

# GYPSUM

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Gypsum is one of the most widely used minerals in the world. In the United States, most gypsum is used to manufacture wallboard for homes, offices, and commercial buildings. An average new American home contains more than 7.31 metric tons (t) of gypsum or, in other terms, more than 6,144 square feet (571 square meters) of gypsum wallboard (Mineral Information Institute, 2001). Worldwide, gypsum is used in portland cement, which is used in concrete for highways, bridges, buildings, and many other structures that are part of our everyday life. Gypsum is also extensively used as a soil conditioner on large tracts of land in suburban areas and in agricultural regions.

After a record setting year in 1999, the gypsum industry in the United States experienced a decline in both production and consumption in 2000. In addition, crude gypsum and wallboard imports declined in 2000. Synthetic gypsum generated by various industrial processes continued to increase as a raw material source for wallboard plants.

During 2000, the U.S. gypsum industry experienced several acquisitions and announcements of construction of new plants and of expansion of production capacity at existing plants. Also in 2000, several older, less efficient manufacturing facilities were closed. In October, U.S. Gypsum Co. closed its old plant in Plaster City, CA, and in December, it closed plants in Gypsum, OH, and Plasterco, VA. In June, U.S. Gypsum opened a plant in Aliquippa, PA; in August, it opened a new plant in Plaster City, CA; and in December, it opened a plant in Rainier, OR. Of these three new plants, the Aliquippa uses

synthetic gypsum as its raw material, the Plaster City uses natural gypsum brought in by rail from a nearby quarry, and the Rainier is supplied by natural gypsum imported from Mexico. These openings and closings resulted in a net increase in wallboard production capacity of 1.40 billion square feet (130 million square meters). Georgia-Pacific Corp. closed two of its Grand Rapid, MI, wallboard plants—one in January and the other in November. James Hardie Gypsum acquired the gypsum mining claims of Western Gypsum near St. George, UT, during 2000; this gypsum will supply the Blue Diamond plant at Las Vegas, NV. James Hardie Gypsum also announced plans to build three new joint treatment manufacturing plants; the first of the three started operations in the last quarter of 2000 in Kent, WA. National Gypsum Co. began building the Apollo Beach wallboard plant near Tampa, FL. The plant began operating during the first quarter of 2001; it will have production capacity of 600 million square feet per year (55.8 million square meters per year). This plant supplemented the existing wallboard plant in the Tampa area; both Tampa area plants use synthetic gypsum as their raw material. During the last quarter of 2000, American Gypsum Co. (a subsidiary of Centex Construction Products, Inc.) purchased Republic Gypsum Co. and its wallboard plant in Duke, OK. Lafarge Gypsum completed a new Silver Grove, KY, wallboard plant, near Cincinnati, OH. The new plant will use synthetic gypsum as its raw material. Lafarge has built another wallboard plant in Palatka, FL, which was scheduled to come online in early 2001. This plant also will use synthetic gypsum as its raw material. In

## Gypsum in the 20th Century

In 1900, U.S. production of gypsum was about 539,000 metric tons valued at approximately \$1.63 million. About 85% of this production was in Iowa, Kansas, Michigan, New York, and Texas. In 1900, the United States also imported about 216,000 tons of gypsum valued at \$316,000, mostly from Canada. Of the total domestic gypsum production, about 86% was calcined into plaster of paris, 8% was ground for agricultural use, and the remaining 6% was sold as crude and was probably later ground for agricultural use by consumers. A large quantity of plaster of paris was used in the manufacture of wall plasters for office buildings and for the construction of temporary buildings. In the construction industry in 1900, plasters made from gypsum were beginning to displace softer ones made from lime. Gypsum wallboard was first produced in 1916, and by the 1950s and 1960s, plasters were largely displaced by the use of wallboard.

In 2000, domestic crude gypsum output was approximately 19.5 million metric tons and was valued at \$165 million. The

top producing States, in descending order, were Oklahoma, Iowa, Michigan, Nevada, Texas, California, and New Mexico, which together accounted for 67% of total output. Overall, 30 companies produced gypsum at 56 mines in 19 States, and 10 companies calcined gypsum at 64 plants in 29 States. In 2000, the United States also imported about 9.21 million tons of gypsum valued at \$89.3 million, mostly from Canada and Mexico. Synthetic gypsum from coal-fired electric powerplants totaling 4.38 million tons made up 15.3% of the total domestic gypsum supply for the year 2000. Most domestic consumption, which totaled approximately 34 million tons, was accounted for by manufacturers of wallboard and plaster products. More than 3.8 million tons for cement production, approximately 1.9 million tons for agricultural applications, and small amounts of high-purity gypsum for a wide range of such industrial processes as smelting and glassmaking accounted for the remaining production.

