

ACCEPTED ABSTRACTS

Keynote: HIGH STRENGTH ALUMINIUM ALLOYS EXTRUSIONS - A REVIEW OF THE THERMO-MECHANICAL PROCESS IN HIGH PERFORMANCE PROFILE MANUFACTURING, NORWAY

Keynote: RECENT ADVANCES IN LIGHT METAL EXTRUSION IN EASTERN ASIA, JAPAN

1. Extrusion Benchmark 2011: Effect of Portholes Size for Metal Flow Balancing in Hollow Profiles, Italy-Germany
2. The Process of Co-extrusion - An Analysis, Germany
3. Processing of wrought magnesium alloys to produce small tubes for biomedical applications: investigation about the extrusion process by a laboratory test rig, Italy
4. Co-extrusion of Titanium-Aluminium-Composites, Germany
5. Analysis and prediction of charge weld and back-end effect in a multi holes extrusion die, Italy
6. Physical Anisotropy in Extruded Mg Alloy AM30, USA
7. Factors influencing bonding mechanics in solid state processes of light alloys, Italy
8. Constitutive Equations for Hot Extrusion of AA6005A, AA6063 and AA7020 Alloys, Italy
9. Optimize dies using advanced technical tools, Italy
10. Influence of contact friction conditions on thin profile simulation accuracy in QForm-Extrusion, Russia
11. Study on the high-speed seam welding behavior in extrusion of micro-channel Tube, China
12. Impact of Press Parameters on Die Wear and Tear, United Arab Emirates
13. Surface quality prediction in aluminium extrusion, Nederland
14. Simulation of Hot Extrusion of an Aluminum Alloy with Modeling of Microstructure, Germany
15. Design and Simulation of Fixed Dummy Blocks for the Extrusion of Aluminium Alloys, Germany
16. Modeling of friction phenomena in extrusion processes by using a new cylindrical-friction test, Switzerland
17. Conditions for sticking friction between aluminium alloy AA6060 and tool steel, Norway
18. Aluminum Extrusion Simulation using the Finite Element Method, USA
19. Microstructure modelling of AA6082 during pipe extrusion, Austria
20. Experimental and Numerical Investigations on Metal Flow during a Direct Extrusion of EN-AW 6082, Germany
21. FEM-NEM Material Joining Simulations in Porthole Die Extrusion, Italy
22. Optimization of Aluminium Extrusion by Porthole Die Process Using a Down Scaled Equipment, Italy
23. Coupled Simulative-Experimental Procedure for Studying the Solid State Bonding Phenomena, Italy
24. Effect of strain rate on metal flow pattern in T-section extrusion process, Iran
25. Down Time Monitoring & Extrusion Process Monitoring, Liechtenstein
26. A review of installation and operation of extruder automation systems, Germany
27. A357 Aluminium Cast Alloys for Extrusion Processes, Spain
28. Experimental Analysis of Velocity Fields in Hot Extrusion of Aluminium Alloy 6351, Brazil
29. Liquid Nitrogen for Die Cooling, Italy
30. Analysis of the influence of process parameters on the bending defect in continuous extrusion sheathing process, China
31. FEM and Experimental Analysis of Extrusion of Triangular sections from Round Billets through Curved dies, India
32. Design and Experimental Verification during Extrusion of Square sections from Round Billets through Curved dies, India
33. Prediction of the Microstructure Evolution of a Mg-Al-Ca-Sr Alloy during Hot Extrusion Based on a Cellular Automata Model, China
34. Process design of hydrostatic extrusion of Cu-Al bimetallic bars using finite element analysis considering bonding condition, Korea
35. Evidence based research about extrusion costs savings due to Thango implementation, the new system for die designs and corrections management, Italy
36. Numerical investigation Of plastic deformation in three-turn equal channel angular extrusion, Algérie
37. Aluminium Extrusion Weld Formation and Metal Flow Analysis in Hollow Profile Extrusions of Different Section Thickness, Norway
38. Analysis of Gas Pocket Formation during Extrusion of Aluminum Hollow Profiles and Establishing an Extrusion Limiting Diagram, Norway
39. Numerical investigations of welding conditions during extrusion of 2024 alloy through porthole dies, Polonia
40. Experimental and numerical analysis of the friction condition in the die bearing during aluminum extrusion, Germany
41. Bending properties of seam weld extruded hollow profiles in 6XXX aluminium alloys, Italy

The updated list of accepted abstracts is available on conference website under the "PAPERS" page.

PROGRAM

MONDAY OCTOBER 3RD, 2011

Conference "Latest Advances in Extrusion Technology and Simulation": invited keynotes, oral papers, poster session.

TUESDAY OCTOBER 4TH, 2011

4th EXTRUSION BENCHMARK, presentation of the experiment, presentation and discussion of the simulation results. Oral papers, poster session.

