

# Table of Contents

<b>Aluminium in the Rail Transportation Market</b> J. Zehnder	3
<b>Current &amp; Future Challenges for Aluminium as a Packaging Material</b> P. Butler	9
<b>Structural Use of Aluminium in the Construction Industry</b> D.A. Nethercot	15
<b>The Intelligent Design of High Strength, Creep-Resistant Aluminum Alloys</b> A.W. Zhu, B.M. Gable, G.J. Shiflet and E.A.J. Starke	21
<b>A Texture Component Crystal Plasticity Finite Element Method for Physically-Based Metal Forming Simulations Including Texture Update</b> D. Raabe, F. Roters and Z. Zhao	31
<b>The Effect of Ti on Grain Refinement in Al-Sc Alloys</b> K.B. Hyde, A.F. Norman and P.B. Prangnell	39
<b>Studies on the Sedimentation and Agglomeration Behavior of Al-Ti-B and Al-Ti-C Grain Refiners</b> F. Gazanion, X.G. Chen and C. Dupuis	45
<b>The Variable Potency of TiB<sub>2</sub> Nucleant Particles in the Grain Refinement of Aluminium by Al-Ti-B Additions</b> T. Quested, A.L. Greer and P.S. Cooper	53
<b>Hot Tearing during the Start-Up Phase of DC Cast Extrusion Billets</b> J.M. Drezet, M. M'Hamdi, S. Benum, D. Mortensen and H.G. Fjær	59
<b>Upstream Fluid Flow Effects in Aluminium DC Casting</b> J. Zuidema Jr. and L. Katgerman	65
<b>Prediction of Internal Crack in High Strength Al-Mg-Si Alloy</b> H. Nagaum	71
<b>Effects of Ultrasonic (Cavitation) Melt Processing on the Structure Refinement and Property Improvement of Cast and Worked Aluminum Alloys</b> G.I. Eskin and D.G. Eskin	77
<b>High Speed Twin Roll Casters for Aluminum Alloy Strips</b> R. Nakamura and S. Suzuki	83
<b>Defect Formation in Twin Roll-Cast AA 3xxx and 5xxx Series Aluminium Alloys</b> C. Gras, M.W. Meredith, K. Gatenby and J.D. Hunt	89
<b>Strip Casting and Processing of Al-Mg Alloys for Automotive Structural Applications</b> M. Gallerneault and D.J. Lloyd	95
<b>Microstructure Evolution and Mechanical Anisotropy of Strip Cast and Direct Chill Cast AA5182 Aluminum Alloy</b> X.F. Yu, T.G. Zhai, X.M. Cheng, X.Y. Wen, J. Liu, W.C. Liu, J. Chen and J.G. Morris	101
<b>Intermetallic Phase Selection during Solidification of Al-Fe-Si(-Mg) Alloys</b> M.W. Meredith, J. Worth and R. Hamerton	107
<b>Refinement of Recrystallized Grain Structure in Al-Mn-Mg Alloy Sheets via Strip Casting</b> Y. Suzuki, T. Hashimoto and T. Muramatsu	113
<b>Influence of Plasma Arc Melting on Melt Structure and Solidification Microstructure of Al-16 wt.% Si Alloy</b> X. Pan, X.F. Bian, C. Zhao and J. Sun	119
<b>Influence of Recycling Scrap Content and Solid Fraction on the Mechanical Properties of the New Rheocast Alloy A356</b> H. Kaufmann and A. Mundl	125
<b>Thixoforming of Normally Wrought Aluminium Alloys</b> H.V. Atkinson, P. Kapranos, D. Liu, S.A. Chayong and D.H. Kirkwood	131
<b>Effect of Mechanical Vibration on Semi-Continuous Casting of a Hypereutectic A390 Aluminum Alloy</b> Y. Uetani, M. Dohi, H. Takagi, K. Matsuda and S. Ikeno	137
<b>Semisolid Casting of AlSi7Mg0.35 Alloy Produced by Low-Temperature Pouring</b> H. Wang, C.J. Davidson, J.A. Taylor and D.H. StJohn	143

<b>Silicon Spheroidization Treatment of Thixoformed Al-Si-Mg Alloys</b> E. Ogris, H. Lüchinger and P.J. Uggowitzer	149
<b>Influence of the Microstructure on the Shearing Behaviour of Al4.5wt%Cu Alloy in the Mushy State</b> P. Grasso, K. Mahjoub, J.M. Drezet and M. Rappaz	155
<b>Aluminum Based Materials Containing Low Melting and High Melting Metals Produced by Mechanical Alloying with Addition of Metal Oxides</b> J. Kaneko, M. Sugamata, L. Błaż and R. Kamei	161
<b>Role and Distribution of Strontium during the Dissolving and Grain Refining Process of AlSi7Mg Alloy's Structure</b> P. Moldovan, G. Popescu, M. Zsigmond and I. Apostolescu	167
<b>Interaction between Rare Earth and Hydrogen in Eutectic Al-Cu Melt</b> X. Qin and X.F. Bian	173
<b>Micro-Mechanical Model of Hot Tearing at Triple Junctions in DC Casting</b> Suyitno, W.H. Kool and L. Katgerman	179
<b>Modelling the Processing of Aluminium Alloys in the Semi-Solid State</b> A. Wahlen	185
<b>As-Cast Microstructure in VDC Cast AA 6082 Billet</b> M. Qian, D.H. StJohn, S.K. Maloney and M.J. Couper	191
<b>Change Fluidity of 1151 Alloy (Al-Cu-Mg) on Introducing of Co instead of Mn</b> E.F. Chirkov and I.N. Fridlyander	197
<b>Continuous Casting of Semisolid Aluminium Alloys</b> T. Motegi, F. Tanabe and E. Sugiura	203
<b>Simulation of the Casting and Homogenization of Two 6xxx Series Alloys</b> M. Cai, J.D. Robson, G.W. Lorimer and N.C. Parson	209
<b>Effect of Atomizing Gas Pressure on Spray Formed 7075 Alloy</b> M. Jeyakumar and S. Kumar	215
<b>Mechanics and Dynamics Research of the Aluminum Melt Purification by FI Process</b> L. Hu, X.F. Bian and Y. Duan	221
<b>Microstructures and Modification Performance of Al- 10 Sr Alloy Prepared by Molten Salts Electrolysis and Direct Mixing Process</b> Z.H. Zhang, X.F. Bian and Y. Wang	227
<b>Reaction Processes in Aluminium Matrix Composites Produced by Low-Pressure Infiltration</b> I. Gutiérrez, Y. Saez de Ibarra, C. Martinez-Cores, S. Gutiérrez-Saiz, M.L. Nó and J. San Juan	233
<b>The Study of the Interaction at Interfaces in MMC<sub>p</sub> and MMC<sub>f</sub> Composite Materials Based on the Aluminium Alloys with SiC</b> A.A. Aksenov, N.A. Belov and S.V. Medvedeva	239
<b>Effect of Sc Addition on Rapidly Solidified Al-Transition Metal Alloys</b> H. Fujii, M. Sugamata, J. Kaneko and M. Kubota	245
<b>Foaming of Compacted Al-TiH<sub>2</sub> Powder Mixtures</b> A.R. Kennedy and S. Asavavisithchai	251
<b>Latent Heat Evolution from TiB<sub>2</sub> Particulate Reinforced Aluminium Alloys</b> Y.M. Youssef, R.W. Hamilton, R.J. Dashwood and P.D. Lee	259
<b>A New Shear Method for Testing Aluminum Alloys in the Mushy State</b> O. Ludwig, C.L. Martin and M. Suéry	265
<b>Synthesis of TiC/Aluminum Composite by Reactive Infiltration Process</b> N. Omura, M. Kobashi, T. Choh and N. Kanetake	271
<b>Microstructure of Mechanically Stirred Al-5%Cu Alloy Billet</b> Y. Uetani, T. Hihara, H. Takagi, K. Matsuda and S. Ikeno	277
<b>Effectiveness of Reinforcement Incorporation and Mechanical Properties of Composites Produced from Rheocast Slurries</b> M.H. Robert and R. Galvão da Silveira Mussi	283
<b>MMC Production Method Using Dynamic Consolidation of Mechanically Alloyed Aluminum and Silicon Carbide Powders</b> V.A. Popov, A.A. Aksenov, V. Ivanov, D.R. Lesueur, V.N. Gulbin, A.G. Kobelev, A.N. Solonin, S.N. Paranin, I.I. Khodos, O.M. Smirnov and S.V. Zayats	289

