

2018 ICAA 16

PROCEEDINGS

PLENARY AND EARLY CAREER RESEARCHER (ECR) AWARD RECIPIENTS

PAPERS



399039 ECR

Brazing Characteristics of Warm Formed Automotive Heat Exchanger Components

*Michael J. Benoit, Kyu Bin Han, Michael J. Worswick, and Mary A. Wells, University of Waterloo
Sooky Winkler, Dana Canada Corporation*



401478 ECR

Microstructure and Corrosion Properties of Additively Manufactured Aluminium Alloy AA2024

*Oumaima Gharbi, Derui Jiang, Darren R. Feenstra, Shravan Kairy, Yuxiang Wu, Christopher R. Hutchinson,
and Nick Birbilis, Monash University*



401658 ECR

Understanding the Role of Cu on the Work-Hardening and Strain-Rate Sensitivity of 6xxx Al Alloys

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Brad Diak, Queen's University
Fred De Geuser, Grenoble-INP / CNRS
Alexis Deschamps, Université Grenoble Alpes, CNRS, Grenoble INP, SIMaP
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402436 ECR

Precipitation Hardening Optimization by Partial Substitution of Si and Mg with Ge and Li in Lean 6xxx Alloys

*Eva A. Mørtsell and Øyvind Paulsen, Norwegian University of Science and Technology
Calin D. Marioara and Sigmund J. Andersen, SINTEF Industry
Oddvin Reiso and Jostein Røyset, Hydro Aluminium R&D Sunndal
Yanjun Li and Randi Holmestad, Norwegian University of Science and Technology*



404566 ECR

Effects of Mg, Si, and Cu on the Formation of the Al₃Sc/Al₃Zr Dispersoids

*Thomas Dorin and Mahendra Ramajayam, Deakin University
Timothy J. Langan, CleanTeq*



500006 Plenary

Aspects of Plasticity and Fracture Under Bending

David J. Lloyd, Aluminum Materials Consultants

ADVANCED CHARACTERIZATION

PAPERS



400101

Long Term Ageing of Alloy 2618A

*Christian Rockenhäuser, Bundesanstalt für Materialforschung und -prüfung (BAM)
Eva Augenstein, Fraunhofer Institut für Werkstoffmechanik IWM
Birgit Skrotzki, Bundesanstalt für Materialforschung und -prüfung Division 5.2*



400451

The Elemental Distribution and Precipitation Kinetics of Chromium Dispersoids in Al-Mg-Si Alloys

*Michael Kenyon, Joseph Robson, and Jonathan Fellowes, University of Manchester
Zejin Liang, Novelis Research and Development Center*



401063

Assessment of Hydrogen Accumulation Behavior in Stressed Al-Zn-Mg Aluminum Alloys by Means of Kelvin Force Microscopy

*Hiro Fujihara, Hiroyuki Toda, and Kazuyuki Shimizu, Kyushu University
Akihisa Takeuchi and Kentaro Uesugi, Japan Synchrotron Radiation Research Institute*



401092

Multiscale Characterisation of Environmentally Assisted Cracking in Al-Zn-Mg-Cu Aluminium Alloys

Virginie A. Landais, Joseph Robson, James Carr, and Jonathan Fellowes, University of Manchester



403435

The Nature of Solute Clusters and GP-zones in the Al-Mg-Si System

*Calin D. Marioara, Sigmund J. Andersen, and Jesper Friis, SINTEF Industry
Olaf Engler, Hydro Aluminium Rolled Products GmbH
Yasuhiro Aruga, Kobe Steel, Ltd.*



405009

A Methodology to Assess the Spatial Distribution of Dispersoids in Al-Mg-Si Alloys

Magnus Remøe, Ida Westermann, and Knut Marthinsen, Norwegian University of Science and Technology

EXTENDED ABSTRACTS



398827

Creep Investigations on Aluminum Seals for Application in Radioactive Waste Containers

Tobias Grelle, Ulrich Probst, Matthias Jaunich, Birgit Skrotzki, and Dietmar Wolff, Bundesanstalt für Materialforschung und -prüfung (BAM)



