Integral Materials Modeling. Towards Physics-Based Through-Process Models

Description: Adopting a holistic approach to materials simulation, this monograph covers four very important structural materials: aluminum, carbon steels, superalloys, and plastics. Following an introduction to the concept of integral modeling, the book goes on to cover a wide range of production steps and usage, including melt flow and solidification behavior, coating, rolling, thermal treatment, forming, hardness and ductility, damage initiation, and deformation behavior.

Contents:

Integral Materials Modeling
Aluminum Through–Process Modeling –
From Casting to Cup Drawing
From Casting to Product Properties –
Modeling the Process Chain of Steels
Status Of Through–Process Simulation For Coated Gas Turbine Components
Deformation Behavior of a Plastics Pipe Fitting
Modeling of Flow Processes during Solidification
Microstructure Modeling during Solidification of Castings
Coating of Turbine Blades
Hot and Cold Rolling of Al Sheet
Modeling of the hot rolling process of a C45 steel
Simulation of Phase Changes during Thermal Treatments of Various Metal Alloys
Deep drawing properties of Al sheet
Simulation of Stress Response to Cyclic Thermal Loading in Thermal Barrier Composites for Gas Turbines
Through–Process Multiscale Models for the Prediction of Recrystallization Textures
Analytic Interatomic Potentials for Atomic Scale Simulations of Metals and Metal Compounds: A brief Overview
Selected Problems of Phase–Field Modeling in Materials Science
Prediction of Microstructure and Microporosity Development in Aluminum Gravity Casting Processes
Enhanced 3D Injection Molding Simulation by Implementing Applied Crystallization Models
Modeling Shearing of gamma' in Ni–Base Superalloys
Minimal Free Energy Density of Annealed Polycrystals
Modeling Dynamic Grain Growth and its Consequences
Modeling of Severe Plastic Deformation: Evolution of Microstructure, Texture and Strength
Ordering: 

Order Online - http://www.researchandmarkets.com/reports/2179738/

Order by Fax - using the form below

Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Product Name: Integral Materials Modeling. Towards Physics-Based Through-Process Models
Web Address: http://www.researchandmarkets.com/reports/2179738/
Office Code: SCDKIJJA

Product Format
Please select the product format and quantity you require:

<table>
<thead>
<tr>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Copy (Hard Back):</td>
</tr>
</tbody>
</table>

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title: [ ] Mr [ ] Mrs [ ] Dr [ ] Miss [ ] Ms [ ] Prof
First Name: __________________________ Last Name: __________________________
Email Address: * __________________________
Job Title: __________________________
Organisation: __________________________
Address: __________________________
City: __________________________
Postal / Zip Code: __________________________
Country: __________________________
Phone Number: __________________________
Fax Number: __________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:

Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:

Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: ____________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:

(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World