

塑性工程学报



ISSN 1007-2012

CN 11-3449/TG

CODEN SGXUFE

塑性工程学报

JOURNAL OF PLASTICITY ENGINEERING

二〇一九年 第二十六卷 第五期 总第一百三十八期

2019 Vol.26

5

中国科学技术协会主管
中国机械工程学会主办

塑性工程学报

SUXING GONGCHENG XUEBAO

第 26 卷 第 5 期 2019 年 10 月 28 日

目 次

塑性成形技术与工艺

- 镁合金复杂构件预成形体积分配及量化设计 李旭斌, 张治民, 李国俊, 等 (1)
 5A02 铝合金薄壁管材热挤压缩径增厚成形试验研究及优化 邱泽宇, 徐雪峰, 付春林, 等 (7)
 挤压轮转速对铜棒材连续挤压速度差及组织的影响 田甜, 运新兵, 裴久杨, 等 (15)
 不同球心距对连续挤压异型材成形流动特征的影响 王雪, 张景峰, 李冰, 等 (23)
 汽车用某挤压型材焊合质量研究 潘鹏林, 陈文琳, 周晓远, 等 (31)
 弧棱 U 型截面梁的扭曲回弹分析 邓明, 文杰, 郑子君, 等 (37)
 汽车内覆盖件无油冲压的数值模拟及工艺优化 苏友煌, 王军辉, 冯怡爽, 等 (42)
 大型离心压缩机叶片热成形回弹研究 张冲, 沈伟涛, 张琦, 等 (51)
 烧结不锈钢丝网多孔板材的冲压成形研究 段留洋, 周照耀 (57)
 基于遗传算法的防撞钢梁热冲压成形工艺优化 林浩波, 刘军辉, 吴立国 (65)
 基于 U 型钣件弯边精度的分步橡皮垫成形数值模拟与实验 冯远丙, 徐雪峰, 范玉斌, 等 (70)
 5A06 铝合金壳体拉深及翻边成形研究 郝花蕾, 吉卫, 江学强, 等 (78)
 不锈钢包覆碳钢切屑复合角钢轧制实验研究 谢红飙, 王高飞, 许秀梅, 等 (86)
 油泵柱塞组件旋压收口仿真研究 陆干森, 苏宏华, 王洋, 等 (93)
 异形截面副车架液压成形工艺研究及过程优化 苏海波, 邓将华 (99)
 基于 Kriging 模型的注塑工艺稳健优化 李培健, 周雄辉, 柳伟 (105)
 基于响应面法和广泛学习粒子群算法的注塑件体积收缩优化 刘月云, 盛信仁, 张静 (112)

材料性能与变形理论

- 淬火态 42CrMo 钢本构方程的建立及验证 王晓强, 阮孝林, 崔凤奎 (118)
 风电轴承套圈超声滚压强化残余应力形成规律分析 徐红玉, 刘立波, 崔凤奎 (125)
 6016 铝合金冲压损伤演化和韧性断裂的细观力学表征 江帅, 胡玉梅, 肖晋, 等 (133)
 堆焊 - 热轧制备高铬铸铁 / 低碳钢耐磨复合板性能研究 李艳威, 李玉贵, 朱晓宇, 等 (141)
 剪切模式下 Ti-1300 合金组织及织构演变规律 王欣晗, 杨西荣, 卢全文, 等 (147)

