

耐火材料®

双月刊

REFRACTORIES



申江机械
SHENJIANGJIXIE



调压升降式混合机 炮泥专用



建湖申江机械有限公司

地址：江苏省建湖经济开发区永兴路188号
电话：0515-8616 6698 传真：0515-8616 6686
手机：13851317950 邮箱：13851317950@163.com
网址：www.jhsjix.com



主管、主办
中钢集团洛阳耐火材料研究院有限公司

2023 · 3 | 6月出版

第 57 卷 (总第 381 期)

目 次

研究开发

- 185 不同量粉煤灰漂珠制备氧化物多孔陶瓷的性能研究·····董 博, 邓承继, 陈崧洋, 谢 哲, 丁 军, 朱青友, 祝洪喜, 余 超
·····
- 189 二铝酸钙加入量对刚玉浇注料性能的影响·····秦红彬, 金 锋, 唐世明, 周慧君, 李红霞, 石书冰, 张三华, 程 立, 惠先磊
·····
- 194 氟锆酸钾加入量对粉煤灰基发泡陶瓷性能的影响·····常星岚, 顾雅洁, 孙盛睿, 孙 科, 廖达琛, 刘阳桥, 奚 爽, 董满江
·····
- 200 直写成型刚玉-莫来石质多孔材料研究·····朱 凯, 杨道媛, 王美姣, 杨亮华, 赵 祥, 陈俊寰, 原会雨
- 205 煤矸石陶粒替代开孔珍珠岩骨料制备轻质铝硅系浇注料·····咎文字, 马北越, 王玉清, 蒋志峰
- 210 不同锰源和铝源对合成锰铝尖晶石的影响·····商剑钊, 刘宝亮, 徐腾腾, 刘 洋, 石 凯
- 215 锆英石加入量对刚玉质多孔材料性能的影响·····刘 馨, 张仕鸣, 李 莹, 汪 涤, 贾全利
- 220 结合剂种类对刚玉-尖晶石浇注料抗镍基高温合金侵蚀性能的影响·····潘元帅, 王 刚, 冯海霞, 柳 军, 田朋丹, 韩艺辉, 王建斌
·····
- 226 用工业镁渣制备六铝酸钙/钙铝黄长石复相材料研究·····白频波, 邢 莉, 孔祥辰, 田玉明

生产应用

- 231 吊顶窑用 α -SiC结合SiC拱顶砖的服役行为研究·····董建存, 万龙刚, 郑 翰, 相宇博, 张新华, 马昭阳, 王建波, 吴吉光
·····
- 236 转炉挡渣用氧化锆滑板的研制与应用·····余同暑, 李红霞, 李 勇, 李宏宇, 赵臣瑞, 王冬冬, 赵洪波, 张 晖
·····
- 241 SiO₂微粉添加量对Al₂O₃-SiO₂质喷涂料性能的影响·····蔡 玮, 鞠茂奇, 陈金凤, 丛培源
- 245 基于多尺度广义自洽模型的耐火材料变温损伤研究·····田富成, 王志刚, 刘昌明
- 250 MgO添加量对氧化锆质定径水口材料性能的影响·····林思琦, 刘兴刚, 刘 涛, 李玉庆, 于景坤

综合评述

- 253 梭式窑节能措施的研究现状与展望·····孟庆新, 唐 赞, 巩鑫泰, 梁瑞涵, 王金鹏, 刘志鹏, 谭功亮, 蔡嘉琪
- 259 原料特性对镁铝尖晶石烧结致密化影响的研究进展·····王建斌, 王战民, 冯海霞, 柳 军, 韩艺辉, 潘元帅
- 265 催化氮化制备氮化硅研究进展·····王 鑫, 王军凯, 黄珍霞, 孟 浩, 王一菲, 温研科
- 270 莫来石晶须的制备、生长机制及应用研究进展·····刘朝阳, 潘松阳, 董泽明, 文 俊, 王骏阳, 于景坤

综合信息

2022年全国耐火材料行业生产运行情况(204)

