

PERLITE

By Wallace P. Bolen

The perlite industry ended 1996 with mixed results. The amount of processed perlite sold or used dropped about 2% compared with that of 1995, but the amount and value of expanded perlite sold or used in the United States again set records. Imports increased to 125,000 tons in 1996, while exports decreased slightly to 38,000 tons.

Production

The amount and value of U.S. processed perlite decreased slightly according to the U.S. Geological Survey (USGS). The amount of expanded perlite sold or used by domestic producers increased 2.7% to 670,000 metric tons, and the associated value increased nearly 8% compared with that of 1995. (*See table 1.*) Construction uses of expanded perlite, mostly formed products, accounted for almost 71% of total domestic sales in 1996.

Domestic production data for perlite are derived by the USGS from two voluntary annual surveys; one for domestic mine operations (processed perlite) and the other for expanding plants. All the processed perlite included in table 1 was produced by eight mines operated by six companies, all of whom responded to the survey request. Three companies reported three mines idle, bringing the total to eight companies with active or inactive perlite mines. Of the 69 expanding companies canvassed, 61 were active; 58 companies, or 84%, responded, reporting about 88% of the total expanded perlite sold or used shown in table 1. The perlite mined came from four Western States. New Mexico operations accounted for the vast majority of the total tonnage mined. Arizona, California, and Nevada accounted for the remaining tonnage. Ore producers were Harborlite Corp. in Arizona and New Mexico, American Perlite Co. in California, Wilkins Mining and Trucking Co. and Eagle-Picher Minerals Inc. in Nevada, and Dicapert Corp. and USG Corp. in New Mexico. The top eight producers of expanded perlite, each with production of more than 25,000 tons annually, accounted for 86% of expanded perlite sold or used in the United States in 1996. The remaining 14% was sold or used by 25 companies.

Idaho Minerals (a subsidiary of Moneta Porcupine Mines, Inc. at Timmins, Ontario, Canada), which purchased the former Oglebay Norton Company mine, processing plant, and expanding plant located near Malad City, Idaho, in February, began operating in mid-1996. A small amount of perlite mined at the Wright Creek Mine was processed and expanded near Malad City. Some of the processed perlite was sold to other expanders.

Atlas Gold Corporation continued work on a mine and a processing facility at Tucker Hill, OR. A small amount of processed perlite, derived from a trial-scale run, has been

delivered to an expander.

Pearlqueen Inc. is planning to open and operate a mine and a processing plant near Kaysville, UT.

The expanding facility opened by Harborlite Corporation in Youngsville, NC, in late 1995, was operational for all of 1996. The plant was opened in response to company studies that indicated a need for various grades of expanded perlite in the region. The only other producer in the region is Carolina Perlite Co., located in Gold Hill, NC.

Harborlite announced the closing of its Ft. Worth, TX, expanding plant. The plant was owned first by Nord Corp. and then by Filter Media Corp. After Harborlite bought out Filter Media, it decided to consolidate its Texas operations at the former Filter Media operation in LaPorte.

Perlite of Houston Inc. announced the permanent closure of its expanding plant near Tomball, TX. The company confirmed the closure was in response to increased competition and governmental regulations, and to raw material supply problems. The closure leaves idle two furnaces and related spare parts and equipment.

Innova Technologies closed its McQueeney, TX, expanding plant. The plant equipment was sold and the purchaser moved it to Monterrey, Mexico.

Consumption

Domestic apparent consumption is defined as U.S. processed perlite sold and used plus imports minus exports. In 1996, domestic apparent consumption of processed perlite was 771,000 metric tons, an increase of 3.6% from that of 1995. Consumption of expanded perlite for construction-related uses, the major market for expanded material, increased 6.3% to 475,000 tons. Expanded perlite used for filter aid, fillers, and agricultural applications decreased about 7% to 174,000 tons. Leading States, in descending order of expanded perlite sold and used, were Georgia, Mississippi, Illinois, Pennsylvania, Alabama, California, Florida, and Oregon. (*See tables 2 and 3.*)

Prices

Processed perlite sold at an average value of \$28.14 per ton. Perlite consumed by expanding plants operated by the mining companies was valued by the mining companies at \$28.50 per ton. The average price for all perlite sold or used by miners was \$28.25 per ton. The average price of expanded perlite was \$205 per ton; there was however, a wide range in quoted prices from less than \$100 to more than \$1,000 per ton.

The average prices for a ton of expanded perlite, by use, were miscellaneous uses, \$512; low-temperature insulation,

\$444; fillers, \$379; cavity-fill insulation, \$356; filter aid, \$315; horticultural aggregate, \$310; concrete aggregate, \$299; plaster aggregate, \$220; and formed products, \$139.

Foreign Trade

Exports of perlite, primarily to Canada, were estimated to be 38,000 tons. Imports of processed perlite, almost exclusively from Greece, increased to a record level of around 125,000 tons.

