

PERLITE

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In 2001, the amount of domestic processed and expanded perlite sold and used decreased compared with that of 2000. Imports slightly decreased while exports remained about the same in 2001 compared with those of 2000. The decreased demand was primarily from formed products manufacturers but demand also decreased for filter aid, horticultural aggregates, laundries, insulation, and plaster aggregate. Sales increased for concrete aggregates, fillers, and miscellaneous uses but not enough to offset the decreased demand from the other markets.

Production

According to the data collected by the U.S. Geological Survey (USGS), the amount of U.S.-processed perlite sold or used decreased by about 12.5% to 588,000 metric tons (t) compared with that of 2000. The value of processed perlite sold or used decreased by 5.9% to \$21.4 million compared with that of 2000. The amount of expanded perlite sold or used by domestic producers decreased by 3.1% to 693,000 t, and the associated value fell slightly to \$146 million compared with that of 2000 (table 1).

Domestic production data for perlite are derived by the USGS from two voluntary annual surveys—one for domestic mine operations (processed perlite) and one for expanding plants. The expanding plants consume domestic and imported process perlite. All the processed perlite included in table 1 was produced by 10 mines operated by 8 companies; 8 of the 10 operations responded to the USGS survey, representing about 90% of the processed perlite sold or used in 2001. The perlite was mined in Arizona, California, Idaho, Nevada, New Mexico, Oregon, and Utah. New Mexico operations accounted for the vast majority of the total tonnage mined. Ore producers were Harborlite Corp. in Arizona and New Mexico; American Perlite Co. in California; Idaho Minerals LLC in Idaho; Eagle-Picher Minerals, Inc., and Wilkins Mining and Trucking, Inc., in Nevada; Cornerstone Industrial Minerals Corp. in Oregon; Dicapertl Corp. in New Mexico; and Basin Perlite Co. in Utah. Of the 63 expanding operations canvassed, 61 were active. Of those, 35 operations (57%) responded, reporting about 75% of the total expanded perlite sold or used (table 1). The top seven producers of expanded perlite, each with production of more than 30,000 metric tons per year, accounted for about 84% of expanded perlite sold or used in the United States in 2001. The remaining 16% was sold or used by 26 companies.

Consumption

Domestic apparent consumption is defined as U.S. processed perlite sold and used plus imports minus exports. In 2001, domestic apparent consumption of processed perlite was

720,000 t, an 11% decrease compared with that of 2000. Consumption of expanded perlite for construction-related uses, which was the major market for expanded material, decreased by 5.8% to 466,000 t. Construction uses of expanded perlite, which consisted of concrete aggregate, formed products, masonry- and cavity-fill insulation, and plaster aggregate, accounted for about 67% of total domestic sales in 2001. Expanded perlite consumption increased for concrete aggregate, fillers, and miscellaneous uses. Consumption decreased for all other uses (table 3). Perlite was expanded, usually for local consumption, in 30 States. The leading States in production of expanded perlite sold or used, in descending order, were Mississippi, Georgia, Illinois, Pennsylvania, Alabama, Minnesota, and Virginia (table 2).

Prices

Processed perlite sold at an average value of \$36.53 per metric ton, which was up by 6.2% compared with that of 2000. Perlite consumed by expanding plants operated by the mining companies was valued at \$35.57 per ton, which was an increase of 15.7% compared with that of 2000. The average price for all perlite sold or used by mining companies was \$36.31 per ton, which was up 7.5% compared with that of 2000. The average price of expanded perlite was \$211 per ton, up from \$207 per ton in 2000; the range in reported prices, however, was wide—from less than \$100 per ton to more than \$1,000 per ton.

The average prices by use per ton of expanded perlite, in descending order, were fillers, \$404 per ton; masonry- and cavity-fill insulation, \$365 per ton; low-temperature insulation, \$363 per ton; filter aid, \$321 per ton; horticultural aggregate, \$320 per ton; laundries, \$307 per ton; concrete aggregate, \$299 per ton; plaster aggregate, \$266 per ton; and formed products, \$146 per ton (table 3).

Foreign Trade

Exports of processed and expanded perlite, primarily to Canada, were estimated to be 43,000 t, which was unchanged from that of 2000. Imports of processed perlite, almost exclusively from Greece, decreased slightly to about 175,000 t. Import and export data were derived from U.S. Census Bureau data, the Journal of Commerce's Port Import and Export Reporting Service, and importers and exporters.

World Review

The United States was estimated to be the largest producer and consumer of crude and expanded perlite. Other leading producers of processed crude perlite, in descending order, were

Greece, Japan, Hungary, and Turkey (table 4). In 2001, 13 countries produced 1.71 million metric tons of perlite. Owing to a lack of reliable figures, however, this total does not include several producing countries, such as China, which was probably the largest or second largest producer in the world.

Outlook

Total consumption of expanded perlite and processed perlite in the United States is expected to increase slightly in 2002. Growth in imports of processed perlite is expected to slow the growth of domestic processed perlite sales. The growth in Canadian horticultural perlite demand may, however, result in increased exports of domestic processed perlite. The newer mines opened over the last 5 years and continued growth in imports are expected to continue to restrain price increases for many grades of processed perlite.

GENERAL SOURCES OF INFORMATION

U.S. Geological Survey Publications

Lightweight Aggregates. Ch. in United States Mineral Resources, Professional Paper 820, 1973.

Perlite. Ch. in Mineral Commodity Summaries, annual.

Other

Bates, R.L., 1969, Geology of the industrial rocks and minerals: New York, Dover Publications Inc., 459 p.