<b>Recrystallisation Behaviour a Commercial Pure and AlMn Aluminium Alloy after Cyclic and Monotonic Torsion</b>	
R. Valle, S. van der Zwaag and E. Nes	297
<b>Strain Path Effects on Texture Development in Aluminium</b>	
R.L. Higginson, A. MacGregor and E.J. Palmiere	303
<b>Control of Through-Thickness Shear Texture by Asymmetric Rolling</b>	
T. Sakai, K. Yoneda and Y. Saito	309
<b>Modelling the Evolution of Microstructure and Properties during Deformation of Aluminium</b>	
B. Holmedal, S. Abtahi, K. Marthinsen and E. Nes	315
<b>Control of Microstructures and Textures in High Purity Al for Advanced, High Efficiency Electrolytic Capacitor</b>	
S. Endou and H. Inagaki	327
<b>Microstructural Control of an Al-Mg-Si Alloy Using Equal-Channel Angular Pressing</b>	
K. Oh-ishi, Y. Hashi, A. Sadakata, K. Kaneko, Z. Horita and T.G. Langdon	333
<b>The Physical Metallurgy of Recrystallization and Grain Growth in Non-Hardenable Aluminum Alloys</b>	
S. Saimoto, S. Cao and H.O. Jin	339
<b>On the Correlation of Texture and Ridging in AA6016 Automotive Alloys</b>	
O. Engler and E. Brünger	345
<b>The Influence of Homogenisation Heat Treatment on Microstructure Development in Al-Mg-Mn Alloy AA5454</b>	
M. Osman, O. Engler, K.F. Karhausen and A.J. McLaren	351
<b>Evolution of Cube Texture in AA3103 during Hot Deformation - Simulation Assisted Analysis</b>	
M. Crumbach, G. Gottstein, L. Löchte, D. Piot, J.H. Driver, C.M. Allen and J. Savoie	357
<b>Texture Gradient Simulations and Measurements in Hot Rolled and Extruded High Strength Aluminium Alloys</b>	
W. Robert, D. Piot, F. Eberl and J.H. Driver	365
<b>Material Testing, Constitutive Modeling and Implementation of Material Models into Hot Rolling Models for Alloy AA3103</b>	
K.F. Karhausen, J. Savoie, C.M. Allen, D. Piot and R. Luce	371
<b>Integral Modelling of Texture Evolution in Multiple Pass Hot Rolling of Aluminium Alloys</b>	
M. Goerdeler, M. Crumbach, G. Gottstein, L. Neumann, R. Luce, R. Kopp, C.M. Allen, M.V.D. Winden and K.F. Karhausen	379
<b>Extrusion Modeling of Solute, Eutectic and Precipitation Al Alloys</b>	
H.J. McQueen and E.V. Konopleva	387
<b>Homogenization and Hot Workability of Alloy AA2014</b>	
M.C. Gonçalves, M.G. Martins, W.Z. Misiolek and W.H. Van Geertruyden	393
<b>Influence of Cooling after Homogenisation and Reheating to Extrusion on Extrudability and Final Properties of AA 6063 and AA6082 Alloys</b>	
S. Zajac, B. Bengtsson and C. Jönsson	399
<b>The Influence of Homogenisation Cooling Rate, Billet Preheating Temperature and Die Geometry on the T5- Properties for Three 6XXX Alloys Extruded under Industrial Conditions</b>	
E.B. Bjørnbakk, J.A. Sæter, O. Reiso and U. Tundal	405
<b>An In-Situ Study of Substructural Evolution in a Single-Phase Aluminium Alloy</b>	
Y. Huang and J.F. Humphreys	411
<b>Sharpening of Cube Texture in High Purity Aluminum Foil by Two Step Partial Annealing and Light Rolling</b>	
T. Murakami	417
<b>Change in Microstructure during Annealing of Ultrafine Grained Aluminum Produced by ARB</b>	
N. Tsuji, Y. Ito, H. Nakashima, F. Yoshida and Y. Minamino	423
<b>Grain Refinement and Texture Evolution during the Deformation of Al to Ultra-High Strains by Accumulative Roll Bonding (ARB)</b>	
C.P. Heason and P.B. Prangnell	429