热处理对挤压变形 AZ61M 镁合金的组织与力学性能影响	万 轶, 汤文成, 陈 林	(153)
稀土 Ce 改性超级双相不锈钢的热变形行为	周 甜, 熊 毅, 陈艳娜, 等	(159)
SiC 纤维增强体对叠层复合材料结构性能的影响	金 旗, 任学平, 李殊霞, 等	(166)
不同形变温度下 Mg-Al-Ca-Mn 合金的变形机制	肖震东, 刘宇坤, 国宏伟, 等	(174)
加载路径对铝合金航空复杂薄壁构件主动式充液成形性能的影响	曾一畔, 徐 勇, 夏亮亮, 等	(180)
双频振动金属管材分离过程可控性研究	化春键, 王超凡, 陆云健	(190)
不同孔型参数对薄壁无缝管顶管过程管壁拉凹的影响	尹元德, 章 明, 王纯凯, 等	(197)
网孔板渐进成形的性能研究	严阿鑫, 查光成, 郑 硕, 等	(206)
置氢 Ti-55 钛合金在脉冲电流作用下的变形行为	陈楠楠, 胡 蓝, 李细锋, 等	(213)
金属多层圆管夹芯板结构静态及准静态压缩力学行为研究	乔及森, 张金山, 苗红丽	(219)
7A85 航空铝合金热加工过程的本构变形行为及组织演变	高 岩, 丛大鹏, 于春鹏, 等	(225)
镀锡板连退平整过程焊缝印形成机理及其预测模型	白振华, 徐纪栓, 赵 埂, 等	(232)
拉伸预应变条件下基于孔洞演变分析的 GTN 损伤模型参数研究	张 宇, 张 稳, 庄新村	(239)
圆环构件增材制造残余应力模拟及尺寸效应分析	葛 范, 张 昭, 张少颜, 等	(249)
先进高强度双相钢成形极限模型	李耀民, 黄志强, 李 迪, 等	(256)
石油钻杆端部镦粗物理模拟系统分析	刘 鹏, 徐新成, 秦佳宇, 等	(263)
铝合金薄壁构件表面加工应力的仿真与应用	车兴飞, 廖 凯, 李立君, 等	(269)
Chaboche 混合硬化模型在大应变 - 变路径加载条件下的参数标定	马 艳, 王婷婷, 庄新村	(276)
连续管疲劳寿命模型建立及疲劳寿命预测	周 浩, 管 锋, 刘少胡, 等	(283)
C5191 磷青铜薄板高速冲裁断裂阈值的确定方法	胡道春, 王 蕾, 王红军	(290)
内十二角法兰螺栓头部断裂仿真研究	宋寅哲, 金城旭, 任靖日, 等	(296)
不同跨度尺寸对铝管能量吸收和塑性破坏的影响	赵 雷, 徐 雨, 张 华	(302)
Ni63W30Co5TiAl 合金高温塑性变形行为	李建新, 张 胜, 王春旭, 等	(308)

· 消息 ·

《塑性工程学报》关于参考文献著录格式的要求	(132)
欢迎订阅《锻压技术》杂志(月刊)	(238)
扫一扫关注塑性工程学报	(289)
《塑性工程学报》关于论文学术不端的认定及处理办法	(295)

(责任编辑:周 林 秦思晓)

JOURNAL OF PLASTICITY ENGINEERING

(SUXING GONGCHENG XUEBAO)

Vol. 26 No. 5 Oct. 28 2019

Contents

Plasticity Forming Technology and Process

- Volume distribution and quantitative design of preforming for magnesium alloy complex components LI Xu-bin, ZHANG Zhi-min, LI Guo-jun, et al (1)
Experimental research and optimization on hot extrusion shrinkage and thickening of 5A02 aluminium alloy thin-walled tube QIU Ze-yu, XU Xue-feng, FU Chun-lin, et al (7)
Effect of wheel angular velocity on flow velocity difference and microstructure of copper bar during continuous extrusion TIAN Tian, YUN Xin-bing, PEI Jiu-yang, et al (15)
Effect of different spherical center distances on forming flow characteristics of continuous extrusion special-shaped profile WANG Xue, ZHANG Jing-feng, LI Bing, et al (23)
Research on welding quality of an extruded profile for automobile PAN Peng-lin, CHEN Wen-lin, ZHOU Xiao-yuan, et al (31)
Twist springback analysis of arc edge U-section beam DENG Ming, WEN Jie, ZHENG Zi-jun, et al (37)
Numerical simulation and process optimization of dry stamping for automotive interior cover parts SU You-huang, WANG Jun-hui, FENG Yi-shuang, et al (42)
Research on hot forming springback of large centrifugal compressor blade ZHANG Chong, SHEN Wei-tao, ZHANG Qi, et al (51)
Stamping forming research for sintered stainless steel wire mesh porous plate DUAN Liu-yang, ZHOU Zhao-yao (57)
Optimization of hot stamping process for anti-collision beam based on genetic algorithms LIN Hao-bo, LIU Jun-hui, WU Li-guo (65)
Numerical simulation and experiment of stepped rubber-pad forming based on U-shaped panel bending accuracy FENG Yuan-bing, XU Xue-feng, FAN Yu-bin, et al (70)
Investigation on deep-drawing and flanging of 5A06 aluminum alloy shell HAO Hua-lei, JI Wei, JIANG Xue-qiang, et al (78)
Experimental study on stainless steel coating carbon steel scraps composite angle steel rolling XIE Hong-biao, WANG Gao-fei, XU Xiu-mei, et al (86)
Simulation study on spinning process of oil pump plunger components LU Gan-sen, SU Hong-hua, WANG Yang, et al (93)
Hydroforming study and process optimization of subframe with special section SU Hai-bo, DENG Jiang-hua (99)
Robust optimization of injection molding process based on Kriging model LI Pei-jian, ZHOU Xiong-hui, LIU Wei (105)
Volume shrinkage optimization of injection parts based on RSM and CLPSO LIU Yue-yun, SHENG Xin-ren, ZHANG Jing (112)

