

Table of Contents

Preface

Impact of Processing Conditions on the Fluidity and Consistency of GISS-Processed Semi-Solid Aluminum Alloys

S.P. Midson, X.K. Liang, H. Yao and A.M. Wei 1

High Speed Roll Casting of Al-5%Mg Strip at Semisolid Condition

T. Haga, K. Yamazaki and S. Nishida 7

Venting Systems in Semi-Solid Processing of Aluminium

M. Pammer, P. Hofer-Hauser and P. Jansson 15

Study on Processing Conditions for Semi-Solid Forging of Magnesium Alloys

S. Furuta, H. Nakagawa, T. Tanaka, M. Sasada, S. Nishida, S. Yasuhara and H. Ueno 21

Insert Molding of Aluminum Alloy A7075 and Alumina Plate by Semi-Solid Forging

S. Yasuhara, H. Ueno, S. Okubo, Y. Otake, S. Nishida, S. Furuta, T. Tanaka, M. Sasada and T. Haga 27

Microstructure Design of Semi-Solid Slurry for Metal Direct Writing

Z. Li, X.G. Hu, H.X. Lu and Q. Zhu 33

Flow Length Influence of Cores Made of High-Temperature Composite in Semi-Solid AZ91 Produced in Thixomolding

A. Schilling, C. Schütz, M. Stockmann, A.P. Fros and M. Fehlbier 39

A Study on Microstructure and Properties of Aluminum Alloy Bracket Produced by a New Semi-Solid Rheo-Diecasting Process

S. Chen, F. Zhang, J. Feng, F. Zhang, D.Q. Li and L. Chen 47

On the Liquid Portion Composition Deviation in the RheoMetal Process

A.E.W. Jarfors 55

New Addressable Applications for Rheocasting to Escape from an Oversupplied Market

F. Niklas 61

An Application of Injection Molding to Semisolid Processing of Metallic Alloys: A Role of SIMA in Feedstock Transformation

F. Czerwinski 69

Performance and Fundamental Differences between Rheocast and High-Pressure Vacuum Die Cast Al-Si-Mg Alloys

F. Breton and J. Fourmann 75

Producing Structural High Integrity Castings with Minimum Carbon Footprint with the Comptech-Rheocasting Process

M. Hartlieb, J.C. Tawil, S. Bergeron and P. Jansson 83

Gas Induced Superheated Slurry: Industrial Applicability, Energy Savings and Sustainability in High Pressure Die Casting

T. Botter, Y.F. He, J. Wannasin, D. Schiavon, S. Paramento and A. Mambretti 89