Contents

- 185** Properties of oxide porous ceramics prepared by different additions of fly ash cenosphere
Dong Bo, Deng Chengji, Chen Yufeng, Xie Zhe, Ding Jun, Zhu Qingyou, Zhu Hongxi, Yu Chao
- 189** Effect of calcium dialuminate addition on properties of corundum castables
Qin Hongbin, Jin Feng, Tang Shiming, Zhou Huijun, Li Hongxia, Shi Shubing, Zhang Sanhua, Cheng Li, Hui Xianlei
- 194** Effect of potassium hexafluorozirconate addition on properties of foamed ceramics from fly ash
Chang Xinglan, Gu Yajie, Sun Shengrui, Sun Ke, Liao Dachen, Liu Yangqiao, Xi Shuang, Dong Manjiang
- 200** Corundum–mullite porous materials printed by direct ink writing
Zhu Kai, Yang Daoyuan, Wang Meijiao, Yang Lianghua, Zhao Xiang, Chen Junhuan, Yuan Huiyu
- 205** Preparation of lightweight alumina–silica castables by replacing open-pore perlite aggregates with coal gangue ceramsite
Zan Wenyu, Ma Beiyue, Wang Yuqing, Jiang Zhifeng
- 210** Effect of different manganese sources and aluminum sources on synthesis of manganese aluminate spinel
Shang Jianzhao, Liu Baoliang, Xu Tengting, Liu Yang, Shi Kai
- 215** Effect of zircon addition on properties of corundum porous materials
Liu Xin, Zhang Shiming, Li Ying, Wang Di, Jia Quanli
- 220** Effect of binder type on corrosion resistance to nickel-based superalloy of corundum–spinel castables
Pan Yuanshuai, Wang Gang, Feng Haixia, Liu Jun, Tian Pengdan, Han Yihui, Wang Jianbin
- 226** Preparation of calcium hexaaluminate/gehlenite composite from industrial magnesium slag
Bai Pinbo, Xing Li, Kong Xiangchen, Tian Yuming
- 231** Service behavior of α -SiC bonded SiC dome bricks for movable roof kilns
Dong Jiancun, Wan Longgang, Zheng Han, Xiang Yubo, Zhang Xinhua, Ma Zhaoyang, Wang Jianbo, Wu Jiguang
- 236** Development and application of zirconia slide plates for slag skimming of converters
Yu Tongshu, Li Hongxia, Li Yong, Li Hongyu, Zhao Chenrui, Wang Dongdong, Zhao Hongbo, Zhang Hui
- 241** Effect of microsilica addition on properties of Al_2O_3 – SiO_2 spraying mix
Cai Wei, Ju Maoqi, Chen Jinfeng, Cong Peiyuan
- 245** Variable temperature damage of refractories based on multi-scale generalized self-consistent model
Tian Fucheng, Wang Zhigang, Liu Changming
- 250** Effect of MgO addition on properties of zirconia sizing nozzle material
Lin Siqi, Liu Xinggang, Liu Tao, Li Yuqing, Yu Jingkun
- 253** Research status and prospect of energy-saving measures for shuttle kilns
Meng Qingxin, Tang Zan, Gong Xintai, Liang Ruihan, Wang Jinpeng, Liu Zhipeng, Tan Gongliang, Cai Jiaqi
- 259** Research progress on effect of raw material characteristics on sintering densification of magnesium aluminate spinel
Wang Jianbin, Wang Zhanmin, Feng Haixia, Liu Jun, Han Yihui, Pan Yuanshuai
- 265** Research progress on preparation of silicon nitride by catalytic nitridation
Wang Xin, Wang Junkai, Huang Zhenxia, Meng Hao, Wang Yifei, Wen Yanke
- 270** Progress in preparation, growth mechanism, and application of mullite whiskers
Liu Zhaoyang, Pan Songyang, Dong Zeming, Wen Jun, Wang Junyang, Yu Jingkun

Sponsor : Sinosteel Luoyang Institute of Refractories Research Co., Ltd.(LIRR)