Material Performance and Deformation Theory

- Establishment and verification of constitutive equation for quenched 42CrMo steel WANG Xiao-qiang, RUAN Xiao-lin, CUI Feng-kui (118)
Analysis of residual stress formation in ultrasonic rolling strengthening of wind power bearing rings XU Hong-yu, LIU Li-bo, CUI Feng-kui (125)
Meso mechanical characterization of stamping damage evolution and ductile fracture of aluminum alloy 6016 JIANG Shuai, HU Yu-mei, XIAO Jin, et al (133)
Analysis on properties of high-chromium cast iron/low-carbon steel wear-resisting composite plate prepared by hardface

welding-hot rolling	LI Yan-wei, LI Yu-gui, ZHU Xiao-yu, et al (141)
Microstructure and texture evolution of Ti-1300 alloy during shear deformation	WANG Xin-han, YANG Xi-rong, LU Jin-wen, et al (147)
Effect of heat treatment on microstructure and mechanical properties of extruded AZ61M magnesium alloy	WAN Yi, TANG Wen-cheng, CHEN Lin (153)
Hot deformation behavior of rare earth Ce modified super duplex stainless steel	ZHOU Tian, XIONG Yi, CHEN Yan-na, et al (159)
Effect of SiC fiber reinforcement on structure properties of laminated composite	JIN Qi, REN Xue-ping, LI Shu-xia, et al (166)
Deformation mechanism of Mg-Al-Ca-Mn alloy at different deformation temperatures	XIAO Zhen-dong, LIU Yu-kun, GUO Hong-wei, et al (174)
Influence of loading paths on formability of aviation complex thin-walled component of aluminum alloy in hydroforming	ZENG Yi-pan, XU Yong, XIA Liang-liang, et al (180)
Research on controllability of separation process of metal pipes under dual frequency vibration	HUA Chun-jian, WANG Chao-fan, LU Yun-jian (190)
Effect of different groove parameters on pulled concave of tube wall in push bench process of thin-walled seamless steel tubes	YIN Yuan-de, ZHANG Ming, WANG Chun-kai, et al (197)
Study on incremental forming performance of retiary sheet metal	YAN A-xin, ZHA Guang-cheng, ZHENG Shuo, et al (206)
Deformation behavior of hydrogenated Ti-55 titanium alloy under pulse current conditions	CHEN Nan-nan, HU Lan, LI Xi-feng, et al (213)
Static and quasi-static compressive behavior of metal multilayer circular sandwich plates	QIAO Ji-sen, ZHANG Jin-shan, MIAO Hong-li (219)
Constitutive deformation behavior and microstructure evolution of 7A85 aerospace aluminum alloy during hot forming process	GAO Yan, CONG Da-peng, YU Chun-peng, et al (225)
Formation mechanism and prediction model of tin plate weld mark in continuous annealing and temper rolling process	BAI Zhen-hua, XU Ji-shuan, ZHAO Zhen, et al (232)
Parametric study of GTN model under tensile pre-straining condition based on void evolution analysis	ZHANG Yu, ZHANG Wen, ZHUANG Xin-cun (239)
Numerical modeling of residual stress in circular component in additive manufacturing and scaling effect analysis	GE Peng, ZHANG Zhao, ZHANG Shao-yan, et al (249)
Forming limit model for advanced high-strength dual-phase steel	LI Yao-min, HUANG Zhi-qiang, LI Di, et al (256)
Analysis of physical simulation system for upsetting of the end of oil drill pipe	LIU Peng, XU Xin-cheng, QIN Jia-yu, et al (263)
Simulation and application of surface machining stress for thin-walled aluminum alloy components	CHE Xing-fei, LIAO Kai, LI Li-jun, et al (269)
Calibration of Chaboche combined hardening model under large-strain variable-path loading	MA Yan, WANG Ting-ting, ZHUANG Xin-cun (276)
Establishment of fatigue life model and prediction of fatigue life for coiled tubing	ZHOU Hao, GUAN Feng, LIU Shao-hu, et al (283)
Method for threshold determination of ductile fracture for high-speed blanking of C5191 phosphor bronze sheet	HU Dao-chun, WANG Lei, WANG Hong-jun (290)
Study on head fracture for twelve point socket flange bolt by FEM	SONG In-chul, JIN Cheng-xu, REN Jing-ri, et al (296)
Effect of different span sizes on energy absorption and plastic failure of aluminum tubes	ZHAO Lei, XU Yu, ZHANG Hua (302)
Plastic deformation behavior of Ni63W30Co5TiAl alloy at high temperature	LI Jian-xin, ZHANG Sheng, WANG Chun-xu, et al (308)

