



橡胶工业

12
2022



Xiangjiao Gongye
China Rubber Industry

北京橡胶工业研究设计院有限公司 主办



广告

THIS IS PARKER

Chemlok®
聚氨酯表面处理剂

适用于极端环境的
卓越性能

派克洛德致力于为采矿、能源、交通及其他行业的合作伙伴提供在极端环境下适用于各种浇注型和热塑型聚氨酯的高强度粘接。它还能快速干燥，缩短周转时间，提升效率。践行派克提高客户盈利能力以及帮助解决世界上更严峻工程技术难题的承诺。

lord.com/china/EPM



ENGINEERING YOUR SUCCESS.

ISSN 1000-890X



第 69 卷 第 12 期 (卷终) Vol.69 No.12





橡胶工业

Xiangjiao Gongye
China Rubber Industry

第69卷第12期 (1953年创刊)
2022年12月25日出版

经国家科委批准出版
月刊 国内外发行

目次

特约来稿

微生物球磨制备微粉化粉煤灰及其对天然橡胶补强性能的研究
..... 孟子毅, 刘永明, 蒯 荣, 雷乾杰, 付旭东, 张 荣, 胡圣飞, 刘清亭 (883)

应用理论

烷基铝/氢化铝锂还原体系还原液体端羧基氟橡胶 温佳明, 常云飞, 廖明义 (891)

原材料·配方

天然橡胶/杜仲胶并用胶的性能研究 向万坤, 孙崇志, 孙 泉, 邓琳德, 陈 智, 刘 力, 赵秀英 (899)

蓝晶石尾矿对丁苯橡胶胶料性能的影响 文 渊, 李 镇, 胡 珊, 何浏伟 (910)

抗硫化返原剂KA9188对天然橡胶胶料性能的影响 王 辰, 冯林兆, 赖亮庆, 苏正涛 (915)

3+9+15×0.225ST钢丝帘线在全钢载重子午线轮胎胎体中的应用
..... 朱立新, 冯兴林, 徐海涛, 潘 雷, 苍俊祥, 陈立强 (921)

产品·设计

钢悬链线立管柔性接头用半球形弹性支座的研制 侯 静, 黎世龙, 马美琴, 孙建帮, 刘保权 (926)

盾构机主驱动超大聚氨酯密封圈的研制及工程应用 何其平, 徐 进 (932)

工艺·设备

丁基橡胶/单壁碳纳米管导电复合材料新型预分散熔融混炼工艺的研究
..... 郭 新, 康 乐, 田 山, 杨前勇, 孙立水, 刘光辉, 刘 莉 (939)

测试·分析

掺杂天然胶乳的鉴别及分析方法研究 林卓远, 邓珍达, 王兵兵, 李高荣, 廖禄生, 林宏图 (947)

综述·专论

新型轮胎加热硫化技术的研究进展 杨卫民, 孙艳梅, 安 瑛, 谭 晶 (952)

国内外动态 (898, 909, 914, 931, 959)



Contents

Special Contribution

Micronized Fly Ash Prepared through Microbiolization and Ball Milling and Its Reinforcement to NR
..... MENG Ziyi, LIU Yongming, KUAI Rong, LEI Qianjie, FU Xudong, ZHANG Rong, HU Shengfei, LIU Qingting (883)

Applied Theory

Reduction of Liquid Carboxyl-terminated Fluorine Rubber by Alkyl Aluminum/Lithium Aluminum Hydride Reduction System WEN Jiaming, CHANG Yunfei, LIAO Mingyi (891)

Material • Compounding

Study on Properties of NR/EUG Blends
..... XIANG Wankun, SUN Chongzhi, SUN Quan, DENG Linhui, CHEN Zhi, LIU Li, ZHAO Xiuying (899)

Effects of Kyanite Tailings on Properties of SBR Compounds WEN Yuan, LI Zhen, HU Shan, HE Liuwei (910)

Effect of Anti-reversion Agent KA9188 on Properties of NR Compounds
..... WANG Chen, FENG Linzhao, LAI Liangqing, SU Zhengtao (915)

Application of 3+9+15×0.225ST Steel Cord in Carcass of Truck and Bus Radial Tire
..... ZHU Lixin, FENG Xinglin, XU Haitao, PAN Lei, CANG Junxiang, CHEN Liqiang (921)

Product • Design

Development of Hemispherical Elastic Bearing for Steel Catenary Riser Flexible Joint
..... HOU Jing, LI Shilong, MA Meiqin, SUN Jianbang, LIU Baoquan (926)

Development and Engineering Application of Main Drive Super-large PU Sealing Ring of Shield Machine HE Qiping, XU Jin (932)

Technology • Equipment

Study on New Pre-dispersion Melt Mixing Process of Conductive IIR/SWCNTs Composites
..... GUO Xin, KANG Le, TIAN Shan, YANG Qianyong, SUN Lishui, LIU Guangye, LIU Li (939)

Testing • Analysis

Research on Identification and Analysis Methods of Doped Natural Latex
..... LIN Zhuoyuan, DENG Zhenda, WANG Bingbing, LI Gaorong, LIAO Lusheng, LIN Hongtu (947)

Comprehensive and Special Review

Research Progress of New Heating Vulcanization Technologies of Tire
..... YANG Weimin, SUN Yanmei, AN Ying, TAN Jing (952)

China Standard Serial Numbering: *ISSN 1000-890X*
CN 11-1812/TQ
Chief Editor: HUANG Jiaming
Superintended by China Petroleum and Chemical Industry Federation
Sponsored by Beijing Research and Design Institute of Rubber Industry Co., Ltd
Edited by Editorial Office of China Rubber Industry
Add.: No. 19A, Fushi Road, Haidian District, Beijing 100143, China
Tel.: +86-10-51338149, 51338678

Adv. & Dist. Tel.: +86-10-51338152, 51338151
Fax: +86-10-51338150
<http://www.rubbertire.com.cn>
E-mail: rubbertire@263.net
Published by Editorial Office of China Rubber Industry
Printed by Beijing BOHS Colour Printing Co., Ltd
Overseas Distributed by China International Book Trading Corporation (P. O. Box 399, Beijing 100048, China)
Publishing Date: every 25th
Overseas Subscription Price: 25 USD

Serial Parameters: CN 11-1812/TQ * 1953 * m * A4 * 80 * zh * P * \$25.00 * 4000 * 11 * 2022-12 * n