399786

Effect of Additional Elements on Dislocation Multiplication During Tensile Deformation in Al Alloys

Koichi Iwata, H. Mizowaki, and Hiroki Adachi, University of Hyogo



399789

Soft X-Ray XAFS Studies of the Change in Cluster Structure by Different Aging Conditions in Al-Mg-Si Alloys

Takehiro Nonomura, Serina Tanaka, and Hiroki Adachi, University of Hyogo



400027

Relationship Between Dislocation Multiplication Behavior and Yield Drop Phenomena During Tensile Deformation in 1200 Aluminum Sheets

Hiroki Adachi, University of Hyogo

CASTING & SOLIDIFICATION

PAPERS



393525

Experience in the Low Pressure Casting in Printed Molds of a Thin Bladed Aluminum A356 Impeller

*Franco Chiesa, Centre de Métallurgie du Québec
Bernard Duchesne, Cégep de Trois-Rivières*

*Guy Morin, Bernard Tougas, and Nicolas Giguère, Centre de Métallurgie du Québec
Jocelyn Baril, Technologie du Magnésium et de l'Aluminium*



396568

Grain Refining Aluminium Alloys by the Same-Alloy Rod

Dmitry Eskin and Feng Wang, Brunel University London



398353

Effect of Flux Coating on Interfacial Microstructure in Bimetallic Al7SiMg/Cu Compound Castings

*Aina Opsal Bakke and Yanjun Li, Norwegian University of Science and Technology
Jan-Ove Løland, Svein Jørgensen, and Jan Kvinge, Benteler Automotive Farsund*



400425

Influence of Cooling Rates on Microstructure and Mn Supersaturation in High-speed Twin-roll Cast Al-Mn Based Alloy Strips

Ram Song, Kazuho Otsuka, Yohei Harada, and Shinji Kumai, Tokyo Institute of Technology



400817

Effects of Uniform Direct Chill Casting Process on Structure of 7055 Alloy Billet

Yajun Luo and Zhifeng Zhang, General Research Institute for Non-Ferrous Metals



400965

Improved Defect Control and Mechanical Property Variation in High Pressure Die Casting (HPDC) of A380 Alloy by High Shear Melt Conditioning

Yijie Zhang, Jayesh Patel, Jaime Lazaro-Nebreda, and Zhongyun Fan, BCAST, Brunel University London



401274

Inhomogeneity in Microstructures, Solute Concentrations, Defects and Tensile Properties in High Pressure Die-Castings

Shouxun Ji and Roger Darlington, Brunel University London



401518

Influence Zinc on Intermetallic Phase Selection in Al-Mg Compound Castings

Kilian Schneider, B. J. McKay, and H. Nadendla, Brunel University London



404588

Solidification Mechanisms During Melt Conditioned Direct-Chill Casting

Hu-Tian Li, Jayesh B. Patel, and Zhongyun Fan, BCAST, Brunel University London

EXTENDED ABSTRACTS



401042

Study on Microstructures Control of High Strength Aluminium Alloys Billet with Magnetic Treatment

Kyunghyun Kim, Mykola Slazhniev, Sewon Kim, Wonjae Kim, and Hyunsuk Sim, Dong San Tech Co.



401059

Melt Conditioned Direct-Chill Casting of Aluminium Alloys

Hu-Tian Li, Jayesh B. Patel, and Zhongyun Fan, BCAST, Brunel University London



401064

Purification of Hypoeutectic Aluminium Alloys Through Fractional Solidification

Susanna Venditti and Dmitry Eskin, Brunel University London



401615

Thermo-Mechanical Treatment of High Shear Melt-Conditioned Twin Roll Casting Strip of Recycled Aluminium Alloys

Kawther Al-Helal, Jayesh B. Patel, and Zhongyun Fan, BCAST, Brunel University London

CORROSION & SURFACES

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392448

Characteristics of Aluminum Alloy Sheet Pre-Coated with High Lubricating and Removable Film

Yosuke Ota, Makoto Tawara, and Tetsuya Kojima, Kobe Steel, Ltd.