(Executive Editor: ZHOU Lin, QIN Si-xiao)

中文核心期刊
中国科技核心期刊
RCCSE中国核心学术期刊
中国科学引文数据库（CSCD）来源期刊
中国科技期刊引证报告统计源核心期刊
中国学术期刊文摘数据库（核心版，CSAD-C）
中国学术期刊综合评价数据库
中国学术期刊（光盘版）
万方数据——数字化期刊群
美国《化学文摘》CA
美国《剑桥科学文摘材料信息》（CSA: MI）
荷兰爱思唯尔公司Scopus数据库
日本科学技术振兴机构中国文献数据库（JST）

塑性工程学报

JOURNAL OF PLASTICITY ENGINEERING

2019年第26卷第5期 10月28日出版（双月刊）

Vol.26 No.5 Published on October 28,2019 (Bimonthly)

主管单位：中国科学技术协会

Responsible Department: China Association for Science and Technology

主办单位：中国机械工程学会

Sponsored by: Chinese Mechanical Engineering Society

编辑出版：《塑性工程学报》编辑部

Edited and Published by: Editorial Office of Journal of Plasticity Engineering

地址：北京市海淀区学清路18号（100083）

Add: No.18, Xueqing Road, Beijing, 100083, China

电话：(010) 62912592

Tel: +86-10-62912592

(010) 82415079

+86-10-82415079

网址：<http://sxgc.cbpt.cnki.net>

Website: <http://sxgc.cbpt.cnki.net>

电子邮箱：sxgcb@263.net

E-mail: sxgcb@263.net

荣誉主编：海锦涛

Honourary Editor-in-Chief : HAI Jin-tao

主编：陆辛

Editor-in-Chief : LU Xin

常务副主编：金红

Executive Vice Editor-in-Chief: JIN Hong

编辑部主任：金红

Editorial Director: JIN Hong

编辑部副主任：周林

Vice Editorial Director: ZHOU Lin

印刷：北京科信印刷有限公司

Printed by: Beijing Kexin Printing Co., Ltd.

国内发行：北京报刊发行局

Distributed Domestically by: Beijing Bureau for Distribution of Newspapers and
Journals

国外发行：中国国际图书贸易集团有限公司

Overseas Distributor: China International Book Trading Corporation

国外发行代号：BM2710

Overseas Distribution Code: BM2710

国内邮发代号：80-353

定价：50.00元/期



微信公众号



官方网站

ISSN 1007-2012



10>