

## GYPSUM

(Data in thousand metric tons unless otherwise noted)

**Domestic Production and Use:** In 2005, domestic production of crude gypsum was estimated to be 17.5 million tons with a value of about \$128 million. The leading crude gypsum-producing States were, in descending order, Oklahoma, Texas, Nevada, Iowa, California, Arkansas, and Indiana, which together accounted for 82% of total output. Overall, 20 companies produced gypsum at 46 mines in 20 States, and 9 companies calcined gypsum at 62 plants in 29 States. Almost 88% of domestic consumption, which totaled approximately 37.9 million tons, was accounted for by manufacturers of wallboard and plaster products. Approximately 3.3 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 2005, the capacity of operating wallboard plants in the United States was about 40 billion square feet<sup>1</sup> per year.

<b>Salient Statistics—United States:</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005<sup>e</sup></b>
Production:					
Crude	16,300	15,700	16,700	17,200	17,500
Synthetic <sup>2</sup>	6,820	9,900	8,300	9,040	9,300
Calcined <sup>3</sup>	19,100	18,600	20,400	25,500	26,000
Wallboard products (million square feet <sup>1</sup> )	29,500	29,900	33,300	35,400	36,000
Imports, crude, including anhydrite	8,270	7,970	8,300	10,100	11,200
Exports, crude, not ground or calcined	161	295	341	149	150
Consumption, apparent <sup>4</sup>	31,100	32,700	33,000	36,200	37,900
Price:					
Average crude, f.o.b. mine, dollars per ton	8.44	7.31	6.90	7.21	7.31
Average calcined, f.o.b. plant, dollars per ton	16.81	18.42	20.01	19.64	21.10
Stocks, producer, crude, yearend	1,500	1,500	1,500	1,500	1,500
Employment, mine and calcining plant, number <sup>e</sup>	6,000	5,900	5,900	5,900	5,900
Net import reliance <sup>5</sup> as a percentage of apparent consumption	27	26	25	28	29

**Recycling:** A portion 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 (2001-04):** Canada, 68%; Mexico, 22%; Spain, 8%; Dominican Republic 1%; and other, 1%.

<b>Tariff:</b>	<b>Item</b>	<b>Number</b>	<b>Normal Trade Relations</b>
	Gypsum; anhydrite	2520.10.0000	<u>12-31-05</u> Free.

**Depletion Allowance:** 14% (Domestic and foreign).

**Government Stockpile:** None.

**Events, Trends, and Issues:** The U.S. gypsum industry was stable during 2005, though hurricanes caused increased demand in the South and Southeast. Several companies began constructing new plants and expanding existing plants in 2005. This new capacity will increase the consumption of synthetic gypsum produced by scrubbing emissions from coal-fired electric powerplants.

Domestic housing starts and commercial construction were both slightly higher in 2005 compared with 2004. The net result was a small overall gypsum production increase 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.

## GYPSUM

### World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves <sup>6</sup>	Reserve base <sup>6</sup>
	2004	2005 <sup>e</sup>		
United States	17,200	17,500	700,000	Large
Australia	4,000	4,000		
Austria	1,000	1,000		
Brazil	1,500	1,550	1,300,000	Large
Canada	9,340	9,500	450,000	Large
China	7,000	7,500		
Egypt	2,000	2,000		
France	3,500	3,500		
Germany	1,750	1,750		
India	2,350	2,400		
Iran	13,000	11,000		
Italy	1,200	1,200		
Japan	5,800	5,800		
Mexico	7,000	7,000		
Poland	1,300	1,300		
Russia	700	800		
Spain	11,500	7,500		
Thailand	8,000	8,000		
United Kingdom	1,500	1,500		
Uruguay	1,130	1,100		
Other countries	8,250	16,000		
World total (rounded)	109,000	110,000	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 western U.S. seaboard. Large gypsum deposits occur in the Great Lakes region, midcontinental 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 caused increased production in those countries.

**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.

<sup>e</sup>Estimated.

<sup>1</sup>The standard unit used in the U.S. wallboard industry is square feet. Multiply square feet by  $9.29 \times 10^{-2}$  to convert to square meters.

<sup>2</sup>Data refer to the amount sold or used, not produced.

<sup>3</sup>From domestic crude.

<sup>4</sup>Defined as crude + total synthetic reported used + net import reliance.

<sup>5</sup>Defined as imports – exports + adjustments for industry stock changes.

<sup>6</sup>[See Appendix C for definitions.](#)