401096

Effect of Surface Finishing on Corrosion Resistance of DMLS- AlSi10Mg _200C Alloy

*Parisa Fathi and Mehran Rafieazad, Memorial University of Newfoundland
Mohsen Mohammadi, Marine Additive Manufacturing Centre of Excellence, University of New Brunswick
Xili Duan and Ali M. Nasiri, Memorial University of Newfoundland*



401109

Effects of Anodizing Pores Structure on the Adhesive Bonding Performance of AA5754 Automotive Sheets

Yingdong Li, Pizhi Zhao, Yingjuan Feng and Hailong Cao, Chinalco Material Applications Research Institute Co. Ltd. and Chinalco Research Institute of Science and Technology

DEFORMATION BEHAVIOUR & FORMABILITY

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399441

Strategies to Eliminate Grain Coarsening in Aerospace Alloys

Katharina Regl and Josef Berneder, AMAG Rolling GmbH



400075

Evaluation of the Lateral Crush Performance of Al-Mg-Si Extrusions

*Jean-François Béland, National Research Council Canada
Nick Parson, Rio Tinto Aluminium*



400961

Four Regions in Low-Temperature Creep of Ultrafine-grained Aluminum

*Eiichi Sato, Kenta Higane, and Hiroshi Masuda, Institute of Space and Astronautical Science, JAXA
Koichi Kitazono, Tokyo Metropolitan University*



401503

The Effect of Microstructure on Hot Compression Deformation Behavior of an Al-3.8Cu-1.8Li Alloy

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Guo-Ai Li, Beijing Institute of Aeronautical Materials
Liang Zhen, Harbin Institute of Technology*



403979

Effects of Second-phase Particle Size on High-Temperature Ductility of Al–Mg Solid Solution Alloys Containing Small Amounts of Impurity Atoms

*Tsutomu Ito, Haruki Fujiwara and Kentaro Kawasaki, National Institute of Technology, Kagawa College
Takashi Mizuguchi, Ehime University*

EXTENDED ABSTRACTS



401045

The Influence of Microstructure on the Fracture Resistance of 6xxx Alloy Sheet

Yin Ye, Robert Sanders, and Xiaofang Yang, Chongqing University



401570

A Computational Approach for Forming Limit Diagram (FLD) Evaluation at Elevated Temperatures for Aluminium Alloys

*Jia-nan Hu and Zhanli Guo, Sente Software Ltd.
Nigel Saunders, Thermotech Ltd.*

JOINING

PAPERS



399941

Joining of Steel and Aluminum by Means of Friction Stir Welding Process

Sazol Das, Hany Ahmed, Ganesh Bhaskaran, and Zhuoru Wu, Novelis Inc.



400878

Formation Mechanism and Control of Impact Welded Interface in Dissimilar Metal Joints

Shinji Kumai and Junto Nishiwaki, Tokyo Institute of Technology



401033

Characterizing Various Zones Formed in Friction Stir Spot Welding with Different Tool Pins

Ashu Garg and Anirban Bhattacharya, Indian Institute of Technology Patna



401189

Suppression of Abnormal Grain Growth in Friction-Stir Welded 6061-T6 Aluminum Alloy by Pre-Strain Rolling

*Sergey Malopheyev and Igor Vysotskiy, Belgorod National Research University
Sergey Mironov, Tohoku University
Rustam Kaibyshev, Belgorod State National Research University*

JUERGEN HIRSCH HONORARY SYMPOSIUM

PAPERS



400607

Evolution in Texture and Its Through-Thickness Variations in AlMgSi-Extrusions: Experiments and Modelling

Kai Zhang, Hydro, Innovation & Technology – Europe, Extruded Solutions

Knut Marthinsen and Bjørn Holmedal, Norwegian University of Science and Technology

Trond Aukrust, SINTEF Industry

Antonio Segatori, Hydro, Innovation & Technology – Europe, Extruded Solutions

MECHANICAL PROPERTIES

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Effect of Cu Additions upon the Strengthening Mechanisms and Recrystallization Behavior in Al-Mn-Fe-Si Heat Exchanger Fin Stock

Kenta Suzuki, Takatori Kokubo, Tomohiro Sasaki, and Toshiya Anami, Nippon Light Metal Co., Ltd.



