

Vol.8 No.1 February 2011 (Quarterly, started in November 2004)

As the transaction for Foundry Institution of Chinese Mechanical Engineering Society (FICMES), CHINA FOUNDRY, published quarterly to a worldwide readership in English by Foundry Journal Agency, covers the whole fields of foundry technology for iron, steel and nonferrous eastings, including sand molding casting, die casting, investment casting, etc. It mainly reports advanced scientific and technical achievements, applied technology, successful experiences in production organization, management and leadership, recent developments and industry information. The Foundry Journal Agency is not responsible for statements or opinions advanced by authors of papers or articles printed in the publications. CHINA FOUNDRY is indexed by Science Citation Index-Expanded (SCI-E) (available through the Web of Science*, beginning with the first issue of 2007). Chemical Abstracts (CA), Cambridge Science Abstracts (CSA), Abstract Journal (AJ) and Elsevier's largest abstract and citation database - Scopus and so on.

Contents

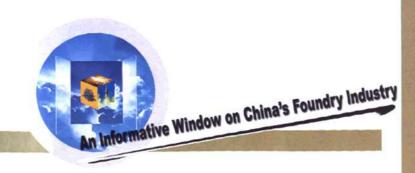
Research & Development

- A new dynamic method for measuring hydrogen partial pressure in molten aluminum alloy Sun Qian, Li Dayong, Wang Lihua, et al
- Improvement of corrosion resistance in NaOH solution and glass forming ability of as-cast Mg-based bulk metallic glasses by microalloying Peng Hao, Li Shuangshou, and Huang Tianyou
- 9 Improvement in collapsibility of ZrO₂ ceramic mould for investment casting of TiAl alloys Chen Yanfel, Xiao Shulong, Tian Jing, et al
- 14 In-situ observation of porosity formation during directional solidification of Al-Si casting alloys Zhao Lei, Pan Ye, Liao Hengcheng, et al
- 19 Prediction and improvement of shrinkage porosity in TiAl based alloy Gao Yong, Zhang Lijing, Gao Wenli, et al
- A new numerical simulation model for high pressure squeezing moulding Li Hua, Wu Junjiao, Huang Tianyou, et al
- 30 Optimization of tensile strength for new type acetone-ureaformaldehyde furan resin using uniform design Lin Shengjun, Zhao Ya, Li Yuancai, et al
- 36 Niobium alloying effect in high carbon equivalent grey cast iron Zhou Wenbin, Zhu Hongbo, Zheng Dengke, et al
- 41 Microstructure and mechanical properties of NZ30K alloy by semicontinuous direct chill and sand mould casting processes Zheng Xingwei, Dong Jie, Liu Wencai, et al
- 47 Mechanism of pulse magneto-oscillation grain refinement on pure Al Pei Ning, Gong Yongyong, Li Renxing, et al

The 69th WFC Papers

- 51 Cast iron a predictable material Jörg C. Sturm and Guido Busch
- Casting of microstructured shark skin surfaces and possible applications on aluminum casting parts Todor Ivanov, Andreas Bührig-Polaczek and Uwe Vroomen
- 66 Low temperature impact strength of heavy section ductile iron castings: effects of microstructure and chemical composition C. Labrecque and P. M. Cabanne
- 74 Using lean methodologies for economically and environmentally sustainable foundries
 R. M. Torielli, R. A. Abrahams, R.W. Smillie, et al
- Thermal analysis as a microstructure prediction tool for A356 aluminium parts solidified under various cooling conditions

 A. Niklas, U. Abaunza, A.I. Fernández–Calvo, et al



- 96 Influence of Si, Ce, Sb and Sn on chunky graphite formation Hideo Nakae, Masayuki Fukami, Takayuki Kitazawa, et al
- 101 Experimental determination of grain density function of AZ91/SiC composite with different mass fraction of SiC and undercooling using heterogeneous nuclation model J. Lelito, P. Zak, J. S. Suchy, et al
- 107 Medical implants by using RP and investment casting technologies Milan Horáček, Ondřej Charvát, Tomáš Pavelka, et al
- 112 Impact analysis of casting parts considering shrinkage cavity defect Si-Young Kwak, Jie Cheng, and Jeong-Kil Choi
- 117 Microstructure of fly ash cenosphere/AZ91D composite during solution treatment at 380-420°C Huang Zhiqiu, Yu Sirong, Li Muqin, et al
- 121 Effects of novel self-inoculation method on microstructure of AM60 alloy Xing Bo, Li Yuandong, Ma Ying, et al
- 127 The ancient Chinese casting techniques

 Tan Derui and Lian Haiping
- 137 Effects of scandium and zirconium combination alloying on as—cast microstructure and mechanical properties of Al-4Cu-1.5Mg alloy Xiang Qingchun, Zhao Jing, Pan Haicheng, et al
- 141 Control of equiaxed grains in a complicated Cu-Ni based alloy prepared by centrifugal casting Luo Zongqiang, Zhang Weiwen, Xin Baoliang, et al
- 145 Effect of hot extrusion process on microstructure and mechanical properties of hypereutectic Al-Si alloys

 Li Runxia, Yu Fuxiao and Zuo Liang

Serial Report

150 Colour Metallography of Cast Iron
Chapter 4: Vermicular Graphite Cast Iron (I)
Zhou Jiyang, Professor, Dalian University of Technology

Advertisements

Inside Back Cover, A1

Suzhou Xingye Foundry Materials Co., Ltd.

Inside Front Cover, B4 Foundry Journal Agency

Back Cover Shengquan Group

A2 Shenyang Research Institute of Foundry

A3 Illustration for Front Cover

- B1 Asia-Pacific Region Die Casting Exhibition, June, Dongguan, China
- B2 GIFA- METEC, THERM PROCESS and NEWCAST 2011, Messe Düsseldorf
- B3 Call for Papers AFC 11

Responsible Department:

China Machinery Industry Federation

Sponsor

Shenyang Research Institute of Foundry

Associate Sponsor:

Foundry Institution of Chinese Mechanical Engineering

Society

Edited and Published by:

Foundry Journal Agency

Director

Lou Yanchun

Chief Editor:

Ge Chenguang, gcg@foundryworld.com

Associate Editor:

Jia Shuqin, jsq@foundryworld.com

Editor:

Zhang Chunyan, zcy@foundryworld.com

Circulation and Advertising Contact:

Zhang Chunyan, zcy@foundryworld.com

Add: No.17 Yunfeng Street South, Tiexi District, Shenyang 110022, P. R. China

Tel: + 86-24-2584 7830, 25852311-209

Fax: +86-24-2561 1880

Website: www.foundryworld.com

Subscription and Payment:

Subscription rates:

China: CNY 24, single issue

CNY 96, 4 issues for one year

(includes postage)

Overseas: US \$ 15, single issue

US \$ 60, 4 issues for one year

(includes postage)
The line of paying by T/T is as follows:

Remitting Bank: Bank of America N. A. New York

Swift code: BOFAUS3N

Intermediatary Bank: Industrial and Commercial

Bank of China H.O.

Swift code: ICBKCNBJ A/C No.: 6550790149

Beneficiary's Bank: Industrial and Commercial Bank

of China Liaoning Province Branch

Swift code: ICBKCNBJLNP

Beneficiary's A/C No.: 33010050092640081-18

Beneficiary's Name: Shenyang Research Institute of

Foundry