

Mineral Industry Surveys

For information, contact:

Deborah A. Kramer, Magnesium Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-7719, Fax: (703) 648-7757
E-mail: dkramer@usgs.gov

Paula R. Neely (Data)
Telephone: (703) 648-7949
Fax: (703) 648-7975
E-mail: pneely@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

MAGNESIUM IN THE FOURTH QUARTER 2011

U.S. magnesium exports for 2011 were 17% less than exports in 2010. Exports of alloys, which had been the leading export category in 2010, were about one-half of the 2010 level. Magnesium imports for consumption in 2011 were 8% lower than those in 2010. The most substantial drop was in magnesium metal imports, which were 22% lower than the 2010 metal imports. Israel (85%) was the principal source of imported magnesium metal. China (26%), Israel (23%), and Taiwan (12%), were the main sources of alloy imports.

Quoted magnesium prices for the fourth quarter of 2011 are shown in table 2. Spot prices fell during the fourth quarter as a result of lower negotiated prices for 2012 contracts. Large magnesium consumers reported that their 2012 contracts were settled at \$2.00 to \$2.05 per pound for pure magnesium. Consumers of diecasting alloy reportedly settled their 2012 contracts between \$2.00 to \$2.20 per pound for AM50 or AZ91 alloy. Contract prices for secondary 90/10 alloy were reported to be in the low \$1.80s per pound, lower than originally estimated (McBeth and Poole, 2011). The average Platts Metals Week U.S. spot Western magnesium price in 2011 was \$2.57 per pound, about 7% higher than the 2010 average of 2.40 per pound.

The U.S. Department of Commerce, International Trade Administration (ITA), published the final results of the antidumping duty review on imports of pure magnesium from China for Tianjin Magnesium International Co. Ltd. (TMI) for May 1, 2009, through April 30, 2010. The ITA determined that TMI did not sell magnesium in the United States at prices below normal value, so it set the antidumping duty at 0% ad valorem (U.S. Department of Commerce, International Trade Administration, 2011).

The U.S. International Trade Commission (ITC) planned to conduct a second 5-year sunset review of antidumping duties on granular magnesium from China. In 2001, the ITC had issued an antidumping duty order on imports of pure magnesium in granular form from China. Following the first 5-year review, which was completed in 2007, the ITC issued a continuation of the antidumping duty order, with the country-wide rate of 305.56% ad valorem that was established in 2001 (U.S. International Trade Commission, 2012).

In January, CVM Minerals Ltd. (Hong Kong) reported that it took its 15,000-metric-ton-per-year (t/yr) primary magnesium plant in Perak, Malaysia, offline for maintenance. The plant had opened in June 2010, but because of gas supply problems, had not been able to operate at its full capacity since its opening. CVM Minerals delayed ramp up to full production capacity until late 2012 (Yee, 2012b).

According to data from China Non-ferrous Metals Industry Association, China produced 661,000 t of magnesium in 2011. This was slightly more than the quantity produced in 2010. Forty-four percent of the country's primary magnesium was produced in Shanxi Province, and 38% was produced in Shaanxi Province (Hao, 2012). Production in December 2011 was nearly 15% lower than that in November as plants began shutting because of weak demand and increasing prices for electric power and before the Chinese Lunar holiday at the end of January 2012 (Yee, 2012a).

The Appellate Body of the World Trade Organization (WTO) rejected most of China's claims in its appeal of the July 2011 findings of the WTO. (See Magnesium in the Second Quarter 2011.) The Appellate Body determined that China's export restraints on several raw materials including magnesium were inconsistent with China's WTO obligations (World Trade Organization, 2012). This decision has led to speculation that China might remove its 10% export tax on pure magnesium.

POSCO Co. Ltd. (Pohang, Republic of Korea) continued to develop its magnesium business. POSCO began construction of a 10,000-t/yr primary magnesium production plant in Gangneung, Gangwon Province, in June 2011 and planned to complete the plant by July 2012. In November 2011, POSCO signed an agreement with a trading unit of Toyota Corp. to supply magnesium ingot to the company. POSCO also was constructing a new 10,000-t/yr line to produce 2,000-millimeter magnesium plate at its existing plant in Suncheon, Jeollanam Province, which was expected to be in commercial production by August 2013. This plate, the widest in the world, was expected to be used for components by South Korean automobile manufacturers. POSCO completed the development of a magnesium automobile front seat frame and was marketing the frame to South Korean auto manufacturers. The company

planned to develop a magnesium rear seat frame by March 2013 (Japan Metal Bulletin, 2011; 2012).

Fundamental Research Corp. (Vancouver, British Columbia, Canada) completed a preliminary economic assessment for Molycor Gold Corp.'s (Vancouver) Tami-Mosi magnesium project near Ely, NV. Based on mining 294,000 t/yr of dolomite, with an average grade of 12.6% magnesium to supply a plant producing 30,000 t/yr of magnesium ingot, the capital cost would be about \$425 million, with an operating cost of \$1.28 per pound of magnesium. Molycor planned to begin commercial production by 2016. The company estimated an NI 43-101 inferred resource of 412 million metric tons (Mt) with an average grade of 12.3% magnesium, equivalent to more than 50 Mt of magnesium using a 12% cutoff grade (Fundamental Research Corp., 2012).

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

(Metric tons)

	2011					
	2010	January– September	October	November	December	January– December
Imports for consumption:						
Metal	18,200	10,500	1,330	944	1,500	14,300
Waste and scrap	22,100	16,300	1,870	2,160	1,590	22,000
Alloys (magnesium content)	11,600	8,680	632	1,320	549	11,200
Sheet, tubing, ribbons, wire, powder, and other (magnesium content)	788	682	102	106	83	973
Total	52,700	36,200	3,940	4,530	3,720	48,400
Exports:						
Metal	5,300	3,950	475	531	563	5,520
Waste and scrap	481	1,150	277	140	114	1,680
Alloys (gross weight)	6,940	2,560	268	381	290	3,500
Sheet, tubing, ribbons, wire, powder, and other (gross weight)	2,070	1,210	125	137	150	1,620
Total	14,800	8,860	1,140	1,190	1,120	12,300

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

Source: U.S. Census Bureau.

TABLE 2
MAGNESIUM PRICES, FOURTH QUARTER 2011

		Beginning of quarter	End of quarter
U.S. spot dealer import	dollars per pound	2.22–2.35	2.05–2.15
U.S. spot Western	do.	2.22–2.40	2.05–2.20
China	dollars per metric ton	3,200–3,240	3,000–3,050
European free market	do.	3,300–3,350	3,125–3,200
do. Ditto.			

Source: Platts Metals Week.