July 2000, British Plasterboard, plc, a London-based firm, acquired the four gypsum wallboard operations of Celotex Corporation located in Cody, WY, Fort Dodge, IA, Jacksonville, FL, and Port Clinton, OH. The new company is called BPB Celotex. BPB Celotex completed a new wallboard plant near Carrollton, KY, with production capacity of 700 million square feet per year (65 million square meters per year). The raw material for the new plant is synthetic gypsum (Sharpe, 2001).

Gypsum industry data for this report are collected by the U.S. Geological Survey (USGS) from semiannual and annual surveys of gypsum operations and are derived from monthly statistics provided by the Gypsum Association in Washington, DC. The 2000 USGS survey, which canvassed 103 gypsum production operations, accounting for almost all domestic output, had a response rate of approximately 93%. The output of producers who did not respond to the survey was estimated from their survey responses in previous years or from other sources familiar with the gypsum industry.

## Production

The United States continued to lead the world in gypsum production in 2000, accounting for 18.5% of reported global output. During 2000, domestic output of crude gypsum decreased by 12.8% from that of 1999 to 19.5 million metric tons (Mt) valued at \$165 million (table 1).

Crude gypsum was mined in the United States by 30 companies at 56 mines in 19 States. Most of the gypsum, however, was mined by only 4 companies with 25 mines. The top producing States, in descending order, were Oklahoma, Iowa, Michigan, Nevada, Texas, California, New Mexico, Arkansas, Kansas, and Indiana. These States, with 40 mines, each produced more than 1 Mt and together accounted for 84% of total domestic output (table 2).

The U.S. gypsum industry consisted primarily of a few large, vertically integrated companies that mined gypsum and manufactured wallboard, plaster, and other gypsum products. Companies with the most mines were U.S. Gypsum with nine; Georgia-Pacific, seven; National Gypsum, seven; Harrison Gypsum Inc., three; Celotex, two; and James Hardie Gypsum, two. These companies produced almost 71.3% of total U.S. crude gypsum. The 10 largest gypsum mines in the United States accounted for 42.4% of domestic output in 2000. These mines, which were owned by eight companies, had an average output of 829,000 t.

During 2000, gypsum was “calcined” (partially dehydrated by heating) at 64 plants operated by 10 companies in 29 States, principally to produce feedstock for wallboard and plaster plants. The leading States, in descending order, were California, Washington, Texas, Nevada, New York, and Florida. These States, with 24 plants, each produced more than 1.3 Mt of calcined gypsum and together accounted for approximately 43.6% of national output (table 3).

Companies with the most calcining plants were U.S. Gypsum with 21; National Gypsum, 18; Georgia-Pacific, 11; and Celotex, 4. These companies produced 73.7% of national output. The largest 10 calcining plants in the United States accounted for 34.4% of production in 2000. These plants, owned by six companies, had an average output of more than 722,000 metric tons per year.

In addition to mined gypsum production, synthetic gypsum was generated as a byproduct by various industrial processes. The primary source of synthetic gypsum was flue gas desulfurization (FGD) at coal-fired electric powerplants. Smaller amounts of synthetic gypsum were derived from acid neutralization processes. Synthetic gypsum was used as a substitute for mined gypsum, principally for wallboard manufacturing, agricultural purposes, and cement production. In response to USGS surveys, six companies operating in seven States reported that approximately 569,000 t of synthetic gypsum generated by industrial processes at their plants was sold or used for such applications in 2000. In addition to these companies, about 80 domestic coal-fired electric utilities generated approximately 23.3 Mt of synthetic gypsum from their FGD systems during 2000 (American Coal Ash Association, written commun., 2001). Only 4.38 Mt of the synthetic gypsum generated during the year was used, primarily for wallboard production. Use of synthetic gypsum grew by approximately 8.7% during 2000 (Kalyoncu, 2001).

