

Mineral Industry Surveys

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MAGNESIUM IN THE FIRST QUARTER 2003

Exports of magnesium through February 2003 were about 37% higher than those in the same period of 2002. Total magnesium exports for 2002 were about 30% higher than those in 2001. Canada (70%), Mexico (14%), and the Netherlands (11%) were the main destinations.

Magnesium imports through February 2003 were 18% higher than those in the corresponding period of 2002. Russia (75%), Israel (14%), and Canada (9%) were the principal sources of imported metal. Canada (53%) and China (45%) were the principal sources of imported alloys. Total imports of magnesium in 2002 were 28% higher than those in 2001.

Canada (50%), Russia (19%), China (13%), and Israel (9%) were the primary sources of magnesium and magnesium alloys in 2002. Of the total magnesium imports in 2002, 48% was alloy and 34% was pure metal.

Quoted magnesium prices are shown in the following table. U.S. prices fell slightly during the quarter, but the China free market price increased by about \$200 per metric ton; this increase was most likely in response to the anticipation of the European antidumping duty on imports of magnesium from China being lifted.

	Unit	Beginning of quarter	End of quarter
Metals Week U.S. spot Western	Dollars per pound	\$1.10-\$1.22	\$1.05-\$1.12
Metals Week U.S. spot dealer import	do.	1.02-1.07	1.01-1.08
Metals Week European free market	Dollars per metric ton	1,800-1,900	1,650-1,800
Metal Bulletin European free market	do.	1,880-1,980	1,950-2,000
Metal Bulletin China free market	do.	1,360-1,380	1,550-1,600

In its annual review of the antidumping duty for pure magnesium from Canada, the International Trade Administration (ITA) determined that for the August 1, 2000, to July 31, 2001, period, the antidumping duty for pure magnesium from Norsk Hydro Canada Inc. was 0% ad valorem, the same as it had been (U.S. Department of Commerce, International Trade Administration, 2003c). The ITA also made a preliminary ruling on the antidumping duty for the August 1, 2001, to July 31, 2002, period, and it determined that the rate for Norsk Hydro Canada was 0.01% ad valorem. Because the rate is less than 0.5%, however, no cash deposit will be required on imports of pure magnesium (U.S. Department of Commerce, International Trade Administration, 2003d).

For the countervailing duty on pure and alloy magnesium from Canada, the ITA made a preliminary determination that the rate for calendar year 2001 was 1.68% ad valorem (U.S. Department of Commerce, International Trade Administration, 2003b).

The ITA also made a final determination that alloy magnesium from Magnola Metallurgy Inc. was subject to a countervailing duty of 7.00% ad valorem for calendar year 2001. This determination was made after Magnola requested a new shipper review in February 2002 (U.S. Department of Commerce, International Trade Administration, 2003a).

On April 1, the European Union (EU) removed its antidumping duty on imports of magnesium from China. Removal of this duty had been anticipated since Pechiney closed the last primary magnesium plant operating in the EU in July 2002. Prices in China had been rising at a faster rate than other free market prices on anticipation of the removal of the duty. These prices are expected to fall as significant quantities of magnesium stored in warehouses in Europe are released to the market in a short time period (Francis-Grey, 2003).

In January, a group of creditors filed a motion to appoint a trustee in the bankruptcy case of Magnesium Corp. of America (Magcorp) and Renco Inc. The creditors questioned payments

of \$90 million from Magcorp to Renco (its parent company) in the form of dividends. A trustee was appointed in April, who will identify and liquidate assets (Brooks, 2003c).

Because it could not raise sufficient funding, New World Alloys Ltd. (formerly Mt. Grace Resources Ltd.) delayed the purchase of the former Northwest Alloys Inc. magnesium plant in Addy, WA. New World Alloys had planned to relocate the plant to Malaysia, expand its capacity to 90,000 metric tons per year (t/yr), and produce magnesium by 2004. The cost of purchasing the plant was \$21 million, which was required by April 1. New World Alloys indicated that it would continue to pursue a magnesium plant in Malaysia, although not necessarily through the acquisition of the Addy plant (American Metal Market, 2003b).

Australian Magnesium Corp. Ltd. (AMC) announced that it would restructure its contracting plan for the Stanwell magnesium project in Gladstone, Queensland. AMC, in conjunction with Leighton Contractors Pty. Ltd., is planning to incorporate U.S.-based Fluor Corp. in its engineering, procurement, and construction process, because AMC and Leighton could not reach agreement on a fixed price contract for the plant. Fluor and Leighton are working on the formation of a joint venture to manage the project. Because it is likely that additional funding will be necessary, approval by AMC's banking syndicate will be required, and AMC delayed the start of commercial production from the fourth quarter of 2004 to the first quarter of 2005 (Australian Magnesium Corp. Ltd., 2003§¹). AMC also reached agreement with the government of Queensland to construct a gas pipeline to supply its magnesium plant. The new 22.2-kilometer pipeline would link the plant to the existing Gladstone-to-Rockhampton pipeline owned by Duke Energy Corp. (Mine Box, 2003a§).

Magnesium International Ltd. completed a strategic review of its SAMAG magnesium smelter project that is planned for Port Pirie, Australia. The company plans to increase the plant's total capacity by 18% to 84,000 t/yr and construct the plant in two modules. Module one (41,000 t/yr) will cost an estimated A\$683 million. With the increased capacity, cash operating cost at full capacity has been reduced from the original projection of US\$0.59 per pound of magnesium to US\$0.57 per pound (Magnesium International Ltd., 2003§).

Latrobe Magnesium Ltd. (formerly Rambora Technologies Ltd.) received A\$1.4 million from the Victorian government toward a A\$20 million feasibility study to determine if the project to recover magnesium from coal fly ash had the potential to be successful. In June 2002, Latrobe Magnesium released the results of an earlier feasibility study to construct a 100,000-t/yr magnesium plant in LaTrobe Valley, Victoria. Capital cost of the plant was estimated to be A\$857 million, and the direct operating cost would be A\$0.705 per pound (MineBox, 2003b§).

After evaluating several options that could keep its plant open, Noranda Inc. finalized its decision to close the Magnola magnesium plant in Quebec by the end of April. Competition from magnesium imports from China and technical problems at the plant were the principal reasons for the closure (American Metal Market, 2003c).

Safeguard International Fund signed a letter of intent to purchase 6 million shares of Timminco Ltd. in March, and

Timmins Investments Inc., the largest shareholder in Timminco, will commit its holding to a voting trust controlled by Safeguard. Safeguard will then make a public offering to acquire an additional 4 million shares of stock. These transactions will give Safeguard a majority control in Timminco. These transactions would finalize Timminco's financial restructuring, which had begun in 2001 (Brooks, 2003a).

Chongqing Magnesium Science and Technology Co. Ltd. completed a 1,500-t/yr magnesium alloy and scrap magnesium recovery production line at its magnesium plant in Wansheng, Chongqing. The company claims that the production line is the only magnesium alloy and scrap magnesium recovery production line in southwest China. In addition, the company is also planning a second magnesium scrap production line, scheduled to begin construction in the second half of 2003, which will be designed to produce 3,000 t/yr of magnesium alloy (Nordic Magnesium Cluster, 2003§).

The former chief executive officer of Xstrata Magnesium Corp. purchased the Anderson, IN, magnesium recycling operation for \$1.2 million. Xstrata AG, the parent company, announced in February that it wanted to sell the plant. The new owner has named the operation Advanced Magnesium Alloys Corp. (Amacor). By yearend, Amacor plans to double production capacity at the plant from its current level of 25,000 t/yr by installing a second production line (Brooks, 2003b).

Norsk Hydro Magnesium GmbH announced that it would double its magnesium recycling capacity in Bottrop, Germany, to 17,500 t/yr by September 2004. The expansion, which will cost \$3.1 million, was in response to increased demand in the automotive industry for die-cast components. A significant quantity of the die-cast material is considered to be scrap and as more die-castings are produced, more scrap is generated (American Metal Market, 2003a).

Ford Motor Co. plans to use nearly 5,000 t/yr of magnesium die castings in its first-of-a-kind front-end support assemblies for its 2004 model redesigned standard-size F-150 pickup truck. The magnesium assemblies will replace more than 10,000 t/yr of parts made of flat-rolled steel previously used in F-150s. It will mark the first time that magnesium has replaced steel in this application in any North American-built truck or car. Because magnesium is lighter than steel and the new assemblies will be produced in a way that allows components and features made of steel and other materials to be integrated into the die castings, the unusual front-end support assemblies in the new F-150 pickup trucks will result in a weight savings of more than 9 kilograms (kg) (20 pounds) per vehicle. As cast, the magnesium supports weigh 6.2 kg (13.75 pounds) each. The AM50 supports will be purchased from Meridian Technologies Inc., Strathroy, Ontario (Wrigley, 2003a).

General Motors Corp. (GM) planned to use magnesium alloy for the instrument panel support beams of its 2005 model Pontiac Grand Am convertible and may use magnesium alloy for the retractable hardtop roofs as well. The support beams will be purchased from Meridian Technologies (Wrigley, 2003b). GM, however, chose aluminum rather than magnesium for the transfer case covers for its new Chevrolet Colorado and GMC Canyon pickup trucks because the weight savings from using magnesium were not needed.

¹References that include a section mark (§) are shown in the Internet References Cited section.

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TABLE 1
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF MAGNESIUM¹

(Metric tons)

	2002 ^P	2003		January- February
		January	February	
Imports:				
Metal	29,900	2,390	1,580	3,970
Waste and scrap	14,100	1,090	1,110	2,210
Alloys (magnesium content)	41,900	4,500	2,890	7,390
Sheet, tubing, ribbons, wire, powder, other (magnesium content)	2,090	115	124	239
Total	88,000	8,100	5,710	13,800
Exports:				
Metal	11,300	1,250	530	1,780
Waste and scrap	5,850	590	489	1,080
Alloys (gross weight)	4,210	379	176	555
Sheet, tubing, ribbons, wire, powder, other (gross weight)	4,010	425	392	817
Total	25,400	2,640	1,590	4,230

^PPreliminary.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.