

# CONTENTS

Vol. 21 No. 1 January 2024

## Special Review

- 1 Progress in preparation of AlN-reinforced magnesium matrix composites: A review

*Lu Chen, Shu-lin Lü, Di-jia Zhao, Wei Guo, Jian-yu Li, and Shu-sen Wu*

## Research & Development

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

*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*

- 20 Droplet morphology analysis of drop-on-demand inkjet printing

*Hu-xiang Xia, Takechi Kensuke, Tajima Shin, Kawamura Yoshiumi, and Qing-yan Xu*

- 29 Understanding the spatial interaction of ultrasounds based on three-dimensional dual-frequency ultrasonic field numerical simulation

*Zhao-yang Yin, Qi-chi Le, Yan-chao Jiang, Da-zhi Zhao, Qi-yu Liao, and Qi Zou*

- 44 Effect of electrical parameters and slag system on macrostructure of electros slag ingot

*Bing-jie Wang, Yu Wang, Meng-jun Wang, Lei Zhao, Li-zhong Chang, and Xiao-fang Shi*

- 51 Multi-physical fields distribution in billet during helical electromagnetic stirring: A numerical simulation research

*Dong Pan, Qing-tao Guo, Kai-lun Zhang, Fu-zhi Yu, Yu-ying Li, and Yu-bao Xiao*

- 60 Compression properties of cost-efficient porous expanded clay reinforced AA7075 syntactic foams fabricated by industrial-oriented die casting technology

*İsmail Cem Akgün, Çağın Bolat, and Ali Gökşenli*

- 71 Synergistic effect of Zr and Mo on precipitation and high-temperature properties of Al-Si-Cu-Mg alloys

*Chao Gao, Bing-rong Zhang, Yin-ming Li, Zhi-ming Wang, and Xiang-bin Meng*

- 82 Thermal and mechanical behavior of casting copper alloy wheel during wheel and belt continuous casting process

*Kun Gao and Yan Peng*

- 91 Effect of FeSi additive in dual-chamber sample cup on thermal analysis characteristic values and vermiculating rate of compacted graphite iron

*De-quan Shi, Ze-yu Liu, Gui-li Gao, and Yi-cheng Feng*

## Advertisements

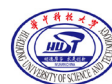
**Back cover** Celebrating the 20th Anniversary of *CHINA FOUNDRY* Journal

**B1** InteCAST Software

**B2-B3** Call for Papers  
– The 75th World Foundry Congress

**B4** The 19th China Die Casting Congress

## Partners



State Key Laboratory of Materials Processing and Die & Mould Technology, Huazhong University of Science and Technology



National Joint Engineering Research Center of High Performance Metal Wear Resistant Materials Technology, Jinan University