

目次

材料与应用

- MWCNT 分布对 POE/PA12 复合材料性能影响…………… 乔小勇,吴书航,张宝平,等(1)
- 聚乳酸/聚丁二酸丁二酯扩链改性材料研究…………… 刘洒文,高山俊,沈春晖,等(7)
- 聚乳酸/聚酯酰胺复合纳米纤维膜制备及性能…………… 崔心想,王艳贺,韩立彬,等(14)
- 生物基增塑剂异山梨醇二庚酯在 PVC 中的应用…………… 李永朋,崔然,奚桢浩,等(22)
- EMA 对 PBAT 的扩链改性及其微孔发泡行为…………… 王杰,吴卫东,周洪福(28)
- 3D 打印钛合金骨架浸渗 PE-UHMW 复合材料制备及性能…………… 李强,黎晓华,王浩杰(34)
- 聚砜中空纤维超滤膜制备及性能…………… 陈俊波,符秀娟(39)
- 交联微球复合 PAAm 高强度水凝胶制备…………… 辜兴悦(44)

加工

- 选择性激光烧结聚苯乙烯蜡模的尺寸精度…………… 杨来侠,白祥,王鑫宇,等(48)
- 同向双螺杆挤出机螺杆组合对 EPS 再生造粒的影响…………… 罗京科,李志杰(55)
- 环境温湿度对静电纺丝稳定喷射的影响…………… 卓丽云,朱自明,郑高峰(61)
- PVC-U 挤出机头各参数对熔体流动的影响…………… 于玉真,赵博,邸海宽,等(66)
- 基于最优拉丁超立方抽样方法和 NSGA-II 算法的注射成型多目标优化……………
…………… 季宁,张卫星,于洋洋,等(72)
- 基于 3D 打印技术的个性化鼻罩设计…………… 白路遥,惠廷波,周颖,等(78)

机械与模具

- 新型偏心啮合盘元件的混沌混合特性…………… 沈美震,任建民,朱向哲,等(83)
- 基于专家分段 PID 注塑机远程监控系统设计…………… 胡亚南,王鹏文,丰会萍,等(92)
- 汽车前保险杠热流道精密注塑模设计…………… 温煌英,赵利平,刘付国宇(98)
- 高光后盖热流道注塑模具结构设计…………… 傅莹龙,褚建忠,邵明朝(104)

测试与老化

- 圆形薄膜预应力测量…………… 谭昭,吴时彬,杨伟,等(109)
- PP/PA6/SiO₂ 纳米复合材料的非等温结晶动力学…………… 周仕龙,向萌,杨菁菁,等(115)
- PA6/ABS 共混及增容改性…………… 徐冬梅,刘太闯,孙龙(121)

填料与助剂

- 利用碳量子点制备紫外线屏蔽 PVDF 复合薄膜…………… 董莉,李向阳,杨宇明(125)
- 芳纶浆粕对酚醛树脂基摩擦材料性能影响…………… 叶长松,付雪松,黄鹏,等(130)
- 凹凸棒石/弹性体协同改性无规共聚聚丙烯性能…………… 关鹏,王婧婧,杨英朝,等(134)

综述

- 激光直接成型功能塑料的研究进展…………… 曹艳霞,赖华林,叶远锋(139)
- 汽车内饰用软触感材料及触感表征的研究进展…………… 李书鹏,李波,胡斌,等(145)
- 生物基阻燃剂在聚乳酸中的应用研究进展…………… 胡旭,李娟,李星(150)
- 乙烯-丙烯酸类共聚物开发技术和市场调研…………… 徐莹(156)



工程塑料应用

月刊 · 公开发行人 · 1973 年创刊

第 48 卷,第 3 期

(总第 365 期)

2020 年 3 月 10 日出版

主管 中国兵器工业集团公司
主办 中国兵器工业集团第五三研究所
中国兵工学会非金属专业委员会
兵器工业非金属材料专业情报网

编辑·出版《工程塑料应用》杂志社

社长·主编 王金立

执行主编 张振

通讯地址 济南市天桥区田庄东路 3 号

邮政编码 250031

电 话 编辑部:0531-85878057

广告部:0531-85878220

发行部:0531-85878223

网络光盘部:0531-85878224

传 真 0531-85947355

电子信箱 epa@epa1973.com

网 址 www.epa1973.com

www.epa1973.net

排 版 本刊杂志社

印 刷 济南继东彩艺印刷有限公司

国内发行 济南市邮政局

邮发代号 24-42

国外发行 中国国际图书贸易总公司

(北京 399 信箱 100044)

国外发行代号 4503 MO

国内统一刊号 CN 37-1111/TQ

国际标准刊号 ISSN 1001-3539

广告经营许可证号 3700004000047

全国各地邮局均可订阅 每册定价 20 元

本刊杂志社办理订阅

本期责任编辑 谈桂春,王喜梅,栾维涛



ENGINEERING PLASTICS APPLICATION

(EPA)

Monthly

(Started Publication in 1973)

Vol.48, No.3, 2020

(Series No.365)

Published on Mar. 10, 2020

Superintended by

China North Industries Group Corporation

Sponsored by

CNGC Institute 53, etc.