389101

The Effect of Heat Treatments on Precipitation Behavior of Dispersoids in Al-Mg-Si-Mn Alloy

Chen Li and Kun Liu, University of Quebec at Chicoutimi

Nick Parson, Arvida Research and Development Centre, Rio Tinto Aluminium

X. Grant Chen, University of Quebec at Chicoutimi



399155

Compressive Properties of Porous Aluminum Alloys Having Ordered and Disordered Cell Structures

Koichi Kitazono, Yoshikazu Sugiyama, Keiji Matsuo, and Toko Miura, Tokyo Metropolitan University



399716

Microstructure and Mechanical Properties of AlSi10Mg Permanent Mould and High Pressure Vacuum Die Castings

Zhan Zhang and Mengyun Liu, University of Quebec at Chicoutimi

Francis Breton, Arvida Research and Development Centre, Rio Tinto

X. Grant Chen, University of Quebec at Chicoutimi



399733

Effect of Zr and V Additions on Microstructure and Mechanical Properties of AlSi10Mg Cast Alloy

Anil Arici and Zhan Zhang, University of Quebec at Chicoutimi

Francis Breton, Arvida Research and Development Centre, Rio Tinto

X. Grant Chen, University of Quebec at Chicoutimi



399773

X-Ray CT Inspection for Micro Porosities and Its Effect on the Fatigue Behavior of 7050-T7451 Thick Plate Alloy

Xiang Xiao, H.X. Jiang, and Cheng Liu, Chinalco Materials Application Research Institute Co., Ltd.



401061

Aging Metallurgy and Mechanical Properties on Al-Si-Cu-Mg Die Casting Alloy

*Tetsuya Ando, Shintaro Onuki, and Ryota Enomoto, Muroran Institute of Technology
Masakura Tejima and Yuji Okada, Toyota Motor Corporation*



401507

Mechanical Properties of High Copper Containing AlCuSi Cast Alloys at Elevated Temperature

Salar Bozorgi and K. Anders, Light Metals Technologies Ranshofen



401511

Effect of Annealing Conditions in As-cast and Zr Addition on Recrystallization Behavior in Al-Mn Alloy Fin Stocks

Daisuke Shimosaka, Kenta Suzuki, and Toshiya Anami, Nippon Light Metal Co., Ltd.



401526

Effect of Copper and Magnesium Contents and Quenching Rate on Age Hardening Behavior of 2000 Series Aluminum Alloys

*Taichi Suzuki and Hidenori Hatta, UACJ Corporation
Hideo Yoshida, ESD Laboratory (Formerly at UACJ Corporation)*



401674

Mechanical Behaviour and Constitutive Modeling of AlSi10Mg_200C Additively Manufactured Through Direct Metal Laser Sintering

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Akindele Odeshi, University of Saskatchewan
Mohsen Mohammadi, Marine Additive Manufacturing Centre of Excellence, University of New Brunswick*



401895

Strain-Controlled Thermo-mechanical Fatigue Testing of Aluminum Alloys Using Gleeble 3800 System

Jian Qin, Dany Racine, Kun Liu, and X. Grant Chen, University of Quebec at Chicoutimi



401920

Effects of Solute Mg Concentration on Mechanical Properties and Dislocation Characteristics of Al-Mg Alloy

*Yuki Koshino, Kyushu University and Kobe Steel, Ltd.
Yasuhiro Aruga, Kobe Steel, Ltd.
Takuya Maeda and Kenji Kaneko, Kyushu University*

EXTENDED ABSTRACTS



399776

Hydrogen Introduction to 6061 Aluminum Alloy by Friction in Water and Its Effects on Mechanical Properties

Takuya Matsubara, Keitaro Horikawa, Kenichi Tanigaki, and Hidetoshi Kobayashi, Osaka University