World Review

The United States was estimated to be the largest producer and consumer of crude and expanded perlite. Other leading countries, in descending order of production of processed (unexpanded) perlite, were Greece, Japan, Turkey, and Hungary. (*See table 4.*) Thirteen countries produced 1.68 million tons of processed perlite. Owing to a lack of reliable figures however, this total does not include several producing countries, including China, which is 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 in 1997. Moderate growth in imports of processed perlite are expected to slow the growth of domestic processed perlite sales. New mines and expanding plants throughout the United States should restrain price increases in many grades of processed and expanded perlite.

SOURCES OF INFORMATION

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

(Thousand metric tons and thousand dollars)

Year	Processed perlite					Expanded perlite			
	Perlite mined 2/	Sold to expanders		Used at own plant to make expanded material		Total quantity sold and used	Quantity produced	Sold and used	
		Quantity	Value	Quantity	Value			Quantity	Value
1992	762	422	11,700	118	3,490	541	551	550	113,000
1993	691	453	13,800	116	3,680	569	566	562	111,000
1994	664	531	15,900	114	3,440	644	636	636	123,000
1995	813	592	16,200	108	3,350	700	657	652	127,000
1996	811	565	15,900	120	3,420	684	671	670	137,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Crude ore mined and stockpiled for processing.

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

State	1995				1996			
	Quantity produced (metric tons)	Sold and used		Average value per ton 2/	Quantity produced (metric tons)	Sold and used		Average value per ton 2/
		Quantity (metric tons)	Value (thousands)			Quantity (metric tons)	Value (thousands)	
California	40,900	40,400	\$10,200	\$252	44,500	44,500	\$12,100	\$272
Florida	37,500	36,800	8,580	233	39,000	38,700	9,740	251
Michigan	31,600	31,600	6,050	191	27,700	27,700	5,720	207
Mississippi	81,500	81,500	8,400	103	69,500	69,500	7,390	106
Pennsylvania	51,900	51,900	9,610	185	49,300	49,300	9,060	184
Texas	16,600	16,100	4,710	292	9,540	9,540	3,610	378
Other 3/	397,000	394,000	79,100	200	431,000	430,000	89,700	208
Total	657,000	652,000	127,000	194	671,000	670,000	137,000	205

1/ Data are rounded to 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 (1995), Colorado, Georgia (1995), Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Massachusetts (1995), Minnesota, Missouri, Nevada, New Jersey, North Carolina, Ohio, Oklahoma, Oregon, Tennessee, Utah, Virginia, Wisconsin, and Wyoming.

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

Use	1995		1996	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Concrete aggregate	4,790	\$1,120	6,480	\$1,940
Fillers	61,100	17,700	50,900	19,300
Filter aid	64,400	17,900	62,600	19,700
Formed products 2/	429,000	63,200	455,000	63,200
Horticultural aggregate 3/	62,000	18,600	60,700	18,800
Low-temperature insulation	2,270	1,220	2,070	920
Masonry and cavity-fill insulation	8,360	2,670	7,610	2,710
Plaster aggregate	5,230	1,130	5,720	1,260
Other 4/	14,900	4,230	18,700	9,570
Total	652,000	127,000	670,000	137,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes acoustic ceiling tile, pipe insulation, roof insulation board, and unspecified formed products.

3/ Includes fertilizer carriers.

4/ Includes high-temperature insulation, oil-water absorbents, acoustic tile, paint extender (1995), and various nonspecified industrial uses.

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

(Metric tons)

Country 3/	1992	1993	1994	1995	1996 e/
Armenia e/	50,000	10,000	5,000	6,000	6,000
Australia e/ 4/	5,000	5,000	5,000	5,000	5,000
Czechoslovakia e/ 5/ 6/	50,000	XX	XX	XX	XX
Greece (screened)	398,360 r/	350,000 r/ e/	371,945 r/	360,000 r/ e/	350,000
Hungary 4/	93,000 e/	80,000	85,000	104,000	105,000
Iran e/	5,000	6,000	6,000	6,000	6,000
Italy e/	65,000	65,000	65,000	60,000	60,000
Japan e/	203,000	200,000	200,000	200,000	200,000
Mexico 4/	42,637	34,600 e/	31,918 r/	29,471 r/	30,000
Philippines e/	2,800	19,779 7/	20,000	20,000	20,000
Slovakia e/ 6/	XX	50,000	50,000	50,000	50,000
South Africa	97	328	914 r/	1,338 r/	1,300
Turkey 4/	280,883	147,864	164,582	165,000 e/	160,000
United States (processed ore sold and used by producers)	541,000	569,000	644,000	700,000	684,000 7/
Total	1,740,000 r/	1,540,000 r/	1,650,000 r/	1,710,000 r/	1,680,000

e/ Estimated. r/ Revised. XX Not applicable.

1/ World totals, U.S. data, and estimated data are rounded to 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, 1997.

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

4/ Crude ore.

5/ Dissolved on Dec. 31, 1992.

6/ All production for Czechoslovakia in 1992 came from Slovakia.

7/ Reported figure.