

Table of Contents

Preface, Committee

Chapter 1: Microstructural and Mechanical Properties of Alloys

The Effect of Processing under Low-Temperature Superplasticity on Structure and Mechanical Properties of Ultrafine-Grained near Beta Titanium Alloy E.V. Naydenkin, I. Ratochka, O. Lykova and I.P. Mishin	3
The Effect of Deformation Regime on the Contributions of Superplastic Deformation Mechanisms in AA5083-Type Aluminum Alloy O.A. Yakovtseva, Z. Turaeva, E.S. Statnik, A.V. Irzhak and A.V. Mikhaylovskaya	11
Effect of Minor Alloying on the Microstructure, Superplastic Behavior and Tensile Properties of Ti-Al-V-Mo Alloy A.D. Kotov, M.N. Postnikova, A.Y. Trishina, M.A. Zasyrkin, S.V. Medvedeva and A.V. Mikhaylovskaya	23

Chapter 2: Modeling of Alloy Forming and Stamping

Exploring the Potential of Superplastic Forming of Ti-6Al-4V Tailored Machined Blanks for Lightweight Design M. Buccini, E. Parameswaran and D. Gonzalez	35
Optimizing Aerospace Hot Forming: A Leap Forward with Simulation Technology D. Godfrey and C. Mordechai	47

Chapter 3: Advanced Industrial Technologies in Alloy Processing

Manufacturing Route for Hot Stamping of Aluminium Alloy Applied to a Wing Rib A. Arroyo, G. Atxaga and B. Canflanca	61
Study on Uniform and Varying Friction Conditions in Superplastic Forming E. Parameswaran, M. Farrell, R. Huang, W. Kerr, D. Gonzalez, N. Zuelli and M. Buccini	75
Experimental Investigation of Gas-Oscillation Superplastic Forming of AA5083 Aluminum Sheet in a Dual-Cavity Tool E. Ryzer, Y. Song, S.C. Xu, L. Kiawi, D.E. Green and G. Rankin	85