Editor and Publisher : The Editorial Board of NAIHUO CAILIAO

Editor-in-chief : PENG Xigao

Add : 43 Xiyuan Road, Luoyang, Henan 471039, China

Tel : +86-379-64205959 Fax : +86-379-64205970

E-mail : nhcl@nhcl.com.cn

Web Site : <http://www.nhcl.cn>

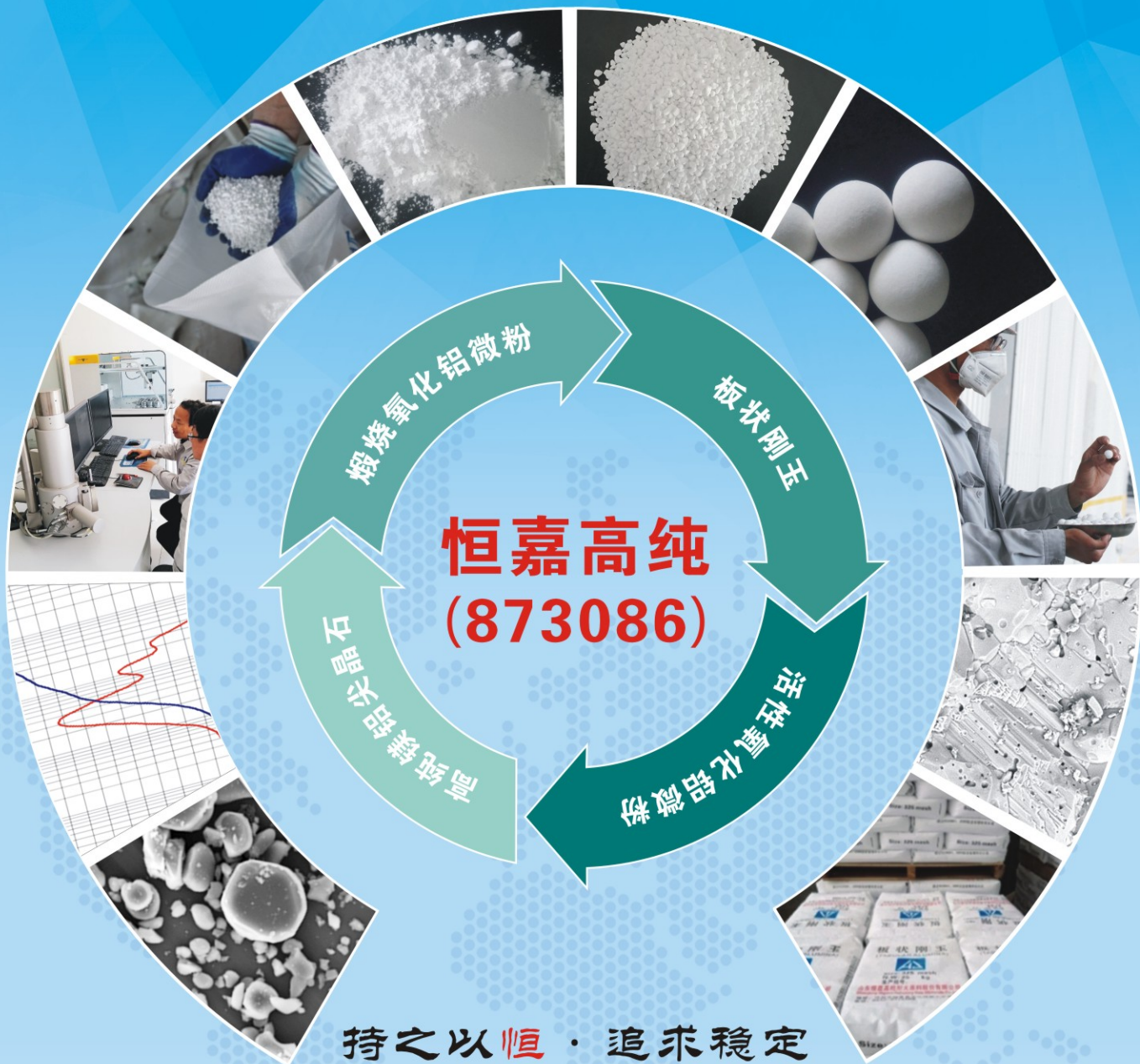
Subscription rate :

Print : USD 150 (overseas, including air mail postage)

Digital : USD 100 (overseas)

Sponsored by Sinosteel Luoyang Institute of Refractories Research Co., Ltd. (LIRR), established in 1966, **Naihuo Cailiao (Refractories)** is the only technical journal in Chinese in China's refractories industry that reports current situations of the R & D, production and application of refractories in China together with the development status and trend of refractories science and technology abroad. **Naihuo Cailiao** is published bimonthly and distributed both at home and abroad with the annual distribution circulation of about 20 thousand copies.

Naihuo Cailiao also affords space for advertisement which is beneficial to the manufacturers and users home and abroad to establish connection, to promote production and sales, and especially to help foreign companies share China's market.



持之以恒 · 追求稳定
品高为嘉 · 创造卓越

我们专注于高纯氧化铝质耐火原料



山东恒嘉高纯铝业科技股份有限公司

地址：山东省邹平市临池镇郭庄工业园
电话：0543-8178066/13718031281

