Titles of Papers from the 68th WFC, India 2008

**Plenary**
3. The Green Foundry
4. Six Sigma Project Selection in Foundry Industry
5. Current Situation and Future of Chinese Foundry Industry
6. High Conductivity Copper Castings
7. Hand-casting Toy Soldiers in White Metal (Foundry Basics and a lot of fun)
8. Enhancing Competitiveness of European SME Iron Foundries by Full Customer Service Concept Fitting Together Local Production and Outsourcing
9. Energy Savings and Carbon Credits: Opportunities and Challenges for Indian Foundry Industry

**Austempered Irons**
10. Austempering of Cast Irons – Developments, Properties and Applications
11. Research about Ausforming Austempered Ductile Iron
13. Effect of ‘NP’ Factor on the dry sliding wear characteristics of Austempered Ductile Iron

**Composites**
14. The Effect of Temperature on the Tensile Strength of 20 vol% Short Fiber (85% Al₂O₃ – 15% SiO₂) Reinforced Secondary S9G1GT6 Aluminum Alloy Composite Produced by Indirect Squeeze Casting Process
15. Aluminium Based In-situ Composites
16. Processing and Characterization of Functionally Graded Aluminum Alloys and Composites by Centrifugal Casting
17. Wear Behaviour of Gamma Alumina Particle Reinforced Al-4% Mg Alloy Cast Composites
18. Resistance Spot Welding of High Strength In-situ Al-TiC Metal Matrix Composites
19. Selectively Reinforced Squeeze Cast Pistons

**Die Casting and Mg Alloys**
20. Velocity Control of Die-Casting Plunger Considering Air Entrainment
21. Optimum Design of Slot Shape for Preventing the Misrun of an Aluminum Motor Rotor in Die Casting
22. Die-Casting End-of-Fill and Drop Forge Viscometer Flow Transients Examined with a Coupled-Motion Numerical Model

**Ductile Iron**
23. Compacted Graphite Iron – A Material Solution for Modern Diesel Engine Cylinder Blocks and Heads
24. Dross in Ductile Iron: Source, Formation and Explanation
26. An Overview of CANMET’s R&D Activities on Thin-Wall Ductile Iron Castings
27. Optimizing the Properties of Thin Wall Austempered Ductile Iron
28. Undercooling, Nodule Count and Carbides in Thin Walled Ductile Cast Iron

**Moulding Process**
31. Optimum Press Control of Innovative Greensand Mold Press Casting Method Considering the Molten Metal’s Pressure Suppression
32. Green Sand Management – Role & Application of Carbonaceous Additives and Concept of Total Carbon in a Green Sand System
33. New Innovative Solutions for Foundries by Inorganic Concepts
34. Moulding and Core – Methods and Material High Efficiency, Low Cost Moulding with Data Retrieval
35. The Resole - CO₂ Process Carbophen® Binders
36. Study on Binder System of CO₂ Cured Phenol-Formaldehyde Resin Used in Foundry

**Aluminium**
37. Optimization by Taguchi Design Method of Manufacturing Condition for Semi-Solid Al-Zn-Mg Alloy
38. The Influence of Fe-impurity, Sr-modification and Porosity on the Mechanical Properties and Fatigue Behaviour of Cast Al-7Si-0.3 Mg Alloy
39. Critical Material Issues in Cast Aluminium Cylinder Heads
40. Grain Refinement of Light Alloys
41. A New Cost Effective Alternative for the Rotary Degassing of Aluminium Alloys

**Steel and Alloys**
42. Feeding of Hollow Cylindrical Castings
43. Hydrogen in Steel & its Removal from Melt
44. Application of Computer Simulation on Large Size Steam Turbine Casing
45. Double Oxide Film Defects in Ni-Based Superalloy Castings
46. Global Climate Change and Role for Foundry

**ERP and Costing**
47. Resource Savings by Optimising Process Conditions in Foundries
48. ERP in Foundries – Towards Optimized Cast Production with Order-Driven DES
49. Part, Tooling and Method Optimisation Driven by Castability Analysis and Cost Model

**Liquid Metal Handling**
50. Demolition and Quick Relining of a 4 t Coreless Automatic Pouring furnace
51. Real-Time Estimation Method of Liquid’s Outflow Rate by Nonlinear Observer for Tilting-Type Automatic Pouring of Casting Process
52. Tools for Measurement and Control of Metal Treatment Processes in Iron Foundries
53. High Efficiency Preconditioning of Electrically Melted Grey Cast Irons
54. Development of Planar Flow Casting Atomization Process for Metal Powder Production