---

<b>Effect of Heat-Treatment in Different Environments on Surface Segregation Phenomena of Lead in Aluminum-100 ppm Lead Alloy</b> H. Tsubakino, A. Nogami, A. Yamamoto, M. Terasawa, T. Mitamura, T. Yamanoi, A. Kinomura and Y. Horino	435
<b>The Shear Strain Measurement and Finite Element Modeling during Equal Channel Angular Pressing of Aluminum</b> Y.X. Li, T.T. Zhou, Y.G. Zhang and C.Q. Chen	441
<b>Evolution of Texture and Microstructure during Repeated Shear Deformation in Aluminum 1100 Alloy Sheets</b> M.Y. Huh, H.D. Kim and O. Engler	447
<b>Effect of Mn Replacement with Co on Hot-Shortness of 1151 Alloy (Al-Cu-Mg) under Preservation of Small Additions of Transition Metals</b> E.F. Chirkov and I.N. Fridlyander	453
<b>Changes in Fe and Si Solute Levels during Deformation of AA1200</b> Z.J. Lok, A.J.E. Flemming, R. Hamerton and S. van der Zwaag	457
<b>Texture Evolution of an AA3xxx Alloy after Different Homogenisation Treatments</b> K. Sjølstad, O. Engler, S. Tangen, K. Marthinsen and E. Nes	463
<b>The Effect of Precipitation on the Recrystallization Behavior of a Supersaturated, Cold Rolled AA3103 Aluminium Alloy</b> S. Tangen, K. Sjølstad, E. Nes, T. Furu and K. Marthinsen	469
<b>Evolution of Texture and Microstructure in AA3004 Sheets during Continuous Confined Strip Shearing Deformation and Subsequent Annealing</b> Y.H. Chung, H.D. Kim, H.T. Jeong, O. Engler and M.Y. Huh	475
<b>Hot Workability in Torsion of Al-Si-Cu-Ni-Sr Alloy</b> H.J. McQueen and M.J. Lee	481
<b>Comparison of Recrystallisation Behaviour of AA5052 after Hot Deformation in Reversed Torsion and in Compression/Tension</b> Q. Zhu and C.M. Sellars	487
<b>The Influence of Copper and Silicon Additions on the Extrudability and Mechanical Properties of a Series of Aluminium Alloys Based on AA6111</b> S. Sutiarto, G.W. Lorimer and N.C. Parson	493
<b>Grain Refinement of AA7475 Based Aluminum Alloy Sheets by a Warm Rolling with Heated Rolls and its Effect on Texture and Mechanical Properties</b> H. Tanaka, T. Minoda, H. Esaki, K. Shibue and H. Yoshida	499
<b>Isothermal Forging Modelling of Aluminium Based Metal Matrix Composites</b> P. Cavaliere, E. Cerri, E. Evangelista and C. Testani	505
<b>Controlling Inside Diameter of Circular Tube by Extrusion</b> T. Makiyama and M. Murata	513
<b>Microstructural Modelling of a Commercially Processed 6xxx Series Aluminium Alloy</b> M.R. Clinch, S.J. Harris, W. Hepples, N.J.H. Holroyd and J.V. Wood	521
<b>Recovery and Recrystallization Behaviour of AlMn1 - Alloys</b> J. Hasenclever	527
<b>The Influence of Grain Orientation on Recrystallization in Hot-Deformed Al-2.5%Mg (AA5052)</b> G. Guiglionda, A. Borbély, J.H. Driver and B. Chenal	533
<b>Recrystallisation Processes in Aluminium Revealed by Gallium Treatment</b> J. Hagström and W.B. Hutchinson	539
<b>Modelling the Variation in Recrystallized Fraction through the Thickness of AA7050 Plate</b> J.D. Robson and P.B. Prangnell	545
<b>The Effect of Initial Grain Size on Transition from Discontinuous to Continuous Recrystallization in a Highly Cold Rolled Al-Fe-Mn Alloy</b> H. Jazaeri and J.F. Humphreys	551
<b>Inhomogeneous Warm Rolling and Annealing of AA3104: Shear Texture Development and Thermal Stability</b> M. Crumbach, A. Bäumer and G. Gottstein	557
<b>Highly Recrystallization Resistant Al-Mn-Mg Alloys Using Sc and Zr</b> Y.W. Riddle, H. Hallem and N. Ryum	563

<b>Influence of Partial Annealing Temperature on Cube Texture in High Purity Aluminum Foils</b>	
K. Ikeda, N. Takata, F. Yoshida, H. Nakashima and H. Abe	569
<b>Recrystallization Kinetics in AA1200 Alloys with Different Concentrations of Fe, Si and Ti in Solid Solution</b>	
H.E. Ekström, O.V. Mishin and R. Hamerton	575
<b>Influence of Continuous and Discontinuous Recrystallization on the Properties of Cold-Rolled Sheets from Aluminium Alloys</b>	
I.N. Fridlyander, O.E. Grushko, V.V. Berstenev, L.M. Sheveleva and L.A. Ivanova	581
<b>Orientation Imaging Microscopy of the Shear Bands Formed in Al-5%Mg Alloys during Cold Rolling</b>	
H. Inagaki, M. Koizumi, C.S.T. Chang and B.J. Duggan	587
<b>A New Representation of Grain Boundary Properties</b>	
A.D. Rollett	593
<b>Development of New Damage Tolerant Alloys for Age-Forming</b>	
M.J. Starink, I. Sinclair, N. Gao, N. Kamp, P.J. Gregson, P.D. Pitcher, A. Levers and S. Gardiner	601
<b>Evaluation of the Effect of Cu on the Paint Bake Response of Preaged AA6xxx</b>	
J.E. Janse, L. Zhuang, J. Mooi and P. De Smet	607
<b>Precipitation Processes in Al-4Cu-(Mg, Cd) (wt. %) Alloys</b>	
B.T. Sofyan, I.J. Polmear and S.P. Ringer	613
<b>An Investigation of Dilute Al-Sc-Si Alloys</b>	
J. Røyset, H. Hovland and N. Ryum	619
<b>Development of Near-Eutectic Al-Si Casting Alloys for Piston Applications</b>	
W.M. Edwards, R.C. Thomson, S.J. Barnes and S.I. Barnes	625
<b>Characteristics of <math>\eta'</math> and <math>\eta_4</math> Precipitates in Ag-Modified Al-Zn-Mg Alloys</b>	
S.K. Maloney, I.J. Polmear and S.P. Ringer	631
<b>A Statistical Model for Precipitation - Applications to Commercial Al-Mn-Mg-Fe-Si Alloys</b>	
M. Schneider, G. Gottstein, L. Löchte and J. Hirsch	637
<b>Advanced Statistical Modelling of Processing of Aluminium Alloys</b>	
C.R. Crotaz, H.R. Shercliff and D.J.C. Mackay	643
<b>Atomistic Behavior of Microalloying Elements in Phase Decomposition of Al Based Alloys</b>	
S. Hirose and T. Sato	649
<b>The Effect of Homogenizing on the Quench Sensitivity of 6082</b>	
P.A. Rometsch, S.C. Wang, A. Harriss, P.J. Gregson and M.J. Starink	655
<b>Micro-Macro Modelling of Microstructure and Microporosity in Al-Si-Cu Alloys</b>	
A. Chirazi, R.C. Atwood and P.D. Lee	661
<b>Analysis of the Intermetallic Phase Transformation Occurring during Homogenization of 6xxx Aluminum Alloys</b>	
S.R. Claves, D.L. Elias and W.Z. Misiolek	667
<b>DSC Study on Mg-Si Phases in As Cast AA6xxx</b>	
N.C.W. Kuijpers, W.H. Kool and S. van der Zwaag	675
<b>Study of Intermetallic Phase Transformations in 3xxx Alloys Using Diffusion Couples</b>	
D.T.L. Alexander, R. Hamerton, H. Cama and A.L. Greer	681
<b>Dispersoid Evolution during Homogenization of 6xxx Alloys</b>	
J.P. Suni and T.N. Rouns	687
<b>An Atom Probe Study of Fine Scale Structure in AlMgSi(Cu) Alloys</b>	
D. Vaumousse, A. Cerezo, P.J. Warren and S.A. Court	693
<b>The Role of Trace Additions on the <math>T_1</math> Coarsening Behavior in Al-Li-Cu-X Alloys</b>	
B.M. Gable, M.A. Pana, G.J. Shiflet and E.A.J. Starke	699
<b>Isothermal and Non-Isothermal Devitrification Phase Transformations in Al-Ni-Gd Metallic Glasses</b>	
M.C. Gao, F.Q. Guo, S.J. Poon and G.J. Shiflet	705
<b>Microstructure Evolution of Twin-Roll Cast AA5xxx Alloys during Homogenisation-Like Annealing</b>	
M. Slámová, Y. Birol, M. Dündar, A.S. Akkurt and M. Janeček	711
<b>Application of Thermodynamic Calculation to the Aluminium Alloy Design for Semi-Solid Metal Processing</b>	
Y. Liu and Z. Fan	717

