

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



PAPER TITLE	AUTHOR(S)	SOURCE	MORE
"Stress Corrosion Cracking in Magnesium Alloys: Characterization and Prevention"	N. Winzer, A. Atrens, W. Dietzel, G. Song and K. U. Kainer	JOM, August 2007, p. 49	Read the Full Paper
"The Influence of De-Icing Salts on Corrosion of Mg Alloys"	O. Anopuo, N. Hort, Y. Huang and K. U. Kainer	Magnesium Technology 2007, p. 439	Link to 2007 Proceedings
"Characterisation of the Corrosion Behavior of Magnesium and Its Alloys with the Mini Cell System"	C. Fleck, M. L. Nascimento, and W.-D. Mueller	Magnesium Technology 2007, p. 445	Link to 2007 Proceedings
"Corrosion Morphology of AZ91D Exposed in an Atmospheric Environment"	Y. Wan, J. Tan, G. Song and C. Yan	Met. Trans. A, 37A, July 2006, p. 2313	Read Abstract
"Corrosion Behavior and Microstructure of a Broad Range of Mg-Sn-X Alloys"	T. Abu Leil, K. P. Rao, N. Hort, and K. U. Kainer	Magnesium Technology 2006, p. 281	[Link to 2006 Proceedings]
"Corrosion Behavior of Electroless nickel Plating on AZ91 magnesium Alloy"	Z. Liu, W. Gao, and A. Asodov	Magnesium Technology 2006, p. 311	[Link to 2006 Proceedings]
"Corrosion Behavior of Pure Magnesium in Sodium Sulfate Solution"	Y.-M. Wang and S. Maddela	Magnesium Technology 2006, p. 317	[Link to 2006 Proceedings]
"Correlating the Microstructure of the Die-Chill Skin and the Corrosion Properties for a Hot-Chamber Die-Cast AZ91D Magnesium Alloy"	B.-L. Yu and J.-Y. Uan	Met. Trans. A, 36A, August 2005, p. 2245	Read the Abstract
"The Corrosion Performance of Magnesium Alloy AM-SC1 in Automotive Engine Block Applications"	G. Song, D. St.John, C. Bettles and G. Dunlop	JOM, May 2005, p. 54	Read the Full Paper

"Corrosion Properties of Secondary AZ91 Alloys"	<i>C. Blawert, E. Morales, W. Dietzel, N. Hort, K. U. Kainer, C. Scharf, A. Ditze, and F. Endres</i>	Magnesium Technology 2005, p. 447	[Link to 2005 Proceedings]
"Evaluation of Corrosion Protection Methods for Magnesium Alloys in Automotive Applications"	<i>P. J. Blanchard, D. J. Hill, G. T. Bretz, and R. C. McCune</i>	Magnesium Technology 2005, p. 463	[Link to 2005 Proceedings]
"Corrosion Inhibition of Magnesium Alloys in Coolants"	<i>G. Song and D. H. StJohn</i>	Magnesium Technology 2005, p. 469	[Link to 2005 Proceedings]
"Corrosion Performance Evaluation of Magnesium Alloys by Electrochemical Polarization Technique"	<i>B. Rajagopalan, P. S. Mohanty, P. K. Mallick, R. C. McCune and M. S. Ricketts</i>	Magnesium Technology 2004, p. 131	Read the Full Paper
"The Role of Microstructure in Localized Corrosion of Magnesium Alloys"	<i>R. K. Singh Raman</i>	Met. Trans. A, 35A, August 2004, p2525	Read Abstract
"Factors Affecting the Oxidation Nature of Magnesium Alloys" (Overview)	<i>Frank Czerwinski</i>	JOM, May 2004, p. 29	Read the Full Paper
"Testing of General and Localized Corrosion of Magnesium Alloys: A Critical Review"	<i>E. Ghali, W. Dietzel, K. Kainer</i>	J. Mat. Engg. & Perf., 13(5), October 2004, p. 517 (abstract available, full article for purchase)	[Read Abstract]
"The Influence of Hydrogen on the Stress-Corrosion Cracking of Low-Strength Al-Mg Alloys"	<i>R. H. Jones</i>	JOM, February 2003, p. 42	Read the Full Text
"The Oxidation of Magnesium Alloys in Solid and Semisolid States"	<i>F. Czerwinski</i>	Magnesium Technology 2003, p. 39	Read the Full Paper
"Factors Affecting the Corrosion Resistance of Cast Magnesium Alloys"	<i>P. Y. Li, H. J. Yu, S. C. Chen and Y. M. Yu</i>	Magnesium Technology 2003, p. 51	Read the Full Paper
"Corrosion Behavior of Die-Cast Magnesium in ASTM B117 Salt Spray and GM9540P Cyclic Corrosion Test"	<i>J. I. Skar and D. Albright</i>	Magnesium Technology 2003, p. 59	Read the Full Paper
"Emerging Trends in Corrosion Protection of Magnesium Die-Castings"	<i>J. I. Skar and D. Albright</i>	Magnesium Technology 2002, p. 255	Read the Full Paper

"A Novel Technique to Evaluate the Corrosion Behavior of Magnesium Alloys"	<i>B. L. Tiwari and J. J. Bommarito</i>	Magnesium Technology 2002, p. 269	Read the Full Paper
"A Hydrogen Evolution Method for the Estimation of the Corrosion Rate of Magnesium Alloys"	<i>G. Song, A. Atrens, and D. St. John</i>	Magnesium Technology 2001, p. 255	Read the Full Paper
"The Interaction Between Microstructure and Corrosion Initiation in Certain Die Cast and Thixomolded Magnesium Alloys"	<i>M. J. Danielson and R. H. Jones</i>	Magnesium Technology 2001, p. 263	Read the Full Paper
"Corrosion Fatigue of High Pressure Die Cast Magnesium Alloys"	<i>W. G. Ferguson, W. Liu, P. Ross and J. MacCulloch</i>	Magnesium Technology 2001, p. 269	Read the Full Paper
"Laboratory Evaluation of Corrosion Resistance of Anodized Film on Magnesium"	<i>V. Tchervyakov, G. Gao, J. Bomback, A.P. Pchelnikov, and G. Cole</i>	Magnesium Technology 2000, p. 143	Read the Full Paper
"Corrosion and Galvanic Corrosion of Die Cast Magnesium Alloys"	<i>J. Senf, E. Broszeit, M. Gugau, and C. Berger</i>	Magnesium Technology 2000, p. 137	Read the Full Paper
"Characterisation of Manganese-Containing Intermetallic Particles and Corrosion Behaviour of Die Cast Mg-Al-Based Alloys"	<i>L. -Y. Wei, H. Westengen, T. K. Aune and D. Albright</i>	Magnesium Technology 2000, p. 153	Read the Full Paper
"RoHS Compliant Chromium-Free Conversion Coating for Aerospace Manufacturing"	<i>John Walter Bibber</i>	Aerospace Manufacturing and Automated Fastening Conference and Exhibition, September 2006. Session: Materials Properties, Processes and Innovations	Read Abstract
"Corrosion Fatigue of AM50 and AE44 Alloys at Various Temperature and R-Ratio"	<i>Yansong He, Jing Hong Fan</i>	SAE 2006 World Congress & Exhibition, April 2006. Session: Magnesium Technologies (Part 2 of 3)	Read Abstract
"Magpass-CoatSr as a Chrome-Free Pre-Treatment for Paint Layers and An Adhesive Primer for Subsequent Bonding"	<i>Michael Walter</i>	SAE 2004 World Congress & Exhibition, March 2004. Session: Magnesium Technologies (Part 1 & 2 of 3)	Read Abstract