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| Nota di contenuto | Progress in Extrusion Technology and Simulation of Light Metal Alloys; Preface and Committees; Table of Contents; I. Extrusion Benchmark; Extrusion Benchmark 2011: Evaluation of Different Design Strategies on Process Conditions, Die Deflection and Seam Weld Quality in Hollow Profiles; II. Process Optimization; High Strength Aluminium Alloys Extrusions - A Review of the Thermo-Mechanical-Process in High Performance Profile Manufacturing; Finite Element Modelling of the Charge Welds Evolution in a Porthole Die; Surface Quality Prediction in Aluminum Extrusion Influence of Contact Friction Conditions on Thin Profile Simulation Accuracy in ExtrusionConstitutive Equations for Hot Extrusion of AA6005A, AA6063 and AA7020 Alloys; III. Innovative Processes; Investigation of Conclad Extrusion and Multi-Billet Extrusion; Advanced Technologies Used in the Manufacture of Products from Aluminium Alloys Powder in Extrusion Process; Co-Extrusion of Aluminium-Titanium-Compounds; Processing of Wrought Magnesium Alloys to Produce Small Tubes for Biomedical Applications: Investigation about the Extrusion Process by a Laboratory Test Rig |

The Process of Co-Extrusion - An Analysis Factors Influencing Bonding Mechanics in FSW of AA5754; IV. Material Flow and Friction Evaluation; Experimental and Numerical Analysis of Material Flow in Porthole Die Extrusion; Aluminium Extrusion Weld Formation and Metal Flow Analysis in Hollow Profile Extrusions of Different Section Thickness; Experimental and Numerical Analysis of the Friction Condition in the Die Bearing during Aluminum Extrusion; Conditions for Sticking Friction between Aluminium Alloy AA6060 and Tool Steel in Hot Forming Modeling of Friction Phenomena in Extrusion Processes by Using a New Torsion-Friction Test Experimental and Numerical Investigations on Metal Flow during Direct Extrusion of EN AW-6082; Experimental Analysis of Velocity Fields in Hot Extrusion of Aluminium Alloy 6351; V. Seam Welding Phenomena; 3D FEM-NEM Material Joining Simulation in Porthole Die Extrusion; Numerical Modeling of Extrusion Welding in Magnesium Alloys; Optimization of Aluminium Extrusion by Porthole Die Using a down Scaled Equipment; Coupled Simulative-Experimental Procedure for Studying the Solid State Bonding Phenomena Numerical and Experimental Study on Seam Welding Behavior in Extrusion of Micro-Channel Tube Analysis of Gas Pocket Formation during Extrusion of Al Hollow Profiles and Establishing an Extrusion Seam Weld Limit Diagram; Numerical Investigations of Welding Conditions during Extrusion of 2024 Alloy through Porthole Dies; VI. Dies and Tools; Effect of Liquid Nitrogen Die Cooling on Extrusion Process Conditions; New Concepts for Cooling of Extrusion Dies Manufactured by Rapid Tooling; Constitutive Laws for the Deformation Estimation of Extrusion Die in the Creep-Fatigue Regime Effect of Strain Rate on Metal Flow Pattern in T-Section Extrusion Process

Sommario/riassunto

This special volume covers all aspects of extrusion in the world of today: from innovative tools for die design to a deep analysis of the extrusion defects that still afflict most extruders and users around the world. The papers are grouped into the categories of: benchmarking, process optimization and innovation, material flow and friction, dies and tooling, seam welds and microstructures. It is expected that this book will become a source of invaluable information which will aid the everyday work of scientific and industrial researchers, engineers and students. Review from Book News Inc.: Dr
