

CONTENTS

Vol. 23 No. 2 March 2026

Special Review

117 Hot tearing of cast aluminium alloys: A critical review
You-jie Guo, Fang-zhou Qi, Yi-hao Wang, Guang-ling Wei, Liang Zhang, and Guo-hua Wu

139 A review of sliver defects in Ni-based single crystal superalloys
Sobhan Rajabinejad, Javad Yazdani, Majid Fouladvand, and Mohammad-Reza Ahmadpour Yazdi

Research & Development

158 Quantitative evaluation of mechanical characteristics of Al-Si cast alloys: A parametric study
Ahmed Osman, Naser A. Alsaleh, Mahmoud Ahmadein, and Mahmoud A. El-Sayed

169 Development of a cost-effective Fe-P-C nanocrystalline alloy with high magnetic induction and ductility via annealing-free melt-spinning
Jing Ding, Cong Liu, Zhao-can Li, Wen-chao Liu, Xiao-long Wang, Ji-li Tian, Shu-qiang Lü, and Sheng-li Zhu

179 Stress-rupture behavior of a Ni-based Re-containing single crystal superalloy in [001] and [111] orientations at 1100 °C
Guang-lei Wang, Dong-qing Qi, Jin-lai Liu, and Ji-de Liu

186 Effect of grain size on fatigue behaviors of Mg-2.6Nd-0.35Zn-xZr alloys
Lun-yong Zhang, Yan-ping Chen, Xian-xing Wang, Hong-xian Shen, Hong-hui Liu, Fu-yang Cao, Zhi-liang Ning, and Jian-fei Sun

197 Structural die casting application of a heat treated free aluminum-silicon alloy
Xiang-yi Jiao, Peng-yue Wang, Yi-xian Liu, Wen-ning Liu, and Shou-mei Xiong

205 Investigation on interfacial reaction and wettability between 4777DS1 superalloy and ceramic core
Qiong-yuan Zhang, Qiang Yang, A-tao Yang, Ying-xin Wang, Jian He, Yan Shang, Yu Fang, and Qing-yan Xu

215 Effect of modification treatment on microstructure and properties of Fe-B-C alloy
Li-qiong Zhong, Qiang Xiao, Feng-shuo Jin, Wei-ji Lai, and Yan-liang Yi

223 Effects of aging process on microstructure and mechanical properties of casting Al-Si-Cu-Mg alloy
Ning Zhang, Yi-cheng Feng, Ke Sun, Si-cong Zhao, Yuan-ke Fu, Lei Wang, and Ying-hu Wang

233 Micro-alloying for improving corrosion resistance of as-cast alloy CoCrNi in 3.5wt.% NaCl solution by Ce addition
Bo Chen, Chang Ma, Wei-dong Xuan, Zhan-yong Gao, Guang-rui Zhang, Fei Lu, and Yuan Hou

245 Titanium alloy with synergistic enhancement of strength and toughness based on molybdenum equivalent design: Microstructure evolution and strengthening-toughening mechanism
Yi-li Li, Hong-ze Fang, Rui-run Chen, Jia-qi Hao, Bao-hui Zhu, and Jing-jie Guo

254 Microstructure and tribological properties of Y₂O₃-doped Fe-based alloy coatings by laser cladding
Huo-ping Zhao, Li-yao Li, Ming-xue Shen, Qiang Hu, Han-yu Zhou, Ye-long Xiao, De-ying Li, and Shao-peng Liu

263 Investigating inclusions and mechanical properties of 1060 aluminum by salt fluxes refining
Jing-feng Wang, Yao-heng Qiu, Chao-yi Chen, Lin-zhu Wang, and Jun-qi Li

274 Creep behavior and fracture mechanism of high Al/Nb-containing TiAl alloy
Yan Wang, Qi Wang, Rui-run Chen, Yan-qing Su, and Heng-zhi Fu

Back Cover *FOUNDRY* Journal