<b>Processing, Structure and Mechanical Behavior of Rapidly Solidified Aluminum Alloys Containing Quasicrystalline Particles</b> Y.V. Milman, D.V. Lotsko, O.D. Neikov, A.I. Sirko, N.A. Yefimov, A.N. Bilous, D.B. Miracle and O.N. Senkov	723
<b>Design of New Cast Aluminium Materials Using Properties of Monovariant Eutectic Transformation L <math>\alpha</math>-Al + Mg<sub>2</sub>Si</b> O.M. Barabash, Y.V. Milman, N.P. Korzhova, T.N. Legkaya and Y.N. Podrezov	729
<b>Recovery Associated with Cell Structure Evolution in an Al-0.53wt%Cu-1.0wt%Si Alloy at Low Temperatures</b> A.W. Zhu and E.A.J. Starke	735
<b>Sc in Aluminum Alloys</b> A.L. Berezina, K.V. Chuistov, N.I. Kolobnev, L.B. Khokhlatova and T. Monastyrskaya	741
<b>Modeling of Precipitation Coupled with Thermodynamic Calculations</b> M. Serriere, C. Gandin, E. Gautier, P. Archambault and M. Dehmas	747
<b>Local Structure of Al-Sr Modifier in Liquid Al-Si Alloys</b> Y. Chen, X.F. Bian, X.Z. Li and M. Sun	753
<b>The Effect of Small Scandium Additions to AA7050 on the As-Cast and Homogenized Microstructure</b> F.A. Costello, J.D. Robson and P.B. Prangnell	757
<b>Structural State and Decomposition Kinetics in Rapidly Quenched Al - Sc, Al-Mg-Sc Alloys</b> A.L. Berezina, U. Schmidt, T. Monastyrskaya, K.V. Chuistov, A.V. Kotko and N.I. Kolobnev	763
<b>Early Decomposition Stages in two Al-Cu-Mg Alloys</b> G. Riontino, M. Massazza, D. Negri, S. Abis and P. Mengucci	771
<b>Mechanisms of Age-Hardening in two Al-Cu-Mg Alloys Studied by Positron Annihilation Spectroscopy</b> R. Ferragut, A. Somoza, A. Dupasquier and I.J. Polmear	777
<b>Secondary Ageing in an Al-Cu-Mg Alloy with High Cu/Mg Ratio</b> A. Dupasquier, R. Ferragut, P. Folegati, M. Massazza, G. Riontino and A. Somoza	783
<b>On the Role of Tin in Promoting Nucleation of the <math>\theta'</math> Phase in Al-Cu-Sn</b> L. Bourgeois, J.F. Nie and B.C. Muddle	789
<b>Effects of Quenched-in Excess Vacancies and Microalloying Elements on Phase Decomposition of Al-Cu-Alloys</b> K. Hirose, S. Hirose and T. Sato	795
<b>The Effect of Cold Work on the Precipitation of <math>\Omega</math> and <math>\theta'</math> in a Ternary Al-Cu-Mg Alloy</b> N. Unlu, B.M. Gable, G.J. Shiflet, E.A.J. Starke and Ö. Stål	801
<b>A Microstructural Study of an Al-Cu-Mg-Zr Alloy after Hot Forming</b> M. Cabibbo, E. Evangelista and S. Spigarelli	807
<b>Structures and Transformations during Artificial Aging of an Industrial 7xxx-Series Al-Zn-Mg-Zr Alloy</b> V. Hansen, K. Stiller, G. Waterloo, J. Gjønnes and X.Z. Li	815
<b>Mechanisms of Phase Transformations under Ageing in the Alloys of Al-Zn-Mg-(Cu) System</b> A.A. Alekseev, I.N. Fridlyander and L.B. Ber	821
<b>Precipitates in a Li-Containing Al<sub>18.4</sub>Zn<sub>1.35</sub>Mg<sub>1.76</sub>Cu (wt. %) Alloy</b> P.C. Bai, T.T. Zhou, P.Y. Liu, Y.G. Zhang and C.Q. Chen	827
<b>Influence of Small Additions of Ag on the Ageing Kinetics of an Al-Zn-Mg Alloy: A Positron Annihilation Study</b> C.E. Macchi, A. Somoza, A. Dupasquier and I.J. Polmear	833
<b>Evaluation of Sc-Bearing Aluminum Alloy C557 for Aerospace Applications</b> M.S. Domack and D.L. Dicus	839
<b>High Resolution Transmission Electron Microscopy Study of the Early Stages of Aging in Al-Mg-Cu Alloys</b> L. Kovarik, P.I. Gouma, C. Kisielowski-Kemmerich, S.A. Court and M.J. Mills	845
<b>Study of the Influence of a Low Copper Addition and of an Excess of Silicon on the Precipitation Kinetics and on the Precipitation Sequence of Al-Mg<sub>2</sub>Si Alloys</b> V. Massardier-Jourdan and T. Epicier	851
<b>Precipitation in Al-Mg-Si Alloys with Cu Additions and the Role of the Q' and Related Phases</b> D.J. Chakrabarti, Y. Peng and D.E. Laughlin	857