Editor & Publisher

The Magazine House of
ENGINEERING PLASTICS APPLICATION

Director & Chief Editor Wang Jinli

Executive Chief Editor Zhang Zhen

Add No.3 Tianzhuang East Road, Tianqiao
District, Jinan, China

Postcode 250031

Tel +86 531 85878057 85878224
85878220 85878223

Fax +86 531 85947355

E-mail epa@epa1973.com

Website www.epa1973.com
www.epa1973.net

Distributor Abroad

China International Book Trading Corporation
(P.O. Box 399, Beijing 100044, China)

Distributing Code Abroad 4503 MO

Unified Number of Print

ISSN 1001-3539
CN 37-1111/TQ

Duty Editor **Tan Guichun**
Wang Ximei
Luan Weitao

Main Contents

Materials & Applications

- Effects of MWCNT Distribution on Properties of POE/PA12 Composites.....
..... *Qiao Xiaoyong, Wu Shuhang, Zhang Baoping, et al.*(1)
- Study on Polylactic Acid/Polybutylene Succinate Extended Chain Modification Materials...
..... *Liu Sawen, Gao Shanjun, Shen Chunhui, et al.*(7)
- Preparation and Properties of Polylactic Acid/Polyesteramide Composite Nanofiber Film ...
..... *Cui Xinxiang, Wang Yanhe, Han Libin, et al.*(14)
- Application of Bio-based Plasticizer Isosorbide Diheptanoate in PVC
..... *Li Yongpeng, Cui Ran, Xi Zhenhao, et al.*(22)
- Chain Extension of Poly (butylene adipate-co-terephthalate) by Ethylene-Glycidyl Methacry-
late Copolymer and Its Microcellular Foaming Behaviors
..... *Wang Jie, Wu Weidong, Zhou Hongfu*(28)
- Preparation and Properties of 3D Printing Ti-6Al-4V Skeleton Impregnated PE-UHMW Com-
posites..... *Li Qiang, Li Xiaohua, Wang Haojie*(34)
- Preparation and Properties of Polysulfone Hollow Fiber Membrane
..... *Chen Junbo, Fu Xiujuan*(39)
- Preparation of Crosslinked Microsphere Composite PAAm Hydrogel with High Strength.....
..... *Gu Xingyue*(44)

Process Technology

- Dimension Accuracy of Selective Laser Sintered Polystyrene Wax Mold
..... *Yang Laixia, Bai Xiang, Wang Xinyu, et al.*(48)
- Effects of Co-rotating Twin-Screw Extruder Combination on Recycling and Granulation of
EPS..... *Luo Jingke, Li Zhijie*(55)
- Influence of Environmental Temperature and Humidity on Stable Jet of Electrospinning
..... *Zhuo Liyun, Zhu Ziming, Zheng Gaofeng*(61)
- Influence of Various Parameters of PVC-U Tube Extrusion Head on Melt Flow
..... *Yu Yuzhen, Zhao Bo, Di Haikuan, et al.*(66)
- Multi-Objective Optimization of Injection Molding Based on Optimal Latin Hypercube Samp-
ling Method and NSGA-II Algorithm..... *Ji Ning, Zhang Weixing, Yu Yangyang, et al.*(72)
- Personalized Nose Mask Design based on 3D Printing Technology
..... *Bai Luyao, Hui Yanbo, Zhou Ying, et al.*(78)

Machinery & Moulds

- Chaotic Mixing Characteristics of New Eccentric Kneading Disc Element.....
..... *Shen Meizhen, Ren Jianmin, Zhu Xiangzhe, et al.*(83)
- Design of Remote Monitoring System for Injection Molding Machine Based on Expert Seg-
mented PID *Hu Yanan, Wang Pengwen, Feng Huiping, et al.*(92)
- Design of Precision Injection Mold for Hot Runner of Automobile Front Bumper.....
..... *Wen Huangying, Zhao Liping, Liu Fuguoyu*(98)
- Design of Hot Runner Injection Mold Structure for High Gloss Back Cover.....
..... *Fu Yinglong, Chu Jianzhong, Shao Mingchao*(104)

Analysis & Ageing

- Measurement of Circular Membrane Prestress *Tan Zhao, Wu Shibin, Yang Wei, et al.*(109)
- Non-Isothermal Crystallization Kinetics of PP/PA6/SiO₂ Nanocomposites
..... *Zhou Shilong, Xiang Meng, Yang Jingjing, et al.*(115)
- Blending and Compatibilizing Modification of PA6/ABS.....
..... *Xu Dongmei, Liu Taichuang, Sun Long*(121)

Fillers & Additives

- Preparation of UV Shielding PVDF Composite Films Using Carbon Quantum Dots.....
..... *Dong Li, Li Xiangyang, Yang Yuming*(125)
- Effect of Aramid Pulp on Properties of Phenolic Resin-based Friction Materials.....
..... *Ye Changsong, Fu Xuesong, Huang Peng, et al.*(130)
- Synergistic Modification of Polypropylene Random Copolymer with Attapulgitte/Elastomer
..... *Guan Peng, Wang Jingjing, Yang Yingzhao, et al.*(134)

Summary

- Review of Laser-Direct-Structuring Functional Plastics.....
..... *Cao Yanxia, Lai Hualin, Ye Yuanfeng*(139)
- Research Progress of Soft Tactile Materials and Tactile Characterization for Automotive
Interiors..... *Li Shupeng, Li Bo, Hu Bin, et al.*(145)
- Progress in Research of Bio-based Flame Retardants and Its Application in Polylactic Acid
..... *Hu Xu, Li Juan, Li Xing*(150)
- Development Technology and Market Research of Ethylene-Acrylate Copolymer... *Xu Ying*(156)