Harben, P.W., and Bates, R.L., 1990, Industrial minerals—Geology and world deposits: Surrey, United Kingdom, Metal Bulletin plc, 312 p.

Industrial Minerals Magazine.

Perlite. Ch. in Mineral Facts and Problems, U.S. Bureau of Mines Bulletin 675, 1985.

TABLE 1
PERLITE MINED, PROCESSED, EXPANDED, AND SOLD OR USED BY PRODUCERS IN THE UNITED STATES 1/

(Thousand metric tons and thousand dollars)

Year	Perlite mined 2/	Processed perlite					Expanded perlite		
		Sold to expanders		Used at own plant to make expanded material		Total quantity sold or used	Quantity produced	Sold or used	
		Quantity	Value	Quantity	Value			Quantity	Value
1997	656	605	19,900	101	3,400	706	700	695	143,000
1998	832	583	18,800	102	3,060	685	738	736	148,000
1999	821	619	20,700	92	3,050	711	731	729	148,000
2000	873	570	19,600	101	3,100	672	715	715	148,000
2001	611	490	17,900	97	3,450	588	686	693	146,000

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

2/ Crude ore mined and stockpiled for processing.

TABLE 2
EXPANDED PERLITE PRODUCED AND SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE 1/

State	2000				2001			
	Quantity produced (metric tons)	Sold or used		Average value per ton 2/	Quantity produced (metric tons)	Sold or used		Average value per ton 2/
		Quantity (metric tons)	Value (thousands)			Quantity (metric tons)	Value (thousands)	
California	31,600	31,000	\$10,600	\$341	30,300	30,300	\$10,700	\$352
Florida	35,300	34,900	9,000	257	30,800	30,700	7,880	256
Michigan	24,900	25,100	5,380	214	21,000	21,000	4,860	232
Mississippi	127,000	127,000	15,900	125	123,000	123,000	16,100	130
Pennsylvania	49,600	49,600	8,270	166	49,000	49,000	8,140	166
Other 3/	446,000	447,000	98,900	221	414,000	421,000	93,700	222
Total or average	715,000	715,000	148,000	207	686,000	693,000	146,000	211

W Withheld to avoid disclosing company proprietary data; included with "Other."

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

2/ Average value based on unrounded data and rounded to nearest dollar.

3/ Includes Alabama, Arizona, Arkansas, Colorado, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Maine, Massachusetts, Minnesota, Missouri, Nevada, New Jersey, North Carolina, Ohio, Oklahoma, Oregon, Tennessee, Texas, Utah, Virginia, Wisconsin, and Wyoming.

TABLE 3
EXPANDED PERLITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY USE 1/

Use	2000			2001		
	Quantity (metric tons)	Value (thousands)	Average value per ton 2/	Quantity (metric tons)	Value (thousands)	Average value per ton 2/
Concrete aggregate	2,200	\$700	\$318	3,280	\$980	\$299
Fillers	48,800	19,600	402	54,400	22,000	404
Filter aid	60,300	19,400	322	56,800	18,200	321
Formed products 3/	477,000	68,800	144	452,000	65,800	146
Horticultural aggregate	83,700	26,600	318	81,000	25,900	320
Laundries	3,360	933	277	2,440	750	307
Low-temperature insulation	2,160	886	410	1,750	635	363
Masonry and cavity-fill insulation	7,730	3,100	401	4,880	1,780	365
Plaster aggregate	7,040	2,110	300	5,750	1,530	266
Other 4/	22,400	5,930	267	30,900	8,860	307
Total or average	715,000	148,000	207	693,000	146,000	211

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

2/ Average value based on unrounded data and rounded to nearest dollar.

3/ Includes acoustic ceiling panels, pipe insulation, roof insulation board, and unspecified formed products.

4/ Includes explosives, high-temperature insulation, paint, refractory, soap, steel, sugar manufacture, and various nonspecified industrial uses.

TABLE 4
PERLITE: WORLD PRODUCTION, BY COUNTRY 1/ 2/

(Metric tons)

Country 3/	1997	1998	1999	2000	2001 e/
Armenia e/	6,000	35,000	35,000	35,000	35,000
Australia e/ 4/	5,000	5,000	5,000	5,000	5,000
Greece (screened)	500,714 r/	500,000 r/	435,431 r/	360,000 r/	360,000
Hungary e/ 4/	120,000	130,000	148,000	150,000	150,000
Iran	10,000 e/	13,320	15,069	15,000 e/	15,000
Italy e/	60,000	60,000	60,000	60,000	60,000
Japan e/	290,000	251,000	260,000 e/	250,000 e/	250,000
Mexico 4/	51,758	54,840	61,596 r/	68,702 r/	70,000
Philippines	20,000 e/	6,356	10,265	5,650 r/ e/	6,000
Slovakia	25,000 e/	24,200 e/	19,460 r/	17,020 r/	20,000
South Africa e/	403 5/	400	400	400	400
Turkey 4/	103,416	124,312	147,818 r/	149,429 r/	150,000
United States (processed ore sold and used by producers)	706,000	685,000	711,000	672,000	588,000
Total	1,900,000	1,890,000 r/	1,910,000 r/	1,790,000 r/	1,710,000

e/ Estimated. r/ Revised.

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/ Unless otherwise stated, figures represent processed ore output. Table contains data available through May 20, 2002.

3/ In addition to the countries listed, Algeria, Bulgaria, China, Iceland, Mozambique, and the former Yugoslavia are believed to have produced perlite but output are not reported, and available information is inadequate for the formulation of reliable estimates of output levels.

4/ Crude ore.

5/ Reported figure.