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Nota di contenuto	Advances in Hot Metal Extrusion and Simulation of Light Alloys; Preface and Committees; Table of Contents; I. Keynote; Metallurgical and Engineering Challenges in Magnesium Extrusion; II. Extrusion Benchmark; Extrusion Benchmark 2013 - Experimental Analysis of Mandrel Deflection, Local Temperature and Pressure in Extrusion Dies; III. Friction Evaluation; Experimental Investigations of Friction Carried out with the Tribo-Torsion-Test and Frictional Modelling; A New High Speed Friction Test for Extrusion Processes; Advanced Frictional Models for Extrusion Application; IV. Material Flow Numerical Analysis on Surface Ductile Fractures for Some Extrusion ConditionsA New Constitutive Model Describing the Plastic Flow of Metals: Application to the AA6082 Aluminum Alloy; A Novel Method for 3D-Die Design in the Extrusion Process Using Equi-Potential Lines; On the Balance of the Metal Flow in Porthole Dies with Differently Sized Porthole Channels; Simulation of Material Flow Coupled with Die Analysis in Complex Shape Extrusion; V. Seam Welding Phenomena Finite Element Based Determination and Optimization of Seam Weld Positions in Porthole Die Extrusion of Double Hollow Profile with Asymmetric Cross SectionNon-Destructive Detection of Weld Seams in

Extruded Aluminum Profiles; Comparison of Bulge Test vs. Conical Expansion Test for Hollow Extruded Profile Characterization; VI. Microstructure; Prediction of Fibrous and Recrystallized Structures in 6xxx Alloy Extruded Profiles; Tool Design Induced Anisotropic Flow Behavior of Hot Extruded Aluminum Profiles; VII. Processes and Process Optimization

Research on the Influence of Die Shape in Complex Extrusion of Multi BilletsManufacturing of Steel-Reinforced Aluminum Parts by Co-Extrusion and Subsequent Forging; Optimal Design and Experimental Investigations of Aluminium Extrusion Profiles for Lightweight of Car Bumper; Improved Extrudability of High Strength Alloys Using an Optimization Method Based on a Combination of Experiments and FEM Software; Keywords Index; Authors Index

Sommario/riassunto

The International Conference on Extrusion and Benchmark was held for the fourth time. Invited keynote speakers and contributors from academia and industry reported on the latest advances in extrusion technology and its simulation. The contributions covered a wide range of topics and are grouped into the categories of: benchmark, microstructure, seam welds & composite extrusion, material flow & constitutive equations, friction evaluation, dies & tools, and process control & optimization. However, many more topics such as new materials and new profiles have also been covered. The keynote address