**Casting Simulation**
55. Application of Differential Quadrature Method to Solving Fourier – Kirchhoff equation
56. Effect of Core Materials on Solidification Time and Pattern in Steel Castings
57. More Energy Efficient Casting Without Loss of Output
58. Modeling and Optimization of Rotary Furnace Parameters Using Regression and Numerical Techniques

**Tooling/Modeling and Measurement Techniques**
59. Metal Quality Management – Measurement Techniques, Evaluation of Results and Process Implementation

60. The Selection of Methods and Materials through Thermal Analysis
61. The Influence of Modulus and Composition on the Cooling Curve and Latent Heat of Ductile Irons
62. The New Method for Fast Testing Surface Tension of Liquid Alloy and its Application in Foundry Production
63. Water Analogue Modelling of Entrainment Phenomena during the Filling of Bottom and Side Gating Systems

**Iron and Alloys**
64. Iron Castings Advanced Prediction Tools, Foundry Process Control and Knowledge Management
65. Development of Low Cost Corrosion Resistant Fe-Cr-Mn-Cu White Cast Irons
66. Characteristic of Semi-Solid Cast Iron Fabricated by Cooling Plate
67. Establishment of the Prediction Method of Shrinkage Defects for the Cast Iron Cylinder Frame

**Investment Castings**
68. From 7 Days to 7 Hours – Investment Casting Parts within the Shortest Time

**Poster presentation**
1. Analysis of Residual Stress in Sand Cast and Die Cast Al Alloy by X-ray Diffractometry
2. Manufacturing, Mechanical Properties and Microstructural Studies on Quartz Particulate Reinforced Aluminium-11.8% Silicon Alloy Matrix Composite Castings Processed in a Permanent Metallic Grey Cast Iron Mold by Vortex Mixing Method
3. Preparation and Characterization of Al-Ti-B-Sr Master Alloy for the Combined Effect of Grain Refinement and Modification of 413 Alloy
4. Effect of Low Frequency Mechanical Vibration on the Microstructure of Al-12% Silicon alloy casting.
5. Simulation of Hetero-Phase System Solidification as in an Example AZ91/SiC Composite
6. Emerging New Technologies in Aluminium Castings
7. Effect of Mould Vibration and Heat Treatment Parameters on Mechanical Properties of Cast Al-Si-Mg Alloys
8. Degassing of Aluminium Alloys by Electric Current (Plasma) Treatment
9. Vacuum Sealed Molding Process of High Strength Aluminum Alloy Casting
10. Constitutional Undercooling and Growth of Globuletic Particle
Casting Simulation
11. Rapid Prototyping, an Emerging Field in Foundry
12. Design of Aluminium Die Castings by Computer Simulation

Copper
13. Case Hardening of Copper Castings for Better Alternative Material for Marine Applications.

Die Casting & Mg Alloy
14. Compressive Properties of AZ91 and AZ31 Mg Alloy Foams at Different Foaming Conditions

ERP & Casting
15. U.S. Metalcasting: Competing in a Global Economy
16. Development of a Fuzzy-Logic Intelligent System for the Selection of Most Viable and Economic Casting Method

Investment Casting
17. Near-Net Shape Investment Casting—the Use of Naphthalene Pattern
18. Implementation of Investment Casting

Iron & Alloys
20. Application of Information Technology for Rejection Analysis in Cast Iron Foundries

Liquid Metal Handling
21. Modeling and Optimization of Rotary Furnace
22. Water Modeling Studies of Bottom-pouring Ladle Operations
23. Liquid Sintering with Re-usable Former, Cold Pull Technique for Coreless Induction Furnaces
24. Successful New Developments in Induction Melting Technology

Moulding Process
27. The Changing Face of Refractory Coatings in India
28. People Skills and Casting Industry—Study on Coimbatore Region
29. Low Pressure Vertical Greensand Process
30. Vertical and Horizontal – Myths Eradicated
31. Easy Steps for Effective Green Sand Preparation and Controls for Iron Castings
32. Intelligent Riser Systems from Natural Risers to the Dynamic Riser-System BKS
33. High Carbon–The Road to a Solvent-Free Cold Box Binder System
34. Starting Advantage with Simulation-Based Intelligent Feeder Design

Tooling / Modelling
35. Six Sigma Tools in the Analyze Phase of Foundry Projects
36. Nitriding Is the Best Surface Hardening Technology for Tools & Dies

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