

Contents

Part I Applications of Aluminum, Magnesium and Zinc Alloys, Composites

Forming Simulation of Automotive Part in Woven Composite Material.	3
F2012-H01-001	
Q. Q. Chen, C. T. Xu, P. Boisse, A. Saouab and C. H. Park	
A New Equation of Load Curve of Critical Wrinkles Variable Blank Holder Force in the Warm Deep-Drawing of Twin-Roll Cast Mg Sheets	11
F2012-H01-002	
Zhimin Liu, Shuming Xing, Peiwei Bao, Lingyun Zhao, Desen Yang, Shuping He, Lijun Chen, Yuangang Deng and Xiangju Yuan	
Single-Composition Hemming Sealant Application for an Aluminium Alloy Hood.	23
F2012-H01-003	
Yong Fan, Jun Shan, Yu Chen, Xianming He, Jingzhen Wu and Thomas Dave	
Ballistic Resistance of Aluminium Foam by Ogive-Nosed and Conical-Nosed Projectiles Impact	33
F2012-H01-005	
Yonggang Bao and Nianmei Zhang	
Re-Engineering Functionality by Optimizing Hybrid Parts Design . . .	41
F2012- H01-006	
Dan Leuciuc and Stefan Tabacu	

Part II Advanced Body Manufacturing Technology

New Joint Structure Design of Extended Van Body 59

F2012-H02-003

Yingchun Bu

High Temperature Oxidation Resistance and Mechanical Properties of Uncoated Ultrahigh-Strength Steel 22MnB5 67

F2012-H02-007

Zaiqi Yao, Fangwu Ma, Qiang Liu, Fuquan Zhao, Fangfang Li,
Jianping Lin, Xiaona Wang and Wei Song

Systematic Optimization of Concurrent Design of Product and Locating Strategy by Datum Flow Chain 79

F2012-H02-008

Shan Jun and Cao Jun

Part III Welding, Joining and Fastening

Laser Remote Process Technology on Automotive Manufacture 89

F2012-H04-002

Johannes Buehrle, Martin Bea and Ruediger Brockmann

Characteristic Analysis of the Gas-Powder Stream for Laser Cladding 99

F2012-H04-005

Weihong Liu, Binshi Xu, Shiyun Dong and Shixing Yan

Part IV Stamping Technology

Hot V-Bend Formability of Galvannealed Boron Steel for Hot Stamping 111

F2012-H06-004

Masahiro Nakata, Koji Akioka, Masaru Takahashi, Hiroshi Takebayashi,
Kazuhito Imai, Toru Takayama and Nobusato Kojima

Research on Holding Pressure and Cooling Process During Hot Forming of Ultra-High Strength Steel 22MnB5 123

F2012-H06-005

Xiaona Wang, Fangwu Ma, Qiang Liu and Fuquan Zhao

Research on Heavy-Duty Truck Axle Housing Hydroforming 133

F2012-H06-008

Weicheng Zhu, Chenglin Xu, Yucheng Zhang, Zhuang Fu, Shibao Liu,
Guansheng Wang, Haiping Li, Wencheng Li,
Hanying Li and Baoyang Song

Part V Paints, Polymers and Coatings

Weight Reduction and Paint-Less of Plastic Parts of Automobile by Polypropylene/Elastomer Blends 145

F2012-H07-002

Hiroaki Nagashima and Kayo Kikuchi

Physical Properties of TPO Airbag Cover Using DFSS (Design for Six Sigma) Concept 159

F2012-H07-004

Woojeong Oh, Hyeondon Kim, Yong Chun, Eungsoo Kim,
Jeongmoo Lee and Kidae Choi

Building Analysis Methodology of an Integrally Female Vacumm Forming and Injection Compression Moulding 171

F2012-H07-005

Jo Hyunkwon, Yang Heeseung, Lee Hyunchul, Jang Ickgeun,
Park Eunjung and Lee Siwook

Effect of Artificial Environment Test on Performance of Automotive Coating. 179

F2012-H07-009

Naxin Wang, Tao Wu, Dazheng Liao, Shu Zhang and Ran Zhao

Part VI Exterior Body Panels

A Prediction Approach for Oil Canning of Sheet Metal Forming Based on Strain Gradient 191

F2012-H08-003

Kangkang Yan, Xinyu Wang, Zhongxiao Wang, Yu Zhang and Ping Hu

Part VII Advanced Process Management

A New Connection Solution for Hybrid Vehicle	205
F2012-H09-002	
Julian Zhou	

Part VIII Other

Development of UTS 980 MPa Grade Steel Tube with Excellent Formability for Automotive Body Parts	213
F2012-H10-003	
Masatoshi Aratani, Yasuhide Ishiguro, Yuji Hashimoto, Shunsuke Toyoda, Hideto Kimura, Osamu Sonobe and Makio Gunji	
Research on Solutions of Cloud Manufacturing in Automotive Industry	225
F2012-H10-004	
Zhongxiao Jin	
Manufacturing Technology of Passenger Car Rear Axle Drive	235
F2012-H10-006	
Dongni Li, Zhaodan Yuan, Zhiyong Gao, Guorui Zhao, Yongshun Jiang, Hongbiao Gao and Tao Li	

Proceedings of the FISITA 2012 World Automotive
Congress

Volume 11: Advanced Vehicle Manufacturing
Technology

; (Eds.)

2013, VIII, 249 p., Hardcover

ISBN: 978-3-642-33746-8