399785

Effects of Sodium and Zirconium on Intergranular Embrittlement of Al-5%Mg Alloys

Sairi Kumeuchi, Keitaro Horikawa, Kenichi Tanigaki, and Hidetoshi Kobayashi, Osaka University



401046

Effect of Post Heat Treatment on Mechanical Properties of Selective Laser Melted Porous Aluminum Alloys

Toko Miura, Yoshikazu Sugiyama, and Koichi Kitazono, Tokyo Metropolitan University



401051

Strain Rate Dependence of Serration Behavior for 5000 Series Aluminum Alloy in Uniaxial and Indentation Tests

Tsuyoshi Kami, Hiroyuki Yamada, and Nagahisa Ogasawara, National Defense Academy

MODELLING & SIMULATION

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397544

**Void Evolution in a 7xxx Series Aluminium Alloy During Hot Rolling
Quantitative Experimental Results and Mechanism-Based Process Simulation**

Georg Falkinger, Gregor Angerer, Bodo Gerold, and Peter Simon, AMAG Rolling GmbH



400023

Numerical Analysis of Magnetic Pulse Forming and Deformation Structure of Pure Al and Cu Sheets

Takashi Kambe, Yasutaka Kedo, Shinji Muraishi, and Shinji Kumai, Tokyo Institute of Technology



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Simulation of Extrusion Processes of Aluminum Profiles with Modeling of Microstructure

Dong-Zhi Sun, Andrea Ockewitz, and Andreas Trondl, Fraunhofer IWM



401049

Modeling of Anisotropic Behavior of Aluminum Profile for Damage Prediction

Florence Andrieux and Dong-Zhi Sun, Fraunhofer Institute for Mechanics of Materials



401066

SProC - Smart Process Control Toolkit for Semi-Finished Products Manufacturing

Johannes Kronsteiner and Evgeniya Kabliman, LKR Leichtmetallkompetenzzentrum Ranshofen GmbH



401103

Application of Modified Voce-Kocks Constitutive Material Model to Elevated Temperature Forming of 7xxx Series Aluminum Sheet

*Zhutian Xu, Mike Bruhis, and Mukesh K. Jain, McMaster University
Vishwanath Hegadekatte, Novelis Global Research and Technology Center*



401830

Modeling the Dynamic Mechanical Behaviour and Texture Evolution of Additively Manufactured AlSi10Mg_200C

Edward Cyr and Mohsen Mohammadi, Marine Additive Manufacturing Centre of Excellence, University of New Brunswick

EXTENDED ABSTRACTS



401133

A Numerical Investigation of the Effect of Aluminum Sheet Thickness on Wound Roll Stresses

*Ales Materna, Jan Ondracek, and Miroslav Karlik, Czech Technical University in Prague
Miroslav Cieslar, Charles University*



401514

3D-FEM Analysis for Compressive Properties in Selective Laser Melted Porous Aluminum Alloys

Keiji Matsuo, Takuya Hamaguchi, and Koichi Kitazono, Tokyo Metropolitan University

NEW DIRECTIONS IN MANUFACTURING & ALLOY DESIGN

PAPERS



392496

Design of Multicomponent Alloys on the Base of Al-Ca Eutectics Without Requirement for Quenching

*Nikolay Belov and Evgenia Naumova, National University of Science and Technology MISiS
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V. V. Doroshenko, National University of Science and Technology MISiS*



392937

The Influence of Surface Roughness on the Fatigue Performance of Selective Laser Melted Aluminium Alloy A357

Jeremy H. Rao, Kai Zhang, Paul Rometsch, Aijun Huang, and Xinhua Wu, Monash Centre for Additive Manufacturing and Monash University



398617

Excellence in an Aluminium Alloy Rolling Operation Through Six Sigma Application

Ifeanyichukwu Nweke, CSSGB - America Society for Quality, CWI - America Welding Society



398626

Control of Recrystallization in Cold-Rolled AlMn(Mg)ScZr Sheets for Brazing Applications

Vahid Fallah, Queen's University

Andrew Howells, Mary Gallerneault, Alcereco Inc.

Mark Gallerneault, Queen's University and Alcereco Inc.



