

Mineral Industry Surveys

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MAGNESIUM IN THE FIRST QUARTER 2002

Exports of magnesium through February 2002 were about 3% higher than those in the same period of 2001. Magnesium imports through February 2002 were 11% less than those in the corresponding period of 2001. Russia (49%), Israel (29%), and Canada (13%) were the principal sources of imported metal. Canada (54%), China (27%), and Russia (11%) were the principal sources of imported alloys.

For 2001, the total quantity of magnesium exports declined by 18% from that in 2000. Canada (69%) and Mexico (16%) remained the principal destinations for magnesium in all forms. Imports of magnesium in 2001 dropped by 24% from the 2000

level, with the most significant decline in the total imports of magnesium alloys. Of the total quantity of magnesium imported in 2001, Canada supplied 39%; China, 17%; Russia, 17%; and Israel, 11%. Canada and China together supplied nearly three-quarters of the magnesium alloy imports, and Russia provided more the one-half of the pure magnesium imports in 2001.

With the exception of the China free market price, all quoted price ranges dropped in the first quarter of 2002. Prices are shown in the following table.

	Units	Beginning of quarter	End of quarter
Metals Week U.S. spot Western	Dollars per pound	\$1.21-\$1.28	\$1.20-\$1.28
Metals Week U.S. spot dealer import	do.	1.03-1.09	1.00-1.08
Metals Week European free market	Dollars per metric ton	1,700-1,900	1,700-1,800
Metal Bulletin European free market	do.	1,775-1,875	1,750-1,840
Metal Bulletin China free market	do.	1,230-1,250	1,260-1,290

According to press reports, a proposal was submitted to sell Magnesium Corp. of America's (Magcorp) 43,000-metric-ton-per-year (t/yr) magnesium plant in Utah as an ongoing concern to a buyer who would continue to operate the company. Magcorp has been operating under chapter 11 bankruptcy protection since its parent company Renco Metals Inc. filed in August 2001. Several companies reportedly were interested in purchasing the plant. The deadline for submission of bids was May 13, and an auction of Magcorp's assets was scheduled to take place on May 22 (American Metal Market, 2002a).

In March, the NATFA Secretariat issued its decision on the review of the sunset duties (countervailing and antidumping) on pure and alloy magnesium from Canada, that were published in the Federal Register in July 2000. The review was requested in August 2000 by the government of Quebec. The Secretariat remanded the countervailing duty decision back to the

International Trade Administration (ITA) for it to reconsider the determination to use the results of the sixth review to establish the subsidy rate, the basis for the all others rate, and the reasons for the failure to investigate subsidies that were allegedly received by Magnola Metallurgy Inc. The antidumping duty decision was remanded to ITA for it to consider the Quebec government's claims regarding "good cause" under the standards of the statute and the determination to report the investigation rate as the margin of dumping likely to occur if the order was revoked. The ITA's remand determination is expected to be completed by May 27 (U.S. Department of Commerce, 2002a, b). The dumping margin was set at 21% ad valorem in the sunset orders, and the countervailing duty rate was set at 1.84 % for Norsk Hydro Canada Inc., the investigated company, and an all others rate of 7.34%.

In addition, ITA received a request for a new shipper review from Magnola for the countervailing duty determinations on pure and alloy magnesium from Canada. ITA initiated the review, which was scheduled to be completed within 180 days from the date of publication of the notice. The period of review for Magnola is calendar year 2001 (U.S. Department of Commerce, 2002c).

In January, the ITA made a preliminary determination that imports of pure magnesium in granular form from Canada, or any other third country, that were produced from magnesium of Chinese origin are subject to the antidumping duties that were established for granular magnesium from China (American Metal Market, 2002b).

Australian Magnesium Corp. Ltd. (AMC) continued to progress with its 97,000-t/yr magnesium plant in Queensland. In March, the company chose to use 40 Alcan Ex2 electrolytic cells rather than the 64 Alcan MKIII cells that had originally been chosen. AMC cited improved cell efficiency, lower operating costs, and lower capital costs as the main reasons for the switch (Australian Magnesium Corp. Ltd., 2002b¹). In addition, the company has selected Leighton Contractors Pty Ltd. as its principal contractor, with plant construction to begin in the third quarter of 2002. AMC expects that the project will be completed as scheduled and will be able to produce its first metal by the end of 2004 (Australian Magnesium Corp. Ltd., 2002a[§]).

Pima Mining NL's wholly owned subsidiary, SAMAG Ltd., reached agreement with NRG Flinders Pty Ltd. for the long-term power supply to the proposed 65,000-t/yr magnesium plant to be constructed at Port Pirie. The agreement is for the annual supply of 170 megawatts of power for 15 years and satisfies SAMAG's entire power needs for the initial stage of operations. This agreement avoids the need for SAMAG to build a power station and some associated infrastructure, which simplifies and improves the financing of the project (Pima Mining NL, 2002[§]). The company also continued to negotiate with the Australian Government for an infrastructure support package.

In April, Rambora Technologies Ltd. entered a conditional agreement to buy all of the shares in Magnesium Investments Pty Ltd., which holds 100% of the Latrobe Magnesium project. The Latrobe magnesium project is centered on the production of magnesium from fly ash produced by power stations in the La Trobe Valley in Victoria. The project's assets include the fly ash in Hazelwood Power's tailings ponds, the fly ash to be produced at the Hazelwood power station in the future, an area of leased land adjacent to the Hazelwood power station, and the right to use existing tailings system facilities at Hazelwood. In November 2001, Rambora had announced that it would begin a 6-month feasibility study for the proposed project (Platts Metals Week, 2002e).

In Canada, Leader Mining International Inc. signed a technology transfer agreement with the State Research and Design Titanium Institute of Zaporozhye, Ukraine, and the joint

stock company VAMI of Russia to use their production technology to recover magnesium from magnesium silicate at its Cogburn magnesium project. The company also selected Hatch Associates Ltd. to complete a feasibility study by mid-December 2002 for a quarry and integrated processing plant to recover 120,000 t/yr of magnesium metal (Leader Mining International Ltd., 2002a, b[§]).

By the end of the first quarter of 2002, Magnola had brought additional electrolytic cells on-line at its new plant in Quebec; 20 of the plant's 24 cells were operating at about 65% of its designed power rate. Magnola expected to reach 60% of its 63,000-t/yr production capacity by the end of the third quarter. In 2001, the plant produced 9,340 t of magnesium and magnesium alloy (Platts Metals Week, 2002c).

China continued to plan new magnesium capacity at several of its plants. Shanxi Qizhen Magnesium Co. announced that it would build a new plant with the capacity to produce 20,000 t/yr of magnesium metal and 5,000 t/yr of magnesium die-casting alloy in 2002. Most of the company's current production is exported to southeast Asian countries (China Metal Market, 2002). Guangling Jinghua Magnesium Co. Ltd. planned to start up its 10,000-t/yr alloy line by the end of March. Hebi Jianghai Smelting Co. expanded its magnesium alloy production capacity to 6,000 t/yr from 2,000 t/yr. The company exports most of its magnesium to the United States and Europe. Ningxia Zhongning Aluminium Co. was scheduled to start up its 12,000 t/yr magnesium ingot line in June, and the company plans to expand its capacity to 30,000 t/yr by 2003. Most of the material is destined for the United States and Japan. This represents the company's first entry into the magnesium market; it has been producing aluminum and ferrosilicon (Platts Metals Week, 2002a). Shanxi Electric Power Import and Export Corp. announced that it would complete a 2,400 t/yr magnesium plant by the fourth quarter of 2002, with production mainly for export to southeast Asian countries (Platts Metals Week, 2002f).

Although Pechiney's Marignac, France, magnesium plant has not been producing magnesium since June 2001, furnaces at the plant remained heated and its workforce continued to be paid. The company wanted to operate the plant as a magnesium recycling facility, but was involved in a court case regarding the fate of the plant. When a court decision is reached, Pechiney planned to inform the European Commission that there no longer is primary magnesium production in the European Union (EU), which could allow for the revocation of antidumping duties on magnesium imported into the EU from China (Platts Metals Week, 2002d).

Chesbar Resources Inc. of Canada announced that it has acquired 100% ownership of Minera Mayamerica S.A. Mayamerica holds the exploration licences covering a Guatemalan nickel-magnesium laterite project. Chesbar commissioned an independent updated resource calculation of the deposit and also planned to initiate metallurgical testing on the recovery of nickel, magnesium, and cobalt from the laterite material (Chesbar Resources Inc., 2002[§]).

The Chrysler Group of DaimlerChrysler AG planned to install additional magnesium components on its 2003 model Dodge Viper to give the car a total magnesium content of about

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

18 kilograms (kg) (40 pounds). This would be the highest magnesium content for any North American-produced car. The new parts include the dash panel; the instrument support panel; and several small parts in the steering system, powertrain, and mounting brackets. The dash panels will weigh between 9.5 and 11.3 kg (21 to 25 pounds) each, and the instrument panel support beams will weigh about 5.4 kg (12 pounds) each. The 1-piece magnesium dash panel will replace a 51-piece assembly of steel stampings weighing about 25.4 kg (56 pounds) (Wrigley, 2002a).

General Motors Corp. (GM) is considering using magnesium sheet for vehicle body components in some limited-volume vehicles. This would be the first use of magnesium body components in consumer vehicles. GM has tested commercially available magnesium wrought alloys from at least two suppliers and, from these, has produced two prototype magnesium components by superplastic- and warm-forming techniques. GM determined that these production techniques could be used at a reasonable level of cost effectiveness to produce moderately complex components, although not in high volumes (Wrigley, 2002b).

The Federal Government planned to leave the Corporate Average Fuel Economy (CAFE) standards at 20.7 miles per gallon for light trucks (including minivans and sport utility vehicles) for model year 2004, according to its final rule announced on April 1. One of the reasons for maintaining the standard was because, after a 6-year prohibition was lifted by Congress, the National Highway Traffic Safety Administration (NHTSA) did not have enough time to analyze any changes. The NHTSA was developing proposals for CAFE standards for light trucks, beginning with the 2005 model year and has also requested comments though May 8 for changes to the CAFE requirements for passenger cars (Platts Metals Week, 2002b). Higher CAFE requirements could lead to increased use of magnesium because of its light weight.

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TABLE 1
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF MAGNESIUM 1/

(Metric tons)

	2002			
	2001	January	February	January- February
Imports:				
Metal	20,100	1,200	2,460	3,660
Waste and scrap	11,000	1,140	1,150	2,290
Alloys (magnesium content)	35,100	3,160	2,190	5,350
Sheet, tubing, ribbons, wire, powder, and other (magnesium content)	2,870	173	192	365
Total	69,100	5,670	5,990	11,700
Exports:				
Metal	4,870	232	512	744
Waste and scrap	6,950	531	562	1,090
Alloys (gross weight)	3,860	397	381	778
Sheet, tubing, ribbons, wire, powder, and other (gross weight)	3,890	243	228	471
Total	19,600	1,400	1,680	3,090

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

Source: U.S. Census Bureau.