Y, Liu J, Zhang J L, et al. Microstructure and mechanical properties of Co-28Cr-6Mo-0.22C investment castings by current solution treatment. China Foundry, 2024, 21(4): 369-378.

[Exploring the effect of cooling rate on non-isothermal crystallization of copolymer polypropylene by fast scanning calorimetry](#)

用快速扫描量热法探讨冷却速率对共聚聚丙烯非等温结晶的影响 (Vol. 21 No. 4, 2024)

Yang Liao, Ye-yuan Hu, Kosuke Ikeda, Ryoji Okabe, Rui-fen Wu, Ryota Ozaki, and Qing-yan Xu (清华大学)

DOI: <https://doi.org/10.1007/s41230-024-3108-8>

引用格式: Liao Y, Hu Y Y, Ikeda K, et al. Exploring the effect of cooling rate on non-isothermal crystallization of copolymer polypropylene by fast scanning calorimetry. China Foundry, 2024, 21(4): 379–386.

[I-DCGAN and TOPSIS-IFP: A simulation generation model for radiographic flaw detection images in light alloy castings and an algorithm for quality evaluation of generated images](#)

I-DCGAN和TOPSIS-IFP: 轻合金铸件射线探伤图像仿真生成模型与生成图像质量评估算法 (Vol. 21 No. 3, 2024)

Ming-jun Hou, Hao Dong, Xiao-yuan Ji, Wen-bing Zou, Xiang-sheng Xia, Meng Li, Ya-jun Yin, Bao-hui Li, Qiang Chen, and Jian-xin Zhou (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-024-3094-x>

引用格式: Hou M J, Dong H, Ji X Y, et al. I-DCGAN and TOPSIS-IFP: A simulation generation model for radiographic flaw detection images in light alloy castings and an algorithm for quality evaluation of generated images. China Foundry, 2024, 21(3): 239–247.

[Assessing efficacy of standard impregnation techniques on die-cast aluminum alloys using X-ray micro-CT](#)

X射线微CT评估压铸铝合金标准浸渍工艺的有效性 (Vol. 21 No. 3, 2024)

Ajith Bandara, Koichi Kan, Katanaga Yusuke, Natsuto Soga, Akifumi Koike, and Toru Aoki (Chuo Hatsume Institute, 日本)

DOI: <https://doi.org/10.1007/s41230-024-3049-2>

引用格式: Bandara A, Kan K, Yusuke K, et al. Assessing efficacy of standard impregnation techniques on die-cast aluminum alloys using X-ray micro-CT. China Foundry, 2024, 21(3): 276–286.

[Microstructure evolution of \$\text{Ti}_{48}\text{Zr}_{27}\text{Cu}_6\text{Nb}_5\text{Be}_{14}\$ amorphous alloy after semi-solid isothermal treatment](#)

半固态等温处理后 $\text{Ti}_{48}\text{Zr}_{27}\text{Cu}_6\text{Nb}_5\text{Be}_{14}$ 非晶复合材料组织演变 (Vol. 21 No. 3, 2024)

Xin-hua Huang, Jing-wen Pu, Yong-xin Luo, and Yue-jun Ouyang (怀化学院)

DOI: <https://doi.org/10.1007/s41230-024-3051-8>

引用格式: Huang X H, Pu J W, Luo Y X, et al. Microstructure evolution of $\text{Ti}_{48}\text{Zr}_{27}\text{Cu}_6\text{Nb}_5\text{Be}_{14}$ amorphous alloy after semi-solid isothermal treatment. China Foundry, 2024, 21(3): 287–294.