400026

Effect of TiB₂ Addition on Aluminum Alloy Sintered by SPS

Yoshiki Komiya, Kohya Negishi, and Hiroshi Izui, Nihon University



400047

Microstructure Evolution in Superplastic Al/Mg/Al Clad Sheet

Toko Tokunaga, Kiyotaka Matsuura, and Munekazu Ohno, Hokkaido University



400930

Low Temperature Heat Treatment of AlSi10Mg_200C Alloy Fabricated by Direct Metal Laser Sintering: Microstructural Evolution, Mechanical Properties, and Corrosion Resistivity

Mehran Rafieazad and Parisa Fathi, Memorial University of Newfoundland

Mohsen Mohammadi, Marine Additive Manufacturing Centre of Excellence, University of New Brunswick

Ali M. Nasiri, Memorial University of Newfoundland



401053

Potential for In-Situ Solutionisation of Wire and Arc Additive Manufactured (WAAM) 2xxx Aluminium Alloys

Joseph Fixter, University of Manchester

Eloise Eimer and Zsolt Pinter, Cranfield University

Bechir Chehab, Constellium

Phil Prangnell, The University of Manchester



401579

Relationship Between Surface Deposit and Porosity for Wire and Arc Additive Manufactured Aluminium Alloy 2319

Emma M. Ryan, Lockheed Martin UK and University of Surrey

Katharine E. Harley and Tanya J. Sabin, Lockheed Martin UK

John F. Watts and Mark J. Whiting, University of Surrey



401839

Tailored Thickness Hot Stamping of High Strength Aluminum

Nia Harrison, Ford Motor Company

Francois Nadeau, National Research Council of Canada

Udo Brux, Mubea Centre for Lightweight Design

George Luckey, Ford Motor Company



405014

Effect of TiB₂ Contents on Microstructure and Thermal Conductivity of Al Matrix Composites Prepared by Spark Plasma Sintering

Gen Sasaki, Shuhei Kodama, Yongbum Choi, Kenjiro Sugio, and Kazuhiro Matsugi, Hiroshima University



405043

Co-extruded Al4.5Mg and Rapidly Solidified Al4.5Mg1Ag - Structure and Properties

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Christian J. Simensen and Xiang Ma, SINTEF Materials and Chemistry
Rune Østhus, SINTEF Raufoss Manufacturing
Hans J. Roven, Norwegian University of Science and Technology*

PHASE TRANSFORMATIONS

PAPERS



393778

Effect of Quenching Rate on Age Hardening in an Al-Zn-Mg Alloy Sheet

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Hidenori Hatta, UACJ Corporation*



400413

Orientation-Preferential Growth During Secondary Recrystallization in AA5182

Yusuke Yamamoto and Mineo Asano, UACJ Corporation



401058

Effect of Cube Texture on the Planar Anisotropy in a Novel Al-Mg-Si-Zn Alloy

Zhenshan Liu, Pizhi Zhao, Yiheng Cao, and Jingwei Zhao, Chinalco Material Applications Research Institute Co. Ltd. and Chinalco Research Institute of Science and Technology



401072

Phase Composition, Structure and Manufacturability of New Eutectic Alloys Based on the Al-Ca-Zn-Mg System

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401073

Modelling Quench Sensitivity of Aluminium Alloys

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401618

Mechanical Properties of Precipitation Hardened Supersaturated Al-Sc-Zr

Yang Yang, Joseph Licavoli, and Paul G. Sanders, Michigan Technological University



401833

Precipitation Kinetics of an AlSi7Cu3.5Mg0.1 Alloy with Zr and V Additions

*Pierre Heugue and Daniel Larouche, Laval University
Francis Breton, Arvida Research and Development Centre, Rio Tinto
Rémi Martinez, Montupet Inc.
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404017

Influence of Annealing Condition and Cold-Rolling Reduction on Texture Formation in an Al-Mg-Si Alloy

Ryutarō Akiyoshi, Shiwei Kang, Hisao Shishido, Kentaro Ihara, and Yasuo Takaki, Kobe Steel, Ltd.