During 2000, 10 companies manufactured gypsum wallboard at 80 plants in the United States. Plant production capacity was expanded by 10.1% to 35.2 billion square feet (3.27 billion square meters) by yearend (Gypsum Association, 2000, 2001). Several new wallboard plants became operational during 2000, providing additional production capacity and replacing older, less efficient manufacturing facilities (Sharpe, 2001). Wallboard shipments during 2000 decreased by 3.18% from those of 1999 to approximately 28.2 billion square feet (2.62 billion square meters). This represents only 80% of the total production capacity (Gypsum Association, 2000, 2001).

Eleven new wallboard plants have been completed or will be completed by yearend 2001. All but one of the new plants will use as their raw material only high-quality, low-cost synthetic gypsum generated by FGD systems operated by electric utilities. Some gypsum companies have expanded or will be expanding synthetic gypsum use at existing wallboard plants as well. U.S. wallboard manufacturing capacity is expected to increase to 37 billion square feet (3.44 billion square meters) by yearend 2002 (Sharpe, 2001). At least a dozen wallboard plants in the United States were already using some synthetic gypsum to augment their feedstock from gypsum mines.

A portion of more than 4 Mt of gypsum waste, generated every year by wallboard manufacturing, wallboard installation, and building demolition, was recycled. The recycled gypsum was used chiefly for agricultural purposes and new wallboard. Other potential markets for recycled gypsum waste are in cement production, as a stucco additive, in sludge drying, in water treatment, in grease absorption, and for marking athletic fields (Turley, 1998; California Integrated Waste Management Board, September 2000, Drywall recycling, accessed August 1, 2001, at URL <http://www.ciwm.ca.gov/condemo/factsheets/drywall.htm>).

## Consumption

In 2000, the domestic construction industry leveled out, and some sectors declined. In 2000, housing starts declined by 4.38% compared with those of 1999. Apparent domestic consumption (defined as mine output plus reported synthetic used plus imports minus exports plus adjustments for industry stock changes) was about 34 Mt during the year. This was an

8.11% decline in U.S. gypsum consumption compared with that of 1999. Domestic sources (mining plus an estimated 4.95 Mt of synthetic gypsum) met approximately 73% of domestic consumption requirements; imports satisfied the remaining needs.

Gypsum output is categorized as either calcined or uncalcined (table 4). Calcined gypsum was produced domestically from crude gypsum to manufacture wallboard and plaster products during 2000. Uncalcined gypsum, used for portland cement production and agriculture, accounted for virtually all remaining consumption during the year.

In 2000, 42.7% of the calcined gypsum used to manufacture wallboard was consumed in the production of regular ½-inch wallboard. Fire-resistant wallboard, mobile-home board, water- and moisture-resistant board, lath, veneer base, and sheathing composed most of the balance (table 5). Metropolitan areas in the Atlantic and the Pacific coastal regions were the leading sales areas for gypsum wallboard products.

During 2000, most of the uncalcined gypsum consumed in the United States was used in portland cement production, and the remainder was used primarily in agriculture. Gypsum, which is added to cement to retard its setting time, accounted for about 2% to 5% of cement output (Dutton, 1997). Finely ground gypsum rock was used in agriculture and other industries to neutralize sodic soils, to improve soil permeability, to add nutrients, to stabilize slopes, and to provide catalytic support for maximum fertilizer benefits. Small amounts of high-purity gypsum also were used in a wide range of industrial operations, including the production of glass, paper, foods, and pharmaceuticals.

### Prices

In 2000, the average values per metric ton (f.o.b. mine or plant) reported by U.S. producers were \$8.44 for crude gypsum and \$16.81 for calcined gypsum. The average value for plaster reported by domestic producers during the year was \$5.57 per 100 pounds. In 2000, the average value of uncalcined gypsum used in agriculture and in cement production was \$12.62 per metric ton.

During 2000, prices for gypsum wallboard generally decreased in response to decreased demand and supply. Prices for regular ½-inch wallboard dropped in 8 of the 20 major U.S. metropolitan areas that were sampled and remained the same in 7 of the 20. During 2000, the price changes from those of 1999 ranged from a decrease of \$155 per 1,000 square feet to an increase of \$129 per 1,000 square feet. Prices in these 20 U.S. cities ranged from \$93 to \$280 per 1,000 square feet at yearend (Engineering News-Record, 2000a, b).