[A thermochemical model description of \$\text{CaO-SiO}_2\text{-Al}_2\text{O}_3\$ silicate system](#)

$\text{CaO-SiO}_2\text{-Al}_2\text{O}_3$ 硅酸盐体系热力学计算模型 (Vol. 20 No. 6, 2023)

Qiu-lin Wen, Feng-man Shen, Hai-yan Zheng, Yun-bao Gao, Yu Wang, and Yan-chun Lou (高端装备铸造技术全国重点实验室)

DOI: <https://doi.org/10.1007/s41230-023-3044-z>

[Reclamation of CO₂ sodium silicate used sands by steam leaching](#)

CO₂硬化水玻璃旧砂在蒸淋作用下的行为研究 (Vol. 20 No. 6, 2023)

Ji-jun Lu, Wei He, Lei Yang, and Hua-fang Wang (武汉纺织大学)

DOI: <https://doi.org/10.1007/s41230-023-1174-y>

[Analysis of inhomogeneity of solidified microstructure of continuous casting copper tubular billet based on factor analysis](#)

基于因子分析的连铸铜管坯凝固组织不均匀性分析 (Vol. 20 No. 6, 2023)

Jin-song Liu, Chao-rui Shan, Da-yong Chen, Hong-wu Song, Chuan-lai Chen, and Yun-yue Chen (沈阳理工大学)

DOI: <https://doi.org/10.1007/s41230-023-3057-7>

[Distribution pattern of acoustic and streaming field during multi-source ultrasonic melt treatment process](#)

多源超声熔体处理过程中声场和流场分布规律的研究 (Vol. 20 No. 5, 2023)

Xiao-gang Fang, Qi Wei, Tian-yang Zhang, Ji-guang Liu, You-wen Yang, Shu-lin Lü, Shu-sen Wu, and Yi-qing Chen (合肥工业大学)

DOI: <https://doi.org/10.1007/s41230-023-2146-y>

[Analysis on phase selection and microstructure evolution in directionally solidified Zn-Al-Mg-Ce alloy](#)

定向凝固Zn-Al-Mg合金组织演变与相选择研究 (Vol. 20 No. 4, 2023)

Ji-peng Li, De-gao Qiao, Shi-wen Dong, Peng Peng, Xian-tao Yan, and Xu-dong Zhang (甘肃酒钢集团宏兴钢铁有限公司)

DOI: <https://doi.org/10.1007/s41230-023-3027-0>

[Feasibility of measuring moisture content of green sand by a low frequency multiprobe detector based on dielectric characteristics](#)

基于介电特性的低频多针探头测量湿型砂含水量的可行性 (Vol. 20 No. 3, 2023)

De-quan Shi, Gui-li Gao, Ming Sun, and Ya-xin Huang (上海理工大学)

DOI: <https://doi.org/10.1007/s41230-023-2087-5>

[Review of solution growth techniques for 4H-SiC single crystal](#)

4H-SiC 单晶的溶液生长技术综述 (Vol. 20 No. 2, 2023)

Gang-qiang Liang, Hao Qian, Yi-lin Su, Lin Shi, Qiang Li, and Yuan Liu (清华大学)

DOI: <https://doi.org/10.1007/s41230-023-2103-9>

[Effects of binder components and PVA modifier on bonding performance of phosphate binder for sand core-making](#)

磷酸盐粘结剂组分优化及 PVA 改性剂对砂芯性能的影响 (Vol. 20 No. 2, 2023)

Wei-hua Liu, Xin Jia, Lai Song, and Ying-min Li (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-023-1021-1>

[Morphologies of intermetallic compound phases in Sn-Cu and Sn-Co peritectic alloys during directional solidification](#)

定向凝固Sn-Cu与Sn-Co包晶合金中金属间化合物相形貌研究 (Vol. 19 No. 5, 2022)

Peng Peng, Jin-mian Yue, An-qiao Zhang, Jia-tai Wang, and Jiang-lei Fan (青海师范大学物理与电子信息学院)

DOI: <https://doi.org/10.1007/s41230-022-1109-z>

[Simulation and experimental research on extra-squeeze forming method during gradient sand molding](#)

梯度砂型补压成形方法模拟与试验研究 (Vol. 19 No. 4, 2022)

Er-biao Jiang, Zhong-de Shan, Guang Cheng, Shao-zong Wang, Zhao-xian Gu, and Xin-lei Wang (中国机械科学研究总院)

DOI: <https://doi.org/10.1007/s41230-022-1130-2>

[Sub-pixel high precision dimensional measurement method for aero-engine hollow turbine blade based on industrial computed tomography image](#)

基于工业计算机断层扫描图像的亚像素级高精度航空发动机空心涡轮叶片的尺寸测量方法研究 (Vol. 19 No. 4, 2022)

Ya-nan Wang, San-san Shuai, Xing-fu Ren, Tong-tong Hu, Jiang Wang, and Zhong-ming Ren (上海大学)

DOI: <https://doi.org/10.1007/s41230-022-2044-8>

[Plasticity improvement of \$\(\text{Cu}_{43}\text{Zr}_{48}\text{Al}_9\)_{98}\text{Y}_2\$ bulk metallic glass composites by dispersed Ta particles](#)

分散Ta颗粒对 $(\text{Cu}_{43}\text{Zr}_{48}\text{Al}_9)_{98}\text{Y}_2$ 块体金属玻璃复合材料塑性的改善 (Vol. 19 No. 3, 2022)

Ke Yang, Bing Li, Xin Wang, and Xin-hui Fan (西安工业大学)

DOI: <https://doi.org/10.1007/s41230-022-9022-z>

[Gas evolution characteristics of three kinds of no-bake resin-bonded sands for foundry in production](#)

三种铸造用自硬树脂砂在生产过程中的发气特性 (Vol. 19 No. 2, 2022)

Xue-wen Qian, Peng Wan, Ya-jun Yin, Yu-yang Qi, Xiao-yuan Ji, Xu Shen, Yuan-cai Li, and Jian-xin Zhou (华中科技大学)

DOI: <https://doi.org/10.1007/s41230-022-1031-4>

[Oxidation induced ductility enhancement of Zr based metallic glass ribbons in vicinity of glass transition temperature](#)

Zr基金属玻璃带在玻璃化转变温度附近的氧化诱导延展性增强 (Vol. 19 No. 1, 2022)

Jin-tao Wang, Xue-feng Gao, Rui-chun Wang, Yin-xiao Wang, Fu-yu Dong, Wen-ying Xue, and Hong-wang Yang (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-022-1102-6>

[Migration behavior and aggregation mechanism of SiC particles in silicon melt during directional solidification process](#)

硅熔体定向凝固过程中SiC颗粒的迁移行为和偏析机制 (Vol. 18 No. 6, 2021)

Yue Yang, Shi-Qiang Ren, Da-chuan Jiang, et al (大连理工大学)

DOI: <https://doi.org/10.1007/s41230-021-1064-0>

[Phenomena at three-phase electroslag remelting](#)

三相电渣重熔现象 (Vol. 18 No. 6, 2021)

Zhong-li Liu, Lev Medovar, Ganna Stovpchenko, et al (烟台大学)

DOI: <https://doi.org/10.1007/s41230-021-0125-8>

[Properties of alumina-based ceramic cores](#)

铝基陶瓷芯的性能 (Vol. 18 No. 6, 2021)

Xiao-fu Liu, Xin-li Guo, Guo-yan Shui, et al (沈阳铸造研究所有限公司)

DOI: <https://doi.org/10.1007/s41230-021-1125-4>

[Glass formation in Fe-Cr-Zr-B-Mo alloys by tuning Nb addition](#)

Nb对Fe-Cr-Zr-B-Mo合金玻璃形成的影响 (Vol. 18 No. 5, 2021)

Cong-ran Fu, Wei Zhang, Qing-chun Xiang, et al (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-021-1061-3>

[Effect of nonuniform sintering on mechanical and thermal properties of silica-based ceramic cores](#)

非均匀烧结对硅基陶瓷型芯力学性能和热性能的影响 (Vol. 18 No. 5, 2021)

Zhi-ping Pan, Jian-zheng Guo, Shuang-ming Li, et al (西北工业大学)

DOI: <https://doi.org/10.1007/s41230-021-1024-8>

[Effect of melt cooling rate on glass transition kinetics and structural relaxation of Vit1 metallic glass](#)

熔体冷却速率对Vit1金属玻璃玻璃化转变动力学和结构弛豫的影响 (Vol. 18 No. 2, 2021)

Wei Zhang, Qing-chun Xiang, Ying-dong Qu, et al (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-021-0129-4>

[Cooling control for castings by adopting skeletal sand mold design](#)

通过采用骨架形砂型设计来控制铸件冷却 (Vol. 18 No. 1, 2021)

Jin-wu Kang, Hao-long Shanguan, Fan Peng, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-021-0150-7>

[Shear bands of as-cast and semi-solid \$\text{Ti}_{48}\text{Zr}_{27}\text{Cu}_6\text{Nb}_5\text{Be}_{14}\$ bulk metallic glass matrix composites](#)

铸态和半固态 $\text{Ti}_{48}\text{Zr}_{27}\text{Cu}_6\text{Nb}_5\text{Be}_{14}$ 大块金属玻璃基复合材料的剪切带 (Vol. 18 No. 1, 2021)

Xin-hua Huang, Lin-hao Zhu, Hong-min Guo, et al (南昌大学)

DOI: <https://doi.org/10.1007/s41230-021-0023-0>

[Properties of fiber reinforced plaster molds for investment casting](#)

熔模铸造用纤维增强石膏模的性能 (Vol. 17 No. 5, 2020)

Jie Ren, Xiang Chen, Yan-xiang Li, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-020-0056-9>

[Modification of inorganic binder used for sand core-making in foundry practice](#)

铸造生产中制芯用无机粘结剂的改性 (Vol. 17 No. 5, 2020)

Fang-hai Xin, Wei-hua Liu, Lai Song, et al (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-020-0018-2>

[Code generation and recognition using a modified ejection system in die-casting process](#)

压铸过程中基于改进的顶出系统的代码生成与识别 (Vol. 17 No. 5, 2020)

Jaekyung Song, Jeongsu Lee, Young Chul Lee, et al (韩国科技大学)

DOI: <https://doi.org/10.1007/s41230-020-0036-0>

[Microstructure evolution of semi-solid Mg₂Si/A356 composites during remelting process](#)

半固态Mg₂Si/A356复合材料在重熔过程中的显微组织演变 (Vol. 17 No. 5, 2020)

Yong Hu, Sheng-qi Fu, Long-zhi Zhao, et al (华东交通大学)

DOI: <https://doi.org/10.1007/s41230-020-9158-7>

[Effect of infiltrating time on interfacial reaction and properties of tungsten particles reinforced Zr-based bulk metallic glass composites](#)

浸渗时间对钨颗粒增强锆基大块金属玻璃复合材料界面反应及性能的影响 (Vol. 17 No. 4, 2020)

Qing-chun Xiang, Zhi-bo Feng, Wei Zhang, et al (沈阳工业大学)

DOI: <https://doi.org/10.1007/s41230-020-0063-x>

[Performance of digital patternless freeze-casting sand mould](#)

数字化无模冷冻铸造砂型的性能 (Vol. 17 No. 4, 2020)

Zhong-de Shan, Hao-qin Yang, Feng Liu, et al (机械科学研究总院)

DOI: <https://doi.org/10.1007/s41230-020-9163-x>

[Effect of Dy doping on magnetostrictive and mechanical properties of Fe₈₃Ga₁₇ alloy](#)

Dy对Fe₈₃Ga₁₇合金磁致伸缩及力学性能的影响 (Vol. 17 No. 3, 2020)

Xin-lei Wang, Yuan Liu, Xiang Chen, et al (清华大学)

DOI: <https://doi.org/10.1007/s41230-020-0011-9>