

PERLITE

By Wallace P. Bolen

Consolidations, new operations, and record production and consumption made 1994 a remarkable year for the perlite industry. A record-setting 644,000 metric tons shattered the previous high for processed perlite sold or used from U.S. mines in a single year. The previous record of 599,000 tons was set in 1979. Records for the amount and value of expanded perlite sold or used in the United States also set corresponding records. (See table 1.)

Production

U.S. production of processed perlite increased 13% in quantity and 11% in value according to the United States Bureau of Mines (USBM). Expanded perlite, sold or used by domestic producers, increased 13% in quantity, to 636,000 metric tons, and the associated value increased 11% compared with 1993. Construction uses of expanded perlite, mostly formed products, accounted for over 71% of total domestic sales in 1994.

Domestic production data for perlite are developed by the USBM from two voluntary annual surveys, one for domestic mine operations and the other for expanding plants. All of the processed perlite in table 1 was produced by eight mines operated by six companies in 1994. All the mining operations fully responded to the survey request, a 100% response rate. Three companies reported three mines idle, bringing the total to eight companies with active or inactive perlite mines. Of the 69 expanding plants canvassed, 64 were active; 62 plants, or 90% responded, representing nearly 99% of the total expanded perlite sold or used shown in table 1. The perlite mined came from four Western States with New Mexico operations accounting for the vast majority of the total tonnage mined. The remaining tonnage came from Arizona, California, and Nevada. 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 Dicaparl Corp. and USG Corp. in New Mexico.

On March 2, 1994, GAF Corp., Wayne, New Jersey, purchased International Permalite Company's Ontario, California, and Florence, Kentucky, expanding plants. GAF, a diversified company involved with broadcasting, building

materials, and chemicals, intends to expand perlite mainly for roof insulation board manufacture.

Harborlite Corp. continued its acquisition activities as they purchased the two expanding facilities of Filter Media, Inc., March 24, 1994. The expanding plants that produced mainly filter aid were located near Reserve, Louisiana, and LaPorte, Texas. Both operations will be renamed as Harborlite Corp. Harborlite now operates seven expanding plants and two mines.

Celotex Corp. purchased Apache Building Materials Company's Meridian, Mississippi, expanding plant in December 1994. Coupled with its plant in L'Anse, Michigan, Celotex is now the seventh largest expander of perlite in the United States. The top seven producers of expanded perlite, each with production over 30,000 tons annually, accounted for 83% of expanded perlite sold or used in the United States in 1994. The remaining 17% was sold or used by 28 companies.

Consumption

Domestic apparent consumption is defined as U.S. processed perlite sold and used plus imports minus exports. Domestic apparent consumption of processed perlite in 1994 was 684 metric tons, an increase of 13% from that of 1993. Consumption of expanded perlite for construction-related uses, the major market for expanded material, increased 18% to 454,000 tons. Expanded perlite used as filter aid, fillers, and in agricultural markets totaled 168,000 tons, about the same as in 1993. Leading States, in descending order of expanded perlite sold and used, were Georgia, Mississippi, Illinois, Pennsylvania, Alabama, California, Florida, and Virginia. (See tables 2 and 3.)

Prices

Processed perlite sold at an average value of \$29.94 per ton. Perlite consumed by expanding plants operated by the mining companies was valued by the mining companies at \$30.18 per ton. The average price for all perlite sold or used by mining companies was \$30.03 per ton. The average price of expanded perlite was \$194 per ton but there was a wide range in quoted prices from less than \$100 to over \$1,000 per ton.

The average prices for a ton of expanded perlite, by use in descending order, were low-temperature insulation, \$494; fillers, \$356; cavity-fill insulation, \$325; horticultural aggregate, \$298; concrete aggregate, \$280; filter aid, \$272; high-temperature insulation, \$249; oil and water absorbent, \$245; plaster aggregate, \$198; miscellaneous uses, \$184; acoustic tile, \$152; and roof insulation board, \$132.

Foreign Trade

Perlite exports, primarily to Canada, were estimated to be 30,000 tons. Imports of perlite ore, mainly from Greece, were about 70,000 tons, about the same as in 1993.

World Review

The United States was estimated to be the largest producer and consumer of perlite, both crude and expanded. Other leading countries, in descending order of production of processed (unexpanded) perlite, were Turkey, Greece, and Japan. Thirteen countries contributed a total of 1.58 million tons of processed perlite. However, this total does not include several producing countries due to a lack of reliable figures. (See table 4.)