### Foreign Trade

In 2000, the United States was the world leader in the international trade of gypsum and gypsum products. The Nation imported crude gypsum from 11 countries (table 6), and exported gypsum wallboard to 70 countries and territories. U.S. imports accounted for most of the world's waterborne shipment of crude gypsum (Phillips, 1998). Only a small amount of crude gypsum was exported by the United States (table 7).

Net imports of crude gypsum in 2000, which decreased slightly from those of 1999, accounted for approximately 27% of apparent consumption. Much of this import dependence can be attributed to the lack of adequate domestic gypsum resources near large East Coast wallboard markets. These imports came primarily from Canada and Mexico. The two countries primarily supplied wallboard plants in coastal markets; most imports from Canada went to East Coast plants, and Mexican sources chiefly served the West Coast. Foreign subsidiaries of U.S. gypsum companies produced much of the gypsum that was imported for the wallboard plants. Smaller amounts of imported gypsum were used in portland cement production.

Wallboard exports, totaling about 69 million square feet (6.41 million square meters) and valued at \$27 million, were primarily to countries and territories in Asia, Europe, and Latin America. Wallboard imports were about 932 million square feet (86.6 million square meters) valued at \$113 million.

### World Review

In 2000, 90 countries produced gypsum, 6 of which accounted for 57% of the total world production (table 8). Global gypsum production during 2000 is estimated to be approximately 106 Mt. More than 110 million metric tons per year of synthetic gypsum is generated worldwide (Roskill Information Services Ltd., 2000). The high demand for gypsum in the United States generated by the domestic construction industry was not matched abroad, with the exception of Canada and Mexico, which exported to U.S. markets. The estimate for world production is probably lower than actual because output that is used by the gypsum producers in some countries to make other products onsite was not reported. Additionally, production from small deposits in developing nations was intermittent and in many cases unreported.

As a low-value, high-bulk commodity drawn from deposits widely distributed throughout the world, gypsum tended to be consumed within the many countries that mine it. Less than 20% of the world's crude gypsum production was estimated to enter international trade. Only a few countries, such as Spain and Thailand, were major crude gypsum exporters. Australian exports were expected to grow when the development of a new mine at the world's largest known gypsum deposit on that country's west coast reached full capacity (Dickson, 1999). The proximity of large U.S. wallboard markets also has made Canada and Mexico significant gypsum exporters.

Although use of gypsum wallboard increased worldwide, only industrialized nations, such as the United States, used gypsum primarily for wallboard products. In developing countries (especially in the Middle East and Asia), most gypsum was used in the production of cement or as a plaster product.

Estimated world production capacity for gypsum wallboard in 2000 was at least 60 billion square feet (about 5.6 billion square meters) at more than 250 plants worldwide. About one-half of this capacity was in the United States, and Asia and Western Europe each accounted for about one-fifth. Plans to construct or expand dozens of wallboard plants were underway during the year in many countries throughout the world, including Brazil, Chile, China, Germany, India, Poland, and the United Kingdom (Ambolt, 1999; Dickson, 1999; Mullick, 1999).

As in the United States, the use of FGD gypsum by other industrialized nations, particularly in Japan and Western Europe, increased (Dickson, 1999).

## Outlook

Housing starts for the second quarter of 2001 suggest that U.S. production and consumption may rise slightly or at least match the levels of 2000. Other supply-and-demand indicators, such as construction rates for new office and commercial buildings and the continuing trend to construct larger homes with more rooms, are also evidence that gypsum industry growth in 2001 will be at least level with 2000. As the Transportation Equity Act for the 21st Century (Public Law 105-178, enacted June 9, 1998), authorizing \$219 billion for road building and repair through 2003, is further implemented, it will be an important stimulant for the domestic cement industry and for the use of gypsum in cement.

On June 25, 2001, U.S. Gypsum filed voluntary petitions for reorganization under chapter 11 of the U.S. Bankruptcy Code. This action was taken to resolve asbestos-related claims in a fair and equitable manner, while preserving U.S. Gypsum's asset base and ensuring its market position and reputation. During the restructuring period and beyond, U.S. Gypsum's operations will continue without interruption. It is the goal of U.S. Gypsum to address its asbestos liability through chapter 11, to complete its restructuring, and to emerge from chapter 11 as quickly as possible, with a comprehensive and final resolution (USG Corp., July 2001, USG Corporation—Restructuring information, accessed August 12, 2001, at URL <http://www.usg.com/special>).

During the next several years, the use of mined gypsum may decline significantly in the United States as greater quantities of synthetic gypsum supplant it in wallboard manufacturing. Some actual and planned mine closings already have been attributed to substitution by synthetic gypsum (Gersten, 1999). At least an additional 6 billion square feet (about 560 million square meters) of new wallboard capacity designed for synthetic gypsum feedstock is scheduled to come online by 2002 (Henkels, 1999). This rate of substitution seems likely to accelerate additional mine closings during the next decade.

The domestic gypsum industry is poised for a major change on the supply side. The appearance of very large capacity wallboard plants will trigger a major supply shift. As the U.S. gypsum industry undergoes this change towards large capacity wallboard plants supplied with synthetic gypsum, older, less efficient, and smaller, natural-gypsum-fed plants will find it increasingly difficult to compete. With prices declining, producers will continue to retire older capacity (Harris, 2001).

Industry trends also indicate significant developments abroad in the coming decade. For example, the pace and magnitude of wallboard plant construction in China indicates that China, with more than a billion potential consumers, could become

one of the world's leading gypsum wallboard markets. Elsewhere, the extent of wallboard capacity growth in regions of Asia, Europe, and Latin America reveals that wallboard manufacturing is likely to become a more significant application of gypsum worldwide.

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## GENERAL SOURCES OF INFORMATION

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TABLE 1  
SALIENT GYPSUM STATISTICS 1/

(Thousand metric tons and thousand dollars)

	1996	1997	1998	1999	2000
<b>United States:</b>					
<b>Crude:</b>					
Mined	17,500	18,600	19,000	22,400	19,500
Value	\$124,000	\$132,000	\$132,000	\$157,000	\$165,000
Imports for consumption	8,050	8,420	8,680	9,340	9,210
Synthetic gypsum sales	2,500	2,700	3,000	5,200	4,950
<b>Calcined</b>					
Produced	17,000	17,200	19,400	22,300	21,000
Value	\$287,000	\$302,000	\$330,000	\$381,000	\$353,000
Products sold (value)	\$2,380,000	\$2,550,000	\$3,150,000	\$3,540,000	\$2,860,000
Exports (value)	\$81,400	\$89,700	\$96,300	\$93,300	\$102,000
Imports for consumption (value)	\$196,000	\$229,000	\$262,000	\$465,000	\$269,000
World production	104,000 r/	106,000	104,000 r/	106,000 r/	106,000 e/

e/ Estimated. r/ Revised.

1/ Data are rounded to no more three significant digits.

TABLE 2  
CRUDE GYPSUM MINED IN THE UNITED STATES, BY STATE 1/

State	1999			2000		
	Active mines	Quantity (thousand metric tons)	Value (thousands)	Active mines	Quantity (thousand metric tons)	Value (thousands)
Arizona and New Mexico	6	1,950	\$12,840	5	1,440	\$7,480
Arkansas, Kansas, Louisiana	5	1,300	12,900	4	2,320	21,000
California, Nevada, Utah	16	5,510	19,100	14	3,390	20,800
Colorado, South Dakota, Wyoming	6	1,160	9,430	6	1,650	13,400
Indiana, New York, Ohio, Virginia	4	2,010	35,200	4	1,970	32,900
Iowa	6	2,570	15,700	6	2,210	17,000
Michigan	4	2,170	15,700	4	1,980	19,800
Oklahoma	8	3,510	20,100	8	2,830	23,500
Texas	6	2,230	15,700	5	1,760	8,980
Total	61	22,400	157,000	56	19,500	165,000

