

GYPSUM

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2006, domestic production of crude gypsum was estimated to be 21.2 million tons with a value of about \$159 million. The leading crude gypsum-producing States were, in descending order, Oklahoma, Iowa, Nevada, New York, California, Arkansas, Texas, Indiana, and Michigan, which together accounted for 84% of total output. Overall, 18 companies produced gypsum in the United States at 45 mines in 14 States, and 9 companies calcined gypsum at 58 plants in 29 States. Almost 91% of domestic consumption, which totaled approximately 41.6 million tons, was accounted for by manufacturers of wallboard and plaster products. Approximately 3.0 million tons for cement production, 1.1 million tons for agricultural applications, and small amounts of high-purity gypsum for a wide range of industrial processes, such as smelting and glassmaking, accounted for the remaining tonnage. At the beginning of 2006, the capacity of operating wallboard plants in the United States was about 37.6 billion square feet¹ per year.

Salient Statistics—United States:	2002	2003	2004	2005	2006^e
Production:					
Crude	15,700	16,700	17,200	21,100	21,200
Synthetic ²	9,900	8,300	8,400	8,690	9,000
Calcined ³	18,600	20,400	23,200	21,100	22,000
Wallboard products (million square feet ¹)	29,900	33,300	34,300	36,200	37,200
Imports, crude, including anhydrite	7,970	8,300	10,100	11,200	11,500
Exports, crude, not ground or calcined	295	341	149	148	150
Consumption, apparent ⁴	32,700	33,000	35,700	40,800	41,600
Price:					
Average crude, f.o.b. mine, dollars per ton	7.31	6.90	2.21	7.48	7.50
Average calcined, f.o.b. plant, dollars per ton	18.42	20.01	21.10	20.25	20.50
Stocks, producer, crude, yearend	1,500	1,500	1,500	1,500	1,500
Employment, mine and calcining plant, number ^e	5,900	5,900	5,900	5,900	5,900
Net import reliance ⁵ as a percentage of apparent consumption	27	26	25	27	27

Recycling: Some of the more than 4 million tons of gypsum waste that was generated by wallboard manufacturing, wallboard installation, and building demolition was recycled. The recycled gypsum was used chiefly for agricultural purposes and for the manufacture of new wallboard. Other potential markets for recycled gypsum waste are in athletic field marking, cement production as a stucco additive, grease absorption, sludge drying, and water treatment.

Import Sources (2002-05): Canada, 68%; Mexico, 23%; Spain, 8%; Dominican Republic, 1%; and other, <1%.

Tariff:	Item	Number	Normal Trade Relations
	Gypsum; anhydrite	2520.10.0000	<u>12-31-06</u> Free.

Depletion Allowance: 14% (Domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: The U.S. gypsum industry stabilized in 2006 after the rise in demand in 2005, owing to the strong housing market and the hurricanes and flooding in the Southeast. The construction of new wallboard plants and the expansion of existing plants that began in 2005 continued into 2006. These plants are expected to come online in 2007 and 2008 and will result in an increase in annual domestic wallboard production capacity to about 42 billion square feet. Much of the production at new and expanded facilities will consume synthetic gypsum produced by scrubbing emissions from coal-fired electric powerplants.

Demand caused by hurricanes and floods offset the small downturn in the new home market. The net result was a small overall increase in gypsum production for the year. Increasing demand for gypsum depends principally on the strength of the construction industry—particularly in the United States, where about 95% of the gypsum consumed is used for wallboard products, building plasters, and the manufacture of portland cement. Road building and repair will continue to spur gypsum consumption in the cement industry. The construction of large wallboard plants designed to use synthetic gypsum will increase the substitution of synthetic for natural gypsum as the new plants become operational. In 2005 and 2006, shortages in wallboard supplies were met by increased imports.

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World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves ⁶	Reserve base ⁶
	2005	2006 ^e		
United States	21,100	21,200	700,000	Large
Australia	4,000	4,000		
Algeria	1,460	1,460		
Austria	1,000	1,000		
Brazil	1,480	1,500	1,300,000	Large
Canada	9,400	9,450	450,000	Large
China	7,300	7,400		
Egypt	2,000	2,000		
France	3,500	3,500		
Germany	1,580	1,580		
India	2,400	2,500		
Iran	13,000	13,000		
Italy	1,210	1,220		
Japan	5,890	5,900		
Mexico	7,200	7,400		
Poland	1,300	1,300		
Russia	2,200	2,400		
Spain	11,500	11,500		
Thailand	6,920	7,100		
United Kingdom	1,500	1,500		
Uruguay	1,130	1,130		
Other countries	<u>10,900</u>	<u>11,000</u>		
World total (rounded)	118,000	119,000	Large	Large

Reserves and reserve base are large in major producing countries, but data are not available.

World Resources: Domestic resources are adequate but unevenly distributed. Large imports from Canada augment domestic supplies for wallboard manufacturing in the United States in regions where there are no significant gypsum deposits. Imports from Mexico augment domestic supplies for wallboard manufacturing along portions of the U.S. western seaboard. Large gypsum deposits occur in the Great Lakes region, the midcontinent region, and several Western States. Foreign resources are large and widely distributed; more than 90 countries produce gypsum. Iran is second to the United States in production and supplies much of the gypsum needed for construction and reconstruction in the Middle East. Spain is the largest European producer and supplies both crude gypsum and gypsum products to much of Western Europe. Increased wallboard use in Asia and new gypsum product plants in Thailand and India led to increased production in those countries. As more cultures recognize the economics and efficiency of building with wallboard, worldwide production of gypsum should increase proportionally.

Substitutes: In such applications as stucco and plaster, cement and lime may be substituted; brick, glass, metallic or plastic panels, and wood may be substituted for wallboard. Gypsum has no practical substitute in the manufacturing of portland cement. Synthetic gypsum generated by various industrial processes, including flue gas desulfurization of smokestack emissions, is very important as a substitute for mined gypsum in wallboard manufacturing, cement production, and agricultural applications (in descending tonnage order). In 2005, synthetic gypsum accounted for 24% of the total domestic gypsum supply.

^eEstimated.

¹The standard unit used in the U.S. wallboard industry is square feet. Multiply square feet by 9.29×10^{-2} to convert to square meters.

²Data refer to the amount sold or used, not produced.

³From domestic crude.

⁴Defined as crude + total synthetic reported used + imports – exports + adjustments for industry stock changes.

⁵Defined as imports – exports + adjustments for industry stock changes.

⁶See Appendix C for definitions.