<b>As-Cast Ageing of Aluminum Alloys</b> X.F. Bian, G. Wang, J.Y. Zhang and S.H. Wang	863
<b>An Approach for Continuous Cooling Transformation (CCT) Diagrams of Aluminium Alloys</b> T. Herding, O. Kessler, F. Hoffmann and P. Mayr	869
<b>Precipitation of Dispersoids in DC-Cast 3003 Alloy</b> Y.J. Li and L. Arnberg	875
<b>Analysis of <math>\delta'</math> Precipitation in Al-Li Alloys</b> I. Gutiérrez, S. Gutiérrez-Saiz, E.H. Bocanegra, M.L. Nó and J. San Juan	881
<b>HRTEM Observation of Interface on GP Zones in Al-Ag Alloys</b> K. Matsuda, H. Daicho, G.J. Shiflet and S. Ikeno	887
<b>Control of Secondary Precipitation to Improve the Performance of Aluminium Alloys</b> R.N. Lumley, I.J. Polmear and A.J. Morton	893
<b>GeSi Precipitation during Early Stages of Aging of a Ternary Al-Ge-Si Alloy</b> A.K. Mukhopadhyay, K.S. Prasad and P. Ghosal	899
<b>Clustering and Precipitation in Al-Si-Ge and Al-Si-Ge-Cu Alloys</b> V. Radmilović, U. Dahmen, B. Dracup, M.K. Miller, D. Mitlin and J.W. Morris	905
<b>EFTEM Observation for Nano-scaled Precipitates in Aluminum Alloys</b> D. Teguri, K. Matsuda, T. Sakal and S. Ikeno	911
<b>Hardening and Precipitation in the Al-Cu-Mg-Si Alloying System</b> D.G. Eskin	917
<b>Precipitation in Stretched Al-Cu-Mg Alloys with Reduced Alloying Content Studied by DSC, TEM and Atom Probe</b> N. Gao, L. Davin, S.P. Wang, A. Cerezo and M.J. Starink	923
<b>The Al-Cu-Fe-Mg-Si Phase Diagram in the Range of Al-Cu Alloys</b> N.A. Belov, A.V. Koltsov and D.G. Eskin	929
<b>The Effect of Nickel on the Structure, Mechanical and Casting Properties of Aluminium Alloy of 7075 Type</b> N.A. Belov and V.S. Zolotarevskiy	935
<b>Effect of Addition of Copper and Chromium on Precipitation in Al-Mg-Si Alloys</b> K. Matsuda, S. Taniguchi, K. Kido and S. Ikeno	941
<b>EFTEM Observation of Q' Phase in Al-Mg-Si-Cu Alloy</b> K. Matsuda, D. Teguri, T. Sato and S. Ikeno	947
<b>HRTEM Observation of Precipitates in Al-Mg-Si Alloy Containing Copper at Early Stage during Aging</b> K. Kido, K. Matsuda, T. Kawabata, T. Sato and S. Ikeno	953
<b>TEM Observation of Interface in Al<sub>2</sub>O<sub>3</sub> Particle Dispersed Al-Mg-Si Alloy Composite Materials</b> K. Matsuda, T. Matsuki, Y. Uetani and S. Ikeno	959
<b>Effect of Be on Phase Transformations in an A357-AlSiMg Alloy</b> M. Massazza, G. Riontino, C. Riontino, A. Triggiani and E. Carà	965
<b>Quench Path Sensitivity of Super Purity AL-0.8%MG<sub>2</sub>Si Alloys with and without Excess Silicon</b> A.K. Gupta and D.J. Lloyd	971
<b>Coherent Composite Phases Formation in Aged Al-Li Base Alloys</b> A.L. Berezina, N.I. Kolobnev, K.V. Chuistov, A.V. Kotko and O.A. Molebny	977
<b>Influence of the Ageing Realization Scheme on the Phase Transformations and Properties of Commercial Aluminium Alloys</b> L.B. Ber and V.G. Davydov	983
<b>Mechanism of <math>\delta'</math>-Phase Formation in Al-Li and Al-Li-Mg Systems Alloys</b> A.A. Alekseev, E.A. Lukina, M.I. Ermolova and L.B. Khokhlatova	989
<b>Influence of Zn and Sn on the GP Zones Formation and the <math>\gamma'</math> Metastable Phase Precipitation in Al-Ag-Sn(Zn) Alloys</b> K. Mouhyddine, H. Yousfi and A. Touati	995
<b>Yield Shear Stress Anisotropy of Al-Cu Single Crystal Containing Single Variant GP Zones</b> S. Muraishi, S. Kumai and A. Sato	1001

<b>Effect of Mg Additions on the Work Hardening Behavior of Aluminum over a Wide Range of Strain</b>	
N.Q. Chinh, J. Illy, Z. Kovács, Z. Horita and T.G. Langdon	1007
<b>The Effect of Precipitation State on the Plastic Deformation Behaviour of AA6111 Aluminum Alloy</b>	
L.M. Cheng, S. Esmaili, W.J. Poole and D.J. Lloyd	1013
<b>An Approach of Precipitate/Dislocation Interaction in Age-Hardened Al-Mg-Si Alloys: Measurement of the Strain Field around Precipitates and Related Simulation of the Dislocation Propagation</b>	
P. Donnadieu, G.F. Dirras and J. Douin	1019
<b>A Study of the Hardening Precipitation in a 2650 Aluminium Alloy for Aeronautics</b>	
J. Majimel, G. Molénat, F. Danoix, D. Blavette, G. Lapasset and M.J. Casanove	1025
<b>The Ageing and Thermal Recovery Behaviour of Al-Mg-Cu Alloys</b>	
S.A. Court, K.P. Hicklin and D.J. Lloyd	1031
<b>Microstructural Evolution and Hardening during Controlled Thermal Processing of Al-Cu-Mg Alloys</b>	
G.B. Winkelman, K. Raviprasad and B.C. Muddle	1037
<b>High Resolution Transmission Electron Microscopy Study of the Early Stages of Aging in Al-Mg-Cu Alloys</b>	
L. Kovarik, P.I. Gouma, C. Kisielowski-Kemmerich, S.A. Court and M.J. Mills	1043
<b>Effect of Heat Treatment on Yield Point Elongation and P-L Effect in 5182 Al-Mg Alloys</b>	
S. Ohtani and H. Inagaki	1049
<b>Effects of Texture and Arrangements of Dislocation Cell Walls on Yield Stress Anisotropy in Cold Rolled and Recovery Annealed Al-Mg Alloy Sheets</b>	
T. Sakuma, T. Komatsubara and S. Komatsu	1055
<b>Diffusion in Fine-Grained Al Alloys Having Low and High Angle Grain Boundaries</b>	
T. Fujita, Z. Horita and T.G. Langdon	1061
<b>Effect of Changing Homogenisation Treatment for the Alloys AA3102 and AA3103</b>	
T. Pettersen, T. Furu and A. Håkonsen	1067
<b>Effect of Indentation Size on Plastic Deformation Processes in an Ultrafine-Grained Al-3% Mg Alloy</b>	
Z. Kovács, N.Q. Chinh, J. Lendvai, Z. Horita and T.G. Langdon	1073
<b>Plastic Instabilities during Biaxial Testing of Al-Fe-Si Foils</b>	
M. Cieslar, A. Karimi and J. Martin	1079
<b>Microstructure and Plastic Anisotropy in Rolled AA1200</b>	
E.S. Eardley, J.F. Humphreys, S.A. Court and P.S. Bate	1085
<b>Elastic-Plastic Characterisation of Aluminium Bearing Alloys</b>	
J. Liu, S.W. Christensen, P.A.S. Reed and S. Syngellakis	1091
<b>In-Situ Strengths of Various Coarse Intermetallic Particles in Wrought Aluminum Alloys</b>	
H. Toda and T. Kobayashi	1097
<b>Investigation on Mechanical Anisotropy of Strip Cast (SC) Aluminum Alloy AA5182</b>	
X.M. Cheng, S.K. Das, T.G. Zhai, X.F. Yu and J.G. Morris	1103
<b>Study of the Nanoscale Precipitation in 6056 Alloy (AlMgSi) by Conventional Transmission Electron Microscopy and TEM In-Situ Straining Experiments</b>	
F. Delmas, M.J. Casanove, A. Couret and A. Coujou	1109
<b>Influence of Precipitate Free Zones on the Test Direction Dependence of Mechanical Properties of High Strength Aluminum Alloys</b>	
C. Sauer, F. Busongo and G. Lütjering	1115
<b>The Effect of Varying the Solution Treatment Temperature, Natural Aging Treatment and Artificial Aging Treatment on the Mechanical Strength of 7249 Aluminum Alloy</b>	
M. Iskandar, D. Reyes, Y. Gaxiola, E. Fudge, J. Foyos, E.W. Lee, P.N. Kalu, O.S. Es-Said and H. Garmestani	1121
<b>Low Temperature Mechanical Properties of Scandium-Modified Al-Zn-Mg-Cu Alloys</b>	
O.N. Senkov, D.B. Miracle, Y.V. Milman, J.M. Scott, D.V. Lotsko and A.I. Sirko	1127
<b>Influence of High Velocity Spraying Conditions on the Microstructure and Properties of an Al-12wt%Sn-1wt%Cu Alloys</b>	
C.J. Kong, P.D. Brown, A. Horlock, S.J. Harris and D.G. McCartney	1133



<b>Effect of Reinforcement Distribution on Failure Mechanism in Aluminum Based Metal Matrix Composites</b> P. Ganguly and W.J. Poole	1139
<b>Characterisation and Modelling of Work Hardening in Al-Mg and Al-Mn Alloys</b> Ø. Ryen, B. Holmedal and E. Nes	1145
<b>Coherency between Al<sub>3</sub>Sc Precipitate and the Matrix in Al Alloys Containing Sc</b> S. Iwamura, M. Nakayama and Y. Miura	1151
<b>On the Effect of Thermomechanical Processing on the Mechanical Properties of 2297 Plates</b> E. Acosta, O. Garcia, A. Dakessian, K. Aung Ra, J. Torroledo, A. Tsang, M. Hahn, J. Foyos, J. Ogren and O.S. Es-Said	1157
<b>Microstructure Evolution and Hardening Behavior of 2024 Aluminum Alloy Processed by the Severe Plastic Deformation</b> S.B. Kang, C.Y. Lim, H.W. Kim and J.F. Mao	1163
<b>TTT and TTP Ageing Diagrams of Commercial Aluminium Alloys and Their Use for Ageing Acceleration and Properties Improvement</b> V.G. Davydov and L.B. Ber	1169
<b>High-Pressure Gas Quenching during Age Hardening of Aluminium Alloys</b> O. Kessler, A. Irretier, F. Hoffmann and P. Mayr	1175
<b>Diffusive Paths in 6013 (AD37) Alloy under a Single and Double Ageing</b> A.A. Alekseev, S.V. Bikova, M.I. Ermolova and N.I. Kolobnev	1181
<b>Change in the Uniform Elongation and n-Value of 6061 Aluminum Alloy Sheets during Isothermal Strain Aging</b> M. Sudo, Y. Hattori, T. Endoh and H. Hiramitsu	1187
<b>Effects of Alloy Composition and Quenching Rate on the Bendability in Al-Mg-Si Alloys<sup>†</sup></b> G. Itho, T. Suzuki and K. Horikawa	1193
<b>Influence of the Initial Ageing Condition on Microstructure and Properties of a Friction Stir Welded 6056 Alloy</b> A. Denquin, D. Allehaux, M.H. Campagnac and G. Lapasset	1199
<b>Effects of Sn Addition on Microstructure, Extrudability, Mechanical Properties and Machinability of a 6082 Alloy</b> J. Røyset, J.A. Sæter, T. Ustad and O. Reiso	1205
<b>Influence of Aging Conditions on the Microstructure and Tensile Strength of Aluminium alloy 6063</b> R. Qiang Gao, K. Stiller, V. Hansen, A. Oskarsson and F. Danoix	1211
<b>Microstructure and Mechanical Properties of Cast and Wrought Al-Zn-Mg-Cu Alloys Modified with Zr and Sc</b> Y.V. Milman, A.I. Sirko, D.V. Lotsko, O.N. Senkov and D.B. Miracle	1217
<b>Properties and Rapidly Solidified Powder Alloys of the Al-Zn-Mg System</b> O.D. Neikov, D.V. Lotsko, A.I. Sirko, A.V. Sameljuk, G.E. Thompson, N.P. Zakharova and N.A. Yefimov	1223
<b>Preliminary Research of a Li-Containing Al-Zn-Mg-Cu Alloy</b> T.T. Zhou, P.C. Bai, P.Y. Liu, Y.G. Zhang and C.Q. Chen	1229
<b>On the Residual Stress Control in Aluminum Alloy 7050</b> K. Escobar, B. Gonzalez, J.L. Ortiz, P.N. Nguyen, D. Bowden, J. Foyos, J. Ogren, E.W. Lee and O.S. Es-Said	1235
<b>Mechanical Inhomogeneity of Extruded Al-Li Based Profiles</b> M. Cieslar, I. Stulíková and V. Očenášek	1241
<b>Mechanical and Thermophysical Properties of Graphite/Al Composites Produced by Casting Infiltration Methods</b> M. Papakyriacou, P.A. Schulz, T. Etter and P.J. Uggowitzer	1247
<b>Fatigue and Fracture of Al-Si-Mg Cast Alloys Produced by Conventional and Semi-Liquid Processes</b> S. Kumai, S.W. Han and A. Sato	1255
<b>Elevated Temperature Fatigue of Al-Si Piston Alloys</b> M.R. Joyce, C.M. Styles and P.A.S. Reed	1261
<b>Effects of Damage at Eutectic and Primary Si Particles in Cast Al-Si Alloys</b> T. Kobayashi	1267