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

TABLE 3  
CALCINED GYPSUM PRODUCED IN THE UNITED STATES, BY STATE 1/

State	Active plants	1999		Active plants	2000	
		Quantity (thousand metric tons)	Value (thousands)		Quantity (thousand metric tons)	Value (thousands)
Alabama	1	259	\$5,100	1	444	\$11,400
Arizona, Colorado, New Mexico, Utah	4	1,730	11,000	4	1,890	13,700
Arkansas, Louisiana, Oklahoma	7	2,410	43,600	6	2,190	35,400
California	6	1,750	30,000	6	1,840	36,500
Maryland, North Carolina, Virginia	5	1,420	33,300	4	1,170	27,700
Florida	3	1,260	27,800	3	1,320	29,600
Georgia	2	782	25,200	1	238	6,040
Illinois, Indiana, Kansas	6	1,600	31,200	6	2,130	34,400
Iowa	4	1,600	26,500	4	1,160	16,400
Massachusetts, New Hampshire, New Jersey	5	1,870	36,600	5	1,230	29,500
Michigan	3	526	16,900	3	366	11,200
Nevada	4	2,830	19,600	4	1,450	13,000
New York	4	1,400	27,700	4	1,340	27,500
Ohio	3	521	10,500	3	444	7,640
Pennsylvania	--	--	--	1	234	5,390
Texas	4	1,480	18,700	5	1,470	21,300
Washington and Wyoming	3	909	17,500	4	2,090	26,300
Total	64	22,300	381,000	64	21,000	353,000

-- Zero.

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

TABLE 4  
GYPSUM PRODUCTS (MADE FROM DOMESTIC, IMPORTED, AND BYPRODUCT GYPSUM) SOLD OR USED IN THE UNITED STATES, BY USES 1/

(Thousand metric tons and thousand dollars)

Use	1999		2000	
	Quantity	Value	Quantity	Value
Uncalcined:				
Portland cement	5,730	77,200	3,800	44,100
Agriculture and miscellaneous 2/	4,100	37,700	1,920	28,100
Total	9,830	115,000	5,720	72,200
Calcined:				
Plasters	627	105,000	896	110,000
Prefabricated products 3/	27,000	3,310,000	22,900	2,680,000
Total	27,700	3,420,000	23,800	2,790,000
Grand total	37,500	3,540,000	29,500	2,860,000

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

2/ Includes byproduct gypsum.

3/ Includes weight of paper, metal, or other materials and some byproduct gypsum.

TABLE 5  
 PREFABRICATED GYPSUM PRODUCTS SOLD OR USED IN THE UNITED STATES 1/

Product	1999			2000		
	Thousand square feet	Thousand metric tons 2/	Value (thousands)	Thousand square feet	Thousand metric tons 2/	Value (thousands)
Lath:						
3/8 inch	3,960	3	\$1,010	3,990	3	\$1,040
1/2 inch	(3/)	(3/)	(3/)	(3/)	(3/)	(3/)
Other	323	(3/)	47	(3/)	(3/)	(3/)
Total	4,280	3	1,050	3,990	3	1,040
Veneer base	454,000	463	57,300	431,000	419	49,900
Sheathing	352,000	331	44,900	240,000	214	29,300
Regular gypsumboard:						
3/8 inch	812,000	802	113,000	1,370,000	1,090	116,000
1/2 inch	13,600,000	11,700	1,490,000	12,100,000	9,760	1,170,000
5/8 inch	2,180,000	2,310	184,000	1,160,000	1,250	69,600
1 inch	232,000	249	49,300	168,000	189	39,500
Other 4/	546,000	548	70,000	274,000	240	36,800
Total	17,400,000	15,600	1,910,000	15,100,000	12,500	1,430,000
Type X gypsumboard	7,630,000	7,810	893,000	7,620,000	7,420	792,000
Predecorated wallboard	86,900	87	31,200	99,000	98	29,600
5/16-inch mobile home board	1,530,000	1,450	160,000	1,080,000	816	118,000
Water-and moisture-resistant board	927,000	891	139,000	1,170,000	989	143,000
Other	388,000	374	78,800	436,000	402	84,100
Grand total	28,700,000	27,000	3,310,000	26,100,000	22,900	2,680,000

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

2/ Includes weight of paper, metal, or other materials.

3/ Less than 1/2 unit.

4/ Includes 1/4-, 7/16-, and 3/4-inch gypsumboard.

TABLE 6  
 IMPORTS FOR CONSUMPTION OF CRUDE GYPSUM, BY COUNTRY 1/

(Thousand metric tons and thousand dollars)

Country	1999		2000	
	Quantity	Value	Quantity	Value
Argentina	(2/)	21	--	--
Australia	16	187	16	223
Belgium	2	475	--	--
Canada 3/	6,320	60,300	6,380	66,100
China	(2/)	5	(2/)	2
Dominican Republic	(2/)	14	(2/)	3
Finland	1	948	--	--
Germany	9	1,240	(2/)	13
Japan	(2/)	37	(2/)	64
Mexico	2,260	16,100	2,020	14,600
Morocco	(2/)	13	(2/)	7
South Africa	--	--	(2/)	14
Spain	720	7,260	798	8,110
Taiwan	1	185	--	--
Thailand	17	1,970	--	--
United Kingdom	(2/)	118	(2/)	229
Total	9,340	88,900	9,210	89,300

-- Zero.

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

2/ Less than 1/2 unit.

3/ Includes anhydrite.

Source: U.S. Census Bureau.

TABLE 7  
SUMMATION OF U.S. GYPSUM AND GYPSUM PRODUCTS TRADE DATA 1/

(Thousand metric tons and thousand dollars)

Year	Crude 2/		Plasters 3/		Boards 4/		Other value 5/	Total value
	Quantity	Value	Quantity	Value	Quantity	Value		
Exports:								
1999	112	11,000	588	32,000	52	22,900	27,400	93,300
2000	161	12,600	248	30,200	58	27,100	32,200	102,000
Imports for consumption:								
1999	9,340	88,900	14	3,470	1,710	294,000	79,300	465,000
2000	9,210	89,300	15	3,920	783	113,000	62,600	269,000

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

2/ Import and export data are for "Gypsum, anhydrite," Harmonized Tariff Schedule of the United States (HTS) code 2520.10.0000.

3/ Import and export data are for "Plasters," HTS code 2520.20.0000.

4/ Import and export data are for "Boards, sheets, panels, tiles, and similar articles, not ornamented--faced or reinforced with paper or paperboard only," HTS code 6809.11.0000.

5/ Import and export data are for "Boards, sheets, panels, tiles, and similar articles, not ornamented: Other," HTS code 6809.19.0000, and "Other articles," HTS code 6809.90.0000

Source: U.S. Census Bureau.

TABLE 8  
GYPSUM: WORLD PRODUCTION, BY COUNTRY 1/ 2/

(Thousand metric tons)

Country	1996	1997	1998	1999	2000 e/
Afghanistan e/	3	3	3	3	3
Algeria e/	250	275	275	275	275
Argentina	633	697	650	571 r/	514
Australia e/	1,800 r/	1,800 r/	1,900 r/	2,500 r/	3,800
Austria e/ 3/	996 4/	1,000	1,000	1,000	1,000
Azerbaijan e/	55	60	60	60	60
Bhutan	55	50	53	54 e/	54
Bolivia	(5/)	(5/)	--	-- e/	--
Bosnia and Herzegovina e/	30	30	30	30	30
Brazil 3/	1,126	1,507 r/	1,632	1,456 r/	1,500
Bulgaria 3/	169	156	183	180	180
Burma	38	38	36	45	48 4/
Canada 3/	8,202	8,628	8,967	9,345 r/	8,548 p/
Chile	520	398	781	886 r/	890
China e/	7,780	9,100	6,800 r/	6,700 r/	6,800
Colombia	522	565	560 e/	560 e/	560
Croatia	86	102	100 e/	100 e/	100
Cuba e/	130	130	130	130	130
Cyprus	94 r/	234 r/	297 r/	182 r/	138 4/
Czech Republic	443	241	222	250	250
Dominican Republic	86	115 r/	80 r/	86 r/	90
Ecuador	2	2	2 e/	2 e/	2
Egypt 3/	2,000 e/	2,423	1,338	1,500 e/	2,000
El Salvador e/	5	6	6	6	6
Eritrea	(5/)	(5/)	(5/)	(5/)	(5/)
Ethiopia e/ 3/	124	120	112 r/	108 r/	108
France e/ 3/	4,550 4/	4,500	4,500	4,500	4,500
Germany (marketable) e/ 3/	3,000	3,000	3,000	2,500	2,500
Greece 3/	546	663	600 e/	600 e/	600 e/
Guatemala e/	28 4/	30	30	30	29
Honduras e/	26	28	30	30	30
Hungary e/ 3/	190	190	180	180	180
India	2,442	2,031	2,192	2,200 e/	2,210
Indonesia	1 e/	--	(5/)	6	5
Iran 6/	8,570	8,900 e/	11,843 r/	10,834 r/	11,000
Iraq e/ 7/	80 r/	85 r/	100 r/	100 r/	80
Ireland	422	477	450	450	450
Israel	161 r/	121 r/	56 r/	50 r/	46

See footnotes at end of table.



