

PUMICE AND PUMICITE

By Wallace P. Bolen

Pumice and pumicite apparent consumption in the United States increased about 18% in 1995 compared with that of 1994, according to the U.S. Geological Survey (USGS). The increase was attributable to greater consumption of domestically produced pumice and pumicite and increased imports. By volume, most imports were for construction-related uses with small but significant amounts used for abrasives and stonewashing. Greece recaptured its traditional position as the main source of pumice imports after sharing that position in 1994 with Zaire. (*See table 1.*)

Production

Pumice and pumicite sold or used by U.S. producers increased to 529,000 metric tons with a value of \$13.2 million. The average price of pumice rose slightly from \$24.08 per metric ton to \$24.99 per ton. Prices edged up because of increased consumption of the more expensive grades of pumice for use in landscaping and horticultural uses, for laundries, and for specialty uses. Oregon remained as the largest source of pumice followed in descending order by, New Mexico, California, Idaho, Arizona, and Kansas.

Domestic production data for pumice and pumicite were developed by the USGS from one voluntary survey of U.S. operations. Fourteen companies with 15 active operations contributed 100% of the quantity and value of sold and used as shown in table 1. One of the companies, with one operation, did not respond to the 1995 survey. This company's sold and used data were estimated.

Domestic producers were Tufflite Inc., Phoenix, AZ; California Industrial Minerals Co., Friant, CA; Glass Mountain Pumice Inc., Tulelake, