

Mineral Industry Surveys

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MAGNESIUM IN THE FIRST QUARTER 2008

Total exports of magnesium through March 2008 were about 20% less than those in the same period of 2007. Magnesium imports through March 2008 were about 27% higher than those through March 2007. Although imports in all categories were higher, the bulk of the increase was in imports of metal from China and Israel. Israel (48%), China (31%), and Russia (19%) were the principal sources of imported magnesium metal, and Israel (33%) and Canada (29%) were the principal sources of imported alloys.

Quoted magnesium prices are shown in the table at the bottom of the page. Beginning in 2008, Platts Metals Week introduced a new price series—99.8%-pure magnesium, f.o.b. Tianjin, China, which is shown in the table.

From the end of 2007 to the end of the first quarter of 2008, the average U.S. spot Western price increased by nearly \$1.00 per pound. Prices in China and Europe also increased significantly. Several factors contributed to these price escalations. In the United States, a decline in imports from Russia and Canada, two of the leading import sources, caused a supply shortage on the spot market. In China, increased prices for ferrosilicon, power, and transportation were cited as causes for the rapid price increase. In addition, environmental crackdowns by the Government may have led to shutdowns at some smaller plants, but the larger plants in Shanxi Province were still operating. Concerns about potential plant closures prior to the Olympics to reduce air pollution also may have pushed prices higher in China (Shair, 2008).

Because of the escalation in magnesium prices, General

Motors Corp. (GM) announced that it would switch from annual-fixed-price to market-based pricing, effective May 1. GM has purchased magnesium under contract, primarily from two sources—U.S. Magnesium Corp. and China's Nanjing Welbow Metals Co., Ltd.—that it would resell to diecasters that produced parts for GM. Contract prices negotiated for 2008 were reported to be \$1.35 to \$1.45 per pound; magnesium purchased at these prices has been sold to GM's contract diecasters at about \$1.70 per pound. Under the new pricing strategy, GM planned to adjust its prices monthly using the Platts Metals Week U.S. spot Western price as a basis for the adjustments (McBeth and Shair, 2008).

The U.S. Department of Commerce, International Trade Administration (ITA) completed its administrative review of the antidumping duty order on magnesium metal from Russia. The ITA preliminarily determined that pure magnesium from PSC VSMPO-AVISMA Corp. was subject to an antidumping duty of 17.68% ad valorem and magnesium from Solikamsk Magnesium Works was subject to 21.71% ad valorem antidumping duty. Solikamsk did not participate in the antidumping duty review, so the ITA assigned the company the highest rate that had been determined in past antidumping duty determinations. Final results were to be published within 120 days of the preliminary determination (U.S. Department of Commerce, International Trade Administration, 2008b).

After a request by Tianjin Magnesium International Co., Ltd., the ITA completed an administrative review of pure and alloy magnesium exported by that company into the United States.

	Units	Beginning of quarter	End of quarter
Platts Metals Week U.S. spot Western	Dollars per pound	\$2.00-\$2.50	\$3.05-\$3.30
Platts Metals Week U.S. spot dealer import	do.	1.80-2.30	3.00-3.10
Platts Metals Week European free market	Dollars per metric ton	3,900-4,200	4,600-4,900
Platts Metals Week China	do.	NA	4,700-4,850
Metal Bulletin European free market	do.	4,100-4,500	5,000-5,200
Metal Bulletin China free market	do.	4,200-4,900	5,200-5,300

NA Not available.

The preliminary dumping duty was determined to be 17.46% ad valorem; final duties were scheduled to be determined within 120 days of the publication of the preliminary determination (U.S. Department of Commerce, International Trade Administration, 2008a).

The ITA also extended the time to complete preliminary determinations on antidumping duties on pure magnesium from China. An initial extension to April 30 had been granted; the ITA extended the time period for issuing preliminary results further to May 30 (U.S. Department of Commerce, International Trade Administration, 2008c).

In March, Alcoa Inc. (Pittsburgh, PA) began an internal review to determine if a restart of its Addy, WA, magnesium plant was warranted. The 43,000-metric-ton-per-year (t/yr) silicothermic plant was closed in 2001 mainly because of competition from cheaper magnesium from China and the high cost of power and ferrosilicon. When the plant was closed, the U.S. magnesium price was about \$1.25 per pound compared with the current price of about \$3.20 per pound. Alcoa had produced magnesium primarily to satisfy its internal consumption requirements for aluminum alloying. Some equipment at the plant would need to be replaced, and Alcoa would have to consider the costs to purchase power on the open market and rehire employees before determining if a restart is economically possible. (When it was operational, the plant's power requirements had been met by the Bonneville Power Administration, but this allocation has been shifted to Alcoa's Intalco smelter, so power purchased on the open market would be more expensive.) (McBeth, 2008).

Magnesium Aluminum Corp. (Cleveland, OH) planned to close its Cleveland magnesium diecasting operation by mid-2008 because its leading customer is taking a significant amount of business offshore. The company, which has been in business since 1973, makes lightweight auto steering components, such as steering columns and the armatures for steering wheels (Metal-Pages, 2008).

In Congo (Kinshasa), MagMinerals Inc. [a subsidiary of MagIndustries Corp. (Toronto, Ontario, Canada)] planned to shelve its proposed 60,000-t/yr magnesium metal plant and concentrate its efforts on its potash business. Originally, magnesium was planned to be a primary product, with potash as a byproduct, but now the potash is considered a principal product. The company still planned to complete a feasibility study on a magnesium plant, but any magnesium study would not be initiated until the potash plant was completed (Metal Bulletin, 2008).

China Direct, Inc. announced that it began production at two new joint-venture projects in China. Pan Asia Magnesium Co., Ltd. (Shanxi Province) began production at its third 6,000-t/yr facility, and Baotou Changxin Magnesium Co., Ltd. (Inner Mongolia) began production at its first 8,000-t/yr facility. Beginning in June, Pan Asia was expected to reach its planned production capacity of 18,000 t/yr, and Baotou Changxin was expected to bring an additional 4,000 t/yr of capacity onstream, bringing the total annual production capacity at Baotou Changxin to 12,000 t/yr (China Direct, Inc., 2008).

Commerce Venture Magnesium Sdn Bhd (CVM) [a unit of Ho Wah Genting Bhd (Kuala Lumpur, Malaysia)] announced that it was constructing a 15,000-t/yr magnesium plant in Taiping, Perak State, Malaysia, at a cost of about \$54.4 million. A groundbreaking ceremony was held on February 26, and the

plant was expected to be completed by the first half of 2009. CVM reportedly had exclusive mining rights to extract dolomite from two limestone-dolomite deposits in Kuala Kangsar under a 20-year agreement with Harta Perak Corp Sdn Bhd. CVM also planned to raise at least 60 million ringgit (about \$19 million) by a planned listing on the Hong Kong stock exchange to finance a 15,000-t/yr expansion by 2010 (Kaur, 2008).

Gossan Resources Ltd. (Winnipeg, Manitoba, Canada) announced that the CANMET Materials Technology Laboratory (Ottawa, Ontario, Canada) would conduct bench scale testing of the Zuliani Process to extract magnesium metal from dolomite. CANMET planned undertake several bench scale tests to confirm process thermodynamics and kinetics for the Zuliani technology. Gossan holds a large high-purity magnesium dolomite property at Inwood, Manitoba, and the worldwide rights for the Zuliani Process, a new magnesium production process projected to significantly reduce the direct operating cost of production (Gossan Resources Ltd., 2008). Gossan has been attempting to develop the Inwood property since 2003.

In March, Meridian Technologies Inc. (Strathroy, Ontario, Canada) opened a new manufacturing facility in Ramos Arizpe, Mexico, to produce magnesium diecastings for the automotive industry. The initial manufacturing facility will consist of 3 diecasting machines, each with a capacity of 1,600 tons, and 7 machining centers and will employ 84 workers (Meridian Technologies Inc., 2008).

References Cited

- China Direct, Inc., 2008, China Direct commences magnesium production at two new China facilities adding 14,000 tons of annual capacity: Deerfield Beach, FL, China Direct, Inc. news release, May 12 (Accessed May 13, 2008, at http://www.cdii.net/press_detail.php?pr_id=24.)
- Gossan Resources Ltd., 2008, Gossan selects CANMET for magnesium process tests: Winnipeg, Manitoba, Canada, Gossan Resources Ltd. news release, May 13, 3 p. (Accessed May 14, 2008, at <http://www.gossan.ca/en/news/080513.pdf>.)
- Kaur, Sharen, 2008, Ho Wah Genting unit seeks to raise RM90m: Business Times Online, March 13. (Accessed May 13, 2008, at http://www.btimes.com.my/Current_News/BTIMES/Thursday/Nation/HWG B.xml/Article/index_html.)
- McBeth, Karen, 2008, Alcoa evaluates restart of Washington magnesium plant: Platts Metals Week, v. 79, no. 17, April 28, p. 1, 10.
- McBeth, Karen, and Shair, Wendy, 2008, GM to adjust magnesium parts monthly based on market: Platts Metals Week, v. 79, no. 15, April 14, p. 1, 14-15.
- Meridian Technologies Inc., 2008, Meridian Technologies announces a new Mexican manufacturing facility: Strathroy, Ontario, Canada, Meridian Technologies Inc. news release, March 13. (Accessed April 29, 2008, at <http://www.meridian-mag.com/news/?id=54>.)
- Metal Bulletin, 2008, MagMinerals puts plans for new 60,000 tpy magnesium plant in DRC on hold: Metal Bulletin, no. 9042, April 14, p. 8.
- Metal-Pages, 2008, Magnesium Aluminum Corp to shut down: Metal-Pages, January 16. (Accessed April 29, 2008, via <http://www.metal-pages.com>.)
- Shair, Wendy, 2008, Chinese magnesium prices supported at \$5,000/mt plus: Platts Metals Week, v. 79, no. 16, April 21, p. 6-7.
- U.S. Department of Commerce, International Trade Administration, 2008a, Magnesium metal from the People's Republic of China—Preliminary results of antidumping duty administrative review: Federal Register, v. 73, no. 45, March 6, p. 12122-12127.
- U.S. Department of Commerce, International Trade Administration, 2008b, Magnesium metal from the Russian Federation—Preliminary results of antidumping duty administrative review: Federal Register, v. 73, no. 87, May 5, p. 24541-24547.
- U.S. Department of Commerce, International Trade Administration, 2008c, Pure magnesium from the People's Republic of China—Extension of time for the preliminary results of the antidumping duty administrative review: Federal Register, v. 73, no. 87, May 5, p. 24572-24573.

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

(Metric tons)

	2008				
	2007	January	February	March	January- March
Imports:					
Metal	27,200	3,650	4,230	3,320	11,200
Waste and scrap	21,200	1,960	2,030	2,180	6,160
Alloys (magnesium content)	21,900 ^r	889	1,060	1,230	3,180
Sheet, tubing, ribbons, wire, powder, and other (magnesium content)	1,490 ^r	107	150	88	345
Total	71,800 ^r	6,600	7,470	6,810	20,900
Exports:					
Metal	4,290	104	106	97	307
Waste and scrap	1,800	73	89	191	353
Alloys (gross weight)	7,570	133	387	545	1,070
Sheet, tubing, ribbons, wire, powder, and other (gross weight)	1,170	108	97	203	408
Total	14,800	418	679	1,040	2,130

^rRevised.

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

Source: U.S. Census Bureau.