<b>Influence of Environment and Load Frequency on Fatigue Crack Propagation of 1424 Al-Mg-Li Alloy</b>	
I.N. Fridlyander, L.B. Khokhlatova, N.I. Kolobnev, E.I. Shvechkov, I.P. Zhegina, S.A. Karimova, K.H. Rendigs and G. Tempus	1273
<b>Orientation Dependence of the High Cycle Fatigue Properties in a Hot-Cross Rolled Al-Li 8090 Alloy Plate</b>	
T.G. Zhai, A.J. Wilkinson and J.W. Martin	1279
<b>Corrosion-Fatigue Interactions for High Strength Aluminium Alloys</b>	
R. Dif and J. Ehrström	1285
<b>On the Effect of Combined Thermal and Mechanical Loading on the Microstructural Evolution of an Al-Mg-Li Alloy</b>	
J. Murken, R. Höhner, B. Skrotzki and G.F. Eggeler	1291
<b>The Influence of Microstructure and Manganese Content in Solid Solution on the Creep Behavior of AA3003 Extrusion</b>	
H. Hatta, S. Matsuda and H. Yoshida	1297
<b>Back Flow Creep Phenomena in Short Fibre Reinforced Aluminium Alloys</b>	
G. Kausträter, A. Yawny, M. Wagner, B. Skrotzki and G.F. Eggeler	1303
<b>Creep and Creep Fracture of 7010-T7351</b>	
B. Wilshire and H. Burt	1309
<b>A Fracture Mechanics-Based Approach to Estimating the Fracture Stress and Strain of Cast Al-7%Si-0.3%Mg Alloys</b>	
M. Tiryakioğlu, J.T. Staley and J. Campbell	1315
<b>Stress Triaxiality Dimple Fracture Morphology and Fractal Dimension Relations for Several Aluminum Alloys</b>	
O.A. Hilders, N.D. Peña, M. Ramos, L. Sáenz, L. Berrío, R.A. Caballero and A. Quintero	1321
<b>Effect of Local Melting on the HAZ Toughness of GMA Welded AA6082 and AA6005 Extrusions Containing Cu</b>	
S. Gråberg, D.H. Bratland, Ø. Grong and O. Reiso	1329
<b>Modelling of Fracture Toughness in High Strength 7xxx Aluminium Alloys</b>	
N. Kamp, I. Sinclair and M.J. Starink	1335
<b>Fracture Behaviour of 2195-T8 Aluminium Alloy Plates</b>	
R. Doglione, L. Mura, C. Verniani and D. Firrao	1341
<b>Effect of Microstructure on the Cracking Resistance Characteristics of Al-Zn-Mg-Cu-Zr (1933) Wrought High-Strength Alloy</b>	
I.N. Fridlyander, E.A. Tkachenko, V.V. Berstenev, G.V. Cherepok, L.V. Latushkina, I.P. Zhegina and V.A. Grinevich	1347
<b>Experimental Investigations of Fatigue Characteristics of AC4CH Cast Aluminum Alloys Fabricated through Rheocast and Squeeze Cast Methods</b>	
N. Hayat, H. Toda, T. Kobayashi and N. Wade	1353
<b>Structure Change Near Grain Boundaries Resulting from Aging-Treatment and its Effect on Fatigue Strength of an Al-1.2%Si Alloy</b>	
K. Nakagawa, T. Kanadani, N. Hosokawa and T. Tanimoto	1359
<b>Ageing and Fatigue Behaviour in Cast Aluminium Alloys</b>	
B. Barlas, D. Ovono-Ovono, I. Guillot and G. Cailletaud	1365
<b>Influence of Precipitate Microstructures on Thermal Fatigue Properties of Al-Si-Mg Cast Alloys</b>	
K. Moizumi, K. Mine, H. Tezuka and T. Sato	1371
<b>High Temperature Deformation of Al-Mg and Al-Mg-Sc Alloys</b>	
K. Ihara and Y. Miura	1377
<b>Dislocation Mechanisms Involved in a 150°C Creep Test of an Al(CuMg) Aluminium Alloy</b>	
J. Majimel, M.-. Casanove, G. Lapasset and G. Molénat	1383
<b>Long Term Exposure of Aluminium-Lithium Alloys at Low Temperatures</b>	
B. Noble, S.J. Harris and K. Dinsdale	1389
<b>Phase Transformation during Long-Term Low Temperature Exposure of 1424 Al-Li-Mg Alloy</b>	
L.B. Khokhlatova, L.B. Ber, A.A. Alekseev, N.I. Kolobnev, O.G. Ukolova and E.A. Lukina	1395
<b>Toughness Level of 6061 Aluminum Alloy Added with Mn Instead of Cr</b>	
M. Niinomi, T. Akahori, K. Fukunaga, S. Kumai and M. Kanno	1399

<b>Acoustic Emission Behavior during Tensile Deformation and Fracture of Al-Mg-Si Base Alloys</b>	
K. Horikawa, K. Yoshida and K. Sakamaki	1405
<b>The Fractal Dimension-Dependence of Crack Size Tolerance Index of 7000-Series Aluminum Alloys</b>	
O.A. Hilders, N.D. Peña, M. Ramos, L. Sáenz, L. Berrío, R.A. Caballero and A. Quintero	1411
<b>The Influence of Processing and Microstructural Parameters on the Exfoliation Corrosion Susceptibility of 2025</b>	
T.Y. Liu, J.S. Robinson and M.A. McCarthy	1419
<b>Electrochemical Characterisation of the Corrosion Properties of Aluminium Brazing Sheet</b>	
S.D. Meijers, A. Wittebrood, J.H.W. de Wit and A. Bürger	1425
<b>Hydrogen Induced Degradation in Precipitation-Hardened Aluminum Alloys</b>	
S. Kuramoto, J. Okahana, M.C. Hsieh and M. Kanno	1431
<b>Stress Corrosion Cracking of Sensitized AA5083 (Al-4.5Mg-1.0Mn)</b>	
J.L. Searles, P.I. Gouma and R.G. Buchheit	1437
<b>Optimum Trace Copper Levels for SCC Resistance in a Zn-Modified Al-5083 Alloy</b>	
M.C. Carroll, R.G. Buchheit, G.S. Daehn and M.J. Mills	1443
<b>Chemical Composition Profiles across Grain Boundaries in T6, T79 and T76 Tempered AA7449 Alloy</b>	
M. Tanaka, R. Dif and T. Warner	1449
<b>Evaluation of Stress Corrosion Resistance and Corrosion Fatigue Fracture Behavior of Ultra-High-Strength P/M Al-Zn-Mg Alloy</b>	
K. Komai, K. Minoshima and M. Okada	1455
<b>Ultra-Fine Grain Sized Mechanically Alloyed Surface Layers on Aluminium Alloys</b>	
G.M. Scamans, A. Afseth, G.E. Thompson and X.R. Zhou	1461
<b>Phase Stability in Wear-Induced Supersaturated Al-Ti Solid Solution</b>	
Y. Watanabe, K. Yokoyama and H. Hosoda	1467
<b>Sliding Wear Behaviour of Novel AA2124 Aluminium Alloy/Ni<sub>3</sub>Al Composites</b>	
Y. Wang, M.W. Rainforth, H. Jones and M. Lieblich	1473
<b>Study of the Intergranular Corrosion Mechanism of the Aluminum Alloys with Electrochemical Method</b>	
Q.Y. Zhang, F.B. Song, D. Li and X.Y. Ding	1479
<b>Microstructure Dependence of Grain Boundary Corrosion in Oriented Aluminum Bicrystals</b>	
Z.Q. Zhou, X.H. Tang and X.L. Yue	1485
<b>Electrochemical Characterization of Copper-Bearing Intermetallic Compounds and Localized Corrosion of Al-Cu-Mg-Mn Alloy 2024</b>	
R.R. Leard and R.G. Buchheit	1491
<b>Effect of Ageing Treatment on Mechanical and Corrosion Properties of 7075 Aluminum Alloy</b>	
D. Li, J.H. Liu, P.Y. Liu, G.W. Zhu and B.L. Guo	1497
<b>Corrosion Behaviour of Al Fins in Heat Exchangers</b>	
M. Slámová, P. Sláma, Z. Juricek and A. Karger	1505
<b>Corrosion Behavior of Aluminum Finstock Alloys</b>	
F.S. Birol, Y. Birol and M. Slámová	1511
<b>Relationship between Hardness and Abrasive Wear for some Aluminium Alloys</b>	
S. Mezlini, P. Kapsa, J.C. Abry, G. Meille, H. Ribes and R. Dif	1517
<b>Optimum Welding Condition of 2017 Aluminum Similar Alloy Friction Welded Joints</b>	
R. Tsujino, K. Morikawa, H. Yamaguchi, K. Ogawa, H. Ochi, Y. Fujishiro and M. Yoshida	1525
<b>Friction Stir Welding of Al-Cu-Mg-Ag Alloys</b>	
R. Braun and L. Lityńska-Dobrzyńska	1531
<b>A Thermomechanical Analysis of the Friction Stir Welding Process</b>	
P. Heurtier, C. Desrayaud and F. Montheillet	1537
<b>Friction Based Welding Technology for Aluminium</b>	
W.M. Thomas, E.D. Nicholas, E.R. Watts and D.G. Staines	1543
<b>The Stability of the Nugget Zone Grain Structure in AA7010 Alloy Friction Stir Welds during Solution Treatment</b>	
K.A.A. Hassan, A.F. Norman and P.B. Prangnell	1549

---

<b>Microstructural Features of Fusion Welded 2024-T351</b> F. Lefebvre, S.P. Wang, M.J. Starink and I. Sinclair	1555
<b>Precipitate Microstructure in the Heat-Affected Zone of Al-Zn-Mg MIG-Welds and Evolution during Post-Welding Heat Treatments</b> M. Nicolas and A. Deschamps	1561
<b>Microstructural Study of Laser Welds Al6056-AS12 in Relation with Hot Tearing</b> D. Fabrègue and A. Deschamps	1567
<b>Spot Impact Welding of Sheet Aluminum</b> A. Turner, P.H. Zhang, V. Vohnout and G.S. Daehn	1573
<b>Flux-Free Diffusion Brazing of Aluminium-Based Materials Using Gallium (Patent Application: UK 0128623.6)</b> A.A. Shirzadi, G. Saindrenan and E.R. Wallach	1579
<b>Mechanisms of Erosion during Brazing of Aluminium Alloys</b> M. Nylén, U. Gustavsson, W.B. Hutchinson, Å. Karlsson and H. Johansson	1585
<b>Alloy 6022-T4E29 for Automotive Sheet Applications</b> R.G. Kamat, J.F. Butler Jr, S.J. Murtha and F.S. Bovard	1591
<b>Influence of Machining on Residual Stresses and Properties of Superhigh Strength B96u Thin Elements</b> O.G. Senatorova and I.N. Fridlyander	1597
<b>Recovery Prediction for Cold Rolled Can Body Stock</b> M. Hao, G. Mahon and P. Evans	1603
<b>Permanent Aluminium Foam Cores in Castings: Casting Processes and Fabrication Conditions of Foam Filled Parts</b> R. Kretz	1609
<b>The Characterization of Cerium Conversion Coatings Deposited on Porous Film of Anodized Aluminum by Cathodic Polarization</b> D. Li, G.Q. Li, B.L. Guo and M.X. Peng	1615
<b>Assessing Formability of Sheet Metals through Advanced Tensile and Laser Speckle Analysis</b> R. Shabadi, H.J. Roven, S. Kumar and E.S. Dwarakadasa	1623
<b>Simulation for Hemming of Aluminum Sheet Metal</b> M. Makoto, J. Liu and K. Tanaka	1629
<b>Effects of Forming Conditions on Parallel Spinning for Circular Aluminum Tube</b> J.G. Yao and M. Murata	1635
<b>Aluminium Alloys on the Basis of Al-Cu-Mg, Lead-Free, Intended for Cutting</b> J. Faltus, I. Stulíková, M. Hájek, J. Mádl, V. Koutný, K. Plaček and P. Sláma	1641
<b>Formability of Twin Roll Cast AA 5xxx Alloy Sheet for Automotive Applications</b> M. DüNDAR, Y. Birol and A.S. Akkurt	1647
<b>Hollow Structural Members of Superplastic Aluminium Alloy by RB/SPF</b> H. Ohsawa and U. Shin	1653
<b>Low Distortion Quenching of Aluminium Alloys in Polymer Medium</b> O.G. Senatorova, V.V. Sidelnikov, I.F. Mihailova, I.N. Fridlyander, A.S. Bedarev, J.I. Spector and L.A. Tihonova	1659
<b>Influence of Trace Addition of Ag on the Weldability of Al-Zn-Mg-Cu-Zr Base 7010 Alloy</b> A.K. Mukhopadhyay and G.M. Reddy	1665
<b>Fatigue of Friction Stir Welded 2024-T351 Aluminium Alloy</b> D. Booth and I. Sinclair	1671
<b>Strength, Corrosion and Environmentally Assisted Cracking of a 7075-T6 Friction Stir Weld</b> C.S. Paglia, M.C. Carroll, B.C. Pitts, T. Reynolds and R.G. Buchheit	1677
<b>Tensile Strength and Fatigue Strength of 6061 Aluminum Alloy Friction Welded Joints</b> H. Ochi, T. Sawai, Y. Yamamoto, K. Ogawa, Y. Suga and R. Tsujino	1685
<b>Nd: YAG Laser Beam Welding of 6013 Aluminium Alloy Sheet Using Different Filler Powders</b> R. Braun, G. Roth and J. Arnold	1691
<b>Diffusion Modelling in Brazed Aluminium Alloy Components</b> J. Senaneuch and M. Nylén	1697

<b>Role of Lubricant Applying Effect in Lubrication in Aluminum Cutting</b> T. Kaneeda	1703
<b>Selecting of Aluminium Casting Alloys for Plasmochemical Ceramic Coatings</b> N.A. Belov, V.S. Zolotarevskiy and A.S. Shatrov	1709
<b>A New Type of Ce-Mo Based Conversion Coatings for Aluminum Alloys</b> D. Li, G.Q. Li, B.L. Guo and M.X. Peng	1715
<b>Advances in Industrial Aluminium Research and Development</b> J. Hirsch, K.F. Karhausen and L. Löchte	1721
<b>Research on Rare Earth in Aluminum</b> Z.R. Nie, T. Jin, J. Fu, G. Xu, J. Yang, J.X. Zhou and T.Y. Zuo	1731