Outlook

Unless there is change in what has been a generally robust construction market, perlite sales are expected to see modest growth in 1995. It was anticipated that the non-construction markets for perlite will see smaller but still positive growth.

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

(Thousand metric tons and thousand dollars)

Year	Perlite mined 2/	Processed perlite				Total quantity sold and used 3/	Expanded perlite		
		Sold to expanders		Used at own plant to make expanded material	Quantity produced		Sold and used		
		Quantity	Value				Quantity	Value	
1990	659	391	11,100	185	6,340	576	484	478	90,600
1991	711	421	12,100	93	2,940	514	459	449	102,000
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

1/ Previously published and 1994 data are rounded by the U.S. Bureau of Mines to three significant digits; may not add to totals shown.

2/ Crude ore mined and stockpiled for processing.

3/ Data may not add to totals shown because of independent rounding.

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

State	Quantity produced (metric tons)	1993			Quantity produced (metric tons)	1994		
		Sold and used		Average value per ton 2/		Sold and used		Average value per ton 2/
		Quantity (metric tons)	Value (thousands)			Quantity (metric tons)	Value (thousands)	
California	43,900	43,800	\$9,590	\$220	42,700	42,900	\$10,400	\$242
Florida	36,800	36,400	8,310	228	39,300	38,700	9,120	235
Mississippi	64,900	64,900	7,540	116	74,800	74,800	7,280	100
Pennsylvania	58,500	58,500	10,100	173	46,900	46,900	8,610	184
Texas	20,600	19,100	6,850	359	16,300	16,300	4,670	286
Other 3/	341,000	339,000	68,200	201	416,000	416,000	83,400	200
Total	566,000	562,000	111,000	197	636,000	636,000	123,000	194

1/ Previously published and 1994 data are rounded by the U.S. Bureau of Mines 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 (1993), Colorado, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nevada, New Jersey, (1993), 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	(Metric tons)	
	1993	1994
Concrete aggregate	8,420	4,610
Fillers	45,300	43,500
Filter aid	70,000	69,600
Formed products 2/	360,000	432,000
Horticultural aggregate 3/	52,600	55,100
Low-temperature insulation	4,670	2,730
Masonry and cavity-fill insulation	9,930	10,200
Plaster aggregate	5,940	6,840
Other 4/	5,100	11,500
Total	562,000	636,000

1/ Previously published and 1994 data are rounded by the U.S. Bureau of Mines 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 (1994) and various unspecified industrial uses.

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

(Metric tons)

Country 3/	1990	1991	1992	1993	1994 e/
Armenia 4/	XX	XX	50,000 e/	10,000 e/	5,000
Australia e/ 5/	5,000	5,000	5,000	5,000	5,000
Czechoslovakia e/ 6/ 7/	54,000 8/	50,000	50,000	XX	XX
Greece (screened) e/	240,000	286,000 8/	250,000	250,000	200,000
Hungary 5/	93,000	87,800	93,000 e/	90,000 e/	95,000
Iran	2,270	6,280	5,000	6,000 e/	6,000
Italy e/	71,000	70,000	65,000	65,000	65,000
Japan e/	203,000	203,000	203,000	200,000	200,000
Mexico 5/	42,400	48,900	42,600	34,600 r/	35,000
Philippines	3,150	2,890	2,800 e/	19,800 r/	20,000
Slovakia 7/	XX	XX	XX	50,000 e/	50,000
South Africa, Republic of	200	41	97	328 r/	300
Turkey 5/	139,000	88,000	281,000	213,000 r/	250,000
U.S.S.R. e/ 4/ 9/	150,000	80,000	XX	XX	XX
United States (processed ore sold and used by producers)	576,000	514,000	541,000	569,000	644,000 8/
Total	1,580,000	1,440,000	1,590,000 r/	1,510,000 r/	1,580,000

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

1/ Previously published and 1994 data are rounded by the U.S. Bureau of Mines 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 26, 1995.

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 level.

4/ All production in the U.S.S.R. from 1990-91 came from Armenia.

5/ Crude ore.

6/ Dissolved on Dec. 31, 1992.

7/ All production in Czechoslovakia from 1990-92 came from Slovakia.

8/ Reported figure.

9/ Dissolved in Dec. 1991.