404051

Effect of Cr on Mechanical Properties and Microstructure of Al-Mn-Mg-Si Alloys

*Zhen Li, University of Quebec at Chicoutimi and Soochow University
Zhan Zhang and X. Grant Chen, University of Quebec at Chicoutimi
Hiromi Nagaumi, Soochow University*



404504

Effect of Additional Shear Strain on Recrystallization Texture Formation in a Hot Rolled Al-Fe Alloy

Kentaro Ihara, Takumu Yamaguchi, and Katsushi Matsumoto, Kobe Steel, Ltd.



404577

Effect of Pre-Aging on Artificial Age-hardening Behavior of Al-Mg-Si Alloys with Mg + Si = 1.5mass%

*Shuntaro Tsukamoto, Shohei Nakamura, Kenya Fujiwara, and Shoichi Hirosawa, Yokohama National University
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EXTENDED ABSTRACTS



404166

Aging Behavior of Al-Mg-Ge Alloys with Different Alloying Elements

Tomoya Kataoka, Tatsuya Sato, Taiki Tsuchiya, Seungwon Lee, Susumu Ikeno, and Kenji Matsuda, University of Toyama



404282

TEM Observation of HPT-processed Al-2.5Li(-2.0Cu) Alloys

*Yuhei Haizuka, Seungwon Lee, Seiji Saikawa, and Kenji Matsuda, University of Toyama
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404576

Effect of Cu on Mechanical Properties and Precipitation of Al-Zn-Mg Alloys with High Zn Concentration

*Toru Yasumoto, Taiki Tsuchiya, Seungwon Lee, and Kenji Matsuda, University of Toyama
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SUSTAINABILITY IN DESIGN

PAPERS



399419

Phase Evolution of β -Al₅FeSi During Recycling Al-Si-Fe Alloys by Mg Melt

Tong Gao, Zengqiang Li, Yaoxian Zhang, Jingyu Qin, and Xiangfa Liu, Shandong University



401623

Multi-Purpose High Shear Melt Conditioning Technology for Effective Melt Quality and for Recycling of Al-Alloy Scrap

Jaime Lazaro-Nebreda, Jayesh B. Patel, Geoff Scamans, and Zhongyun Fan, BCAST, Brunel University London

THERMOMECHANICAL PROCESSING

PAPERS



394549

Development of New Laboratory-Scale Tests to Optimize Industrial Thermo-Mechanical Processing of Thick Plate Products: Application to AlCuLi Alloys

Fanny Mas and Jean-Christophe Ehrström, Constellium C-TEC



400035

Effect of Deformation Technique on Mechanical Properties and Aging Behavior of an Al Alloy

Ivan S. Zuiko and Rustam Kaibyshev, Belgorod State University



400441

Effect of Thermomechanical Processing on Microstructure and Mechanical Properties in an Al-Cu-Mg-Si Alloy

Marat Gazizov, Norwegian University of Science and Technology and Belgorod State University

Jonas K. Sunde, Norwegian University of Science and Technology

Sigurd Wenner, SINTEF Industry

Randi Holmestad, Norwegian University of Science and Technology

Rustam Kaibyshev, Belgorod State University



401099

Characterization of Aluminium Alloy Sheets Accumulative Roll-Bonded at Different Temperatures

Miroslav Karlik, Czech Technical University in Prague and Charles University

Petr Homola, Czech Technical University in Prague and Czech Aerospace Research Centre

Margarita Slamova, Research Institute of Metals



403120

The Influence of Quench Rate on the Mechanical Behaviour of AA6082

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Mei Li, Ford Motor Company

Warren J. Poole, University of British Columbia

EXTENDED ABSTRACTS



400466

Investigation of the Effect of Homogenization Process on the Microstructure of 6060 and 6082 Series Alloy Billets

Athanasios Vazdirvanidis and George Pantazopoulos, ELKEME S.A.

Nikos Kolioubas, ANOXAL S.A.

Sofia Papadopoulou, Marianna Katsivarda, Andreas Rikos, and Eugenia Spiropoulou, ELKEME S.A.