WEDNESDAY OCTOBER 5TH, 2011

Advanced Technical Courses:

- QForm-Extrusion (free of charge)
- SFTC-DEFORM (free of charge)
- Altair-HyperXtrude (free of charge)
- DM-Tech University of Bologna Group: technical course on "Recent Advances In Extrusion Technology" (fee 350 €)

A detailed description of the courses is available in the website under the "PROGRAM" page.

CONTACTS

extrusion11.diem@unibo.it
www.ice-b.net

CONFERENCE CHAIR
Prof. Luca Tomesani
luca.tomesani@unibo.it

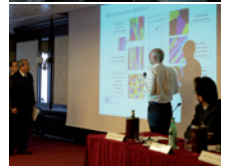
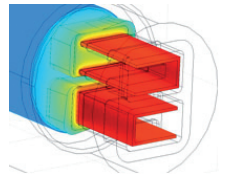
CONTACTS
Dr. Lorenzo Donati
DIEM Department
Viale Risorgimento 2
40136 Bologna, Italy
l.donati@unibo.it

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ON
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BENCHMARK



4TH EDITION

3-5 OCTOBER
2011
BOLOGNA - ITALY

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ORGANIZED BY



ALMA MATER STUDIORUM
UNIVERSITA DI BOLOGNA



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IUL Institute of
Forming Technology and
Lightweight Construction

SCOPE

The aim of the conference is to give the more up-to-date outlook on extrusion technology and all related products, by linking together scientific understanding and industrial expertise in the field of the numerical simulation, which is the key to new products development.

The ICEB conference is a two-in-one event, merging a conference on the "Latest Advances in Extrusion Technology and Simulation" with an industrial worldwide contest: the "Extrusion Benchmark" of commercial simulation codes.

This two-in-one event provides a unique opportunity:

- to learn about the state of the art of emerging technologies, new products and innovation in the extrusion of light alloys
- to strongly improve the overall productivity of your extrusion process
- to get guidelines for best process analysis and product optimization
- to understand the potential of your current simulation tool

AUDIENCE

- Extrusion Companies (R&D, Production Managers, Technicians, Die Correctors)
- Extruded profiles users
- Academic and Industrial Researchers
- Die Makers (Die designers, Project and marketing Managers, R&D)
- Alloys specialists
- Software Houses, Software Distributors
- Press and Equipment Builders
- Suppliers of instruments, devices and products for extrusion industry

4TH EXTRUSION BENCHMARK

Benchmark participants are asked to simulate the extrusion of an industrial profile on the basis of die geometry (a specially designed die emphasizing particular process-related issues), material properties, ram speed and tools temperatures, as monitored by the organizers.

Benchmark 2011 will be focused on the effect of portholes size and bearing effects for metal flow balancing in hollow profiles as suggested by 2009 edition participants.

During the conference, the blind simulation results will be compared to the experimental data and discussed in detail.

The input simulation data will be available on the conference website under the "BENCHMARK" page from April 2011.

CONFERENCE

The conference is focused on the latest advances in the extrusion of light alloys and related simulation issues. Contributions from Industries, Research Center as well as Academia related to the following topics are welcome:

Conference Topics:

- **Process Management:** economical-driven decisions, process control, process savings
- **Process Monitoring:** sensors effectiveness, new devices, data management systems, data warehouse
- **Process Apparatus:** lubricants, heating systems, cooling devices, nitrogen cooling
- **Process Simulation:** models, validation, optimization, material flow, friction, stress state prediction
- **Product Quality:** defects, distortions, microstructure, seam/charge welds, maximum production rates
- **Materials:** hard/new light alloys, magnesium alloys, lithium alloys, composite alloys
- **Dies:** high production rates; oriented design, die life, coatings, correction strategies, die cooling, etc
- **New Processes:** conform, thixoextrusion, hot profile bending, chip extrusion, composite extrusion

PUBLICATION

Abstracts and benchmark results will be published in the Conference Proceedings.

All accepted papers (max. 8-page format) will be published, after peer review, in a special issue of **Key Engineering Materials** or in an Industrial Journal, depending on the author's choice.

All accepted papers and oral presentations will be available on CD.

LANGUAGE

The conference language will be English; simultaneous translation into Italian will be provided for the main sessions.

DEADLINES

BENCHMARK DEADLINES

Information to the authorsApril 2011
Simulation results.....June 2011

Templates for abstracts and papers will be available on the conference website.

FEES

EARLY REGISTRATION BEFORE 1 JULY 2011:

Author and coauthors..... 400 €
Delegates..... 500 €

LATE REGISTRATION AFTER 1 JULY 2011:

Author and coauthors..... 500 €
Delegates..... 650 €

The registration fee includes the printed and CD versions of the conference proceedings, the welcome cocktail, coffee-breaks, 2 lunches and the social dinner.