TABLE 8--Continued  
 GYPSUM: WORLD PRODUCTION, BY COUNTRY 1/ 2/

(Thousand metric tons)

Country	1996	1997	1998	1999	2000 e/
Italy e/	1,275 4/	1,300	1,300	1,300	1,300
Jamaica	339	264	154	236 r/	240
Japan	5,432	5,371	5,305	5,549 r/	5,600
Jordan	190 e/	194	176	178 r/	175
Kenya e/ 3/	1	1	1	1	1
Laos	113 e/	114	130	135	154
Latvia	64	117	119 r/	97 r/	122 p/
Lebanon e/	3	3	3	3	3
Libya e/	175	125	150	150	175
Luxembourg e/ 3/	(5/)	(5/)	(5/)	(5/)	(5/)
Macedonia e/	25	25	25	25	25
Mali e/	1	1	1	1	1
Mauritania	13	80	100	100 e/	100
Mexico 3/	6,065	5,869	7,045	6,954 r/	7,000
Moldova e/	13 4/	14	14	14	14
Mongolia e/	25	25	25	25 r/	25
Morocco e/	450	450	450	450	450
Namibia	-- e/	-- e/	3	1 r/	1
Nicaragua e/ 3/	13	16 3/	23 3/	23	23
Niger e/	2	2	2	2	2
Nigeria e/	383	300	300	200	300
Pakistan	504	465	244	245	377 3/
Paraguay e/	5	5	5	4	4
Peru	65 r/	64 r/	79 r/	76 r/	52 p/
Poland 3/	1,502 r/	1,618 r/	1,702 r/	1,700 r/ e/	1,700
Portugal e/ 3/	521 3/	500	500	500	500
Romania	91	79	75	75	75
Russia	1,534	559	609 r/	650 r/	700
Saudi Arabia e/	363 3/	365	330	330	350
Serbia and Montenegro	44	32	35	5	15
Sierra Leone e/	(5/)	(5/)	(5/)	(5/)	(5/)
Slovakia 3/	121	116	128	117 r/	120
Slovenia e/	10	10	10	10	10
Somalia e/	1	1	2	2	2
South Africa	341	365	488 r/	514	413 4/
Spain e/ 3/	8,191 4/	8,000	8,000	7,500	7,500
Sudan e/ 3/	5	4 r/	3 r/	4 r/	4
Switzerland e/	300	300	300	300	300
Syria	358 r/	330 r/	290 r/	301 r/	304
Taiwan	3	2	2	(5/)	(5/)
Tajikistan e/	30	26	32	35	35
Tanzania 3/	55 r/	46 r/	59 r/	21 r/	21
Thailand	8,934	8,858 r/	4,334	5,005 r/	5,830 4/
Tunisia e/	100	100	100	100	100
Turkey	754	414	352	400	300
Turkmenistan e/	170 3/	85	100	100	100
United Arab Emirates e/	90	90	90	90	90
United Kingdom e/ 3/	2,000	2,000	2,000	1,800	1,500
United States 8/	17,500	18,600	19,000	22,400	19,500 4/
Uruguay	130	943	1,123	1,050 r/	1,000
Venezuela	57	30	80	42 r/	25 4/
Yemen	97 r/ e/	101 r/ e/	102 r/	100 r/	100
Zambia e/ 7/ 9/	11	11	11	11	10
Total	104,000 r/	106,000	104,000 r/	106,000 r/	106,000

e/ Estimated. p/ Preliminary. r/ Revised. -- Zero.

1/ World totals, U.S. data, and estimated data are rounded to no more than three significant digits; may not add to totals shown.

2/ Table includes data available through July 13, 2001.

3/ Includes anhydrite.

4/ Reported figure.

5/ Less than 1/2 unit.

6/ Data are for years beginning March 21 of that stated.

7/ For cement production only. Information is insufficient to formulate reliable estimates for output for other uses (plaster, mortar, etc.).

8/ Excludes synthetic gypsum.

9/ Data are for years beginning March 1 of that stated.