

The following are selected readings for magnesium modeling and simulation reviewed by an advisory group of TMS subject matter experts



PAPER TITLE	AUTHOR(S)	SOURCE	MORE
"Numerical Modeling of Large Strain Deformation in Magnesium Alloy AM30"	<i>J. Levesque, K. Inal, K. W. Neale, A. Luo, R. K. Mishra, and L. Jaing</i>	Magnesium Technology 2007, p. 11	<a href="#">Link to 2007 Proceedings</a>
"Simulation of Hot Rolling of Magnesium Strip by Using Finite Element Technique"	<i>E. Essadiqi, G. Shen, C. Galvani, K. Spencer, A. Elwazri, and S. Yue</i>	Magnesium Technology 2007, p. 59	<a href="#">Link to 2007 Proceedings</a>
"Prediction of Variability in Mechanical Properties Based on Microstructural Simulation and Finite Element Based Computations"	<i>S. G. Lee, A. Sreeranganathan and A. Gokale</i>	Magnesium Technology 2007, p. 357	<a href="#">Link to 2007 Proceedings</a>
"Constitutive Behavior of Wrought Magnesium Alloy AZ61"	<i>F. Sloof, J. Zhou, J. Duszczyk and L. Katgerman</i>	Magnesium Technology 2007, p. 363	<a href="#">Link to 2007 Proceedings</a>
"Integrated Computational Materials Engineering: A New Paradigm for the Global Materials Profession"	<i>J. Allison, D. Backman, L. Christodoulou</i>	JOM, November 2006, p. 25	<a href="#">Read the Full Paper</a>
"Numerical Modeling of Large Strain Deformation in Magnesium"	<i>J. Levesque, K. Inal, K.W.Neale, R. K. Mishra, and A. A. Luo</i>	Magnesium Technology 2006, p. 239	<a href="#">Link to 2006 Proceedings</a>
"Development and Validation of an Extrusion Limit Diagram for AZ31 Magnesium Alloy"	<i>Y. Wang, X. Zeng, W. Ding, A. A. Luo, and A. K. Sachdev</i>	Magnesium Technology 2006, p. 245	<a href="#">Link to 2006 Proceedings</a>
"Thermodynamic Modeling of the Mg-Sn-Zn-Al System and Its Application to Mg Alloy Design"	<i>I.-H. Jung, W.-J. Park, S.-H. Ahn, D.-H. Kang, and N. J. Kim</i>	Magnesium Technology 2006, p. 457	<a href="#">Link to 2006 Proceedings</a>
"Two-Stage Thermodynamic Modeling of a Thixoforming Process"	<i>M. B. Djurdjevic, and R. Schmid-Fetzer</i>	Magnesium Technology 2006, p. 469	<a href="#">Link to 2006 Proceedings</a>
"Numerical Simulations of Radiative Heat Transfer Between High-Temperature Fluidized Beds and Magnesium Castings"	<i>S. Bakhtiyarov</i>	Magnesium Technology 2005, p. 133	<a href="#">Link to 2005 Proceedings</a>
"A Mathematical Model of Heat Transfer and Fluid Flow in the Direct Chill Casting of AZ31 Magnesium Bilets"	<i>E. H. Lu, D. M. Maijer, H. Hao, and D. Sediako</i>	Magnesium Technology 2005, p. 235	<a href="#">Link to 2005 Proceedings</a>
"Numerical Simulations and Experimental Study of Hot Core Distortion Phenomenon in Magnesium Casting"	<i>S. Bakhtiyarov, J. Capps, R. Overfelt, and D. Weiss</i>	Magnesium Technology 2005, p. 365	<a href="#">Link to 2005 Proceedings</a>
"Numerical Simulation of Natural Convection in Magnesium Alloy Squeeze Casting"	<i>A. Yu, N. Li and H. Hu</i>	Magnesium Technology 2003, p. 119	<a href="#">Read the Full Paper</a>
"Creep Resistant Mg-Al-Ca Alloys: Computational Thermodynamics and Experimental Investigation"	<i>Koray Ozturk, Yu Zhong, Alan A. Luo, and Zi-Kui Liu, JOM, November 2003</i>	JOM, November 2003, p. 40	<a href="#">Read the Full Paper</a>
"Modelling of the Thermo-Physical and Physical Properties for Solidification of Mg-Alloys"	<i>N. Saunders, X. Li, A. P. Miodownik, and J.-P. Schille</i>	Magnesium Technology 2003, p. 135	<a href="#">Read the Full Paper</a>
"A Computational Thermodynamic Analysis of Atmospheric Magnesium Production"	<i>M. Marshall, Z-K. Liu, and R. Christini</i>	Magnesium Technology 2001, p. 17	<a href="#">Read the Full Paper</a>
"Mathematic Modeling of the Magnesium Refining Furnace"	<i>R.T. Bui, R. Hachette, G. Simard, R. Sheng, D. Argo, C. Brochu, M. Smith, and Y.M. Rybukhin</i>	Magnesium Technology 2001, p. 61	<a href="#">Read the Full Paper</a>

<b>"Computational Thermodynamics and Experimental Investigation of Mg-Al-Ca Alloys"</b>	<i>K. Ozturk, Y. Zhong, z-K. Liu, and A.A. Luo</i>	Magnesium Technology 2001, p. 113	<a href="#">Read the Full Paper</a>
<b>"Magnesium Alloy Development Guided by Thermodynamic Calculations"</b>	<i>J. Groebner, D. Kevorkov, R. Schmid-Fetzer</i>	Magnesium Technology 2001, p. 105	<a href="#">Read the Full Paper</a>
<b>"Qualitative Model for Creep of AZ91D Magnesium Alloy"</b>	<i>M. Regev, A. Rosen, and M. Bamberger</i>	Metallurgical and Materials Transactions A, June 2001, p. 1335	<a href="#">Read Abstract</a>
<b>"Design Magnesium Alloys: How Computational Thermodynamics Can Help"</b>	<i>Z-K. Liu</i>	Magnesium technology 2000, p. 191	<a href="#">Read the Full Paper</a>
<b>"Computer Simulation of High Pressure Die Casting of Magnesium Engine Cradle"</b>	<i>Adrian R. Conrad, Martin McLaughlin, Chung-Whee Kim</i>	SAE 2005 World Congress & Exhibition, April 2005. Session: CAD/CAM/CAE Technology-Design/Product and Process/Manufacturing (Part 1 & 2 of 3)	<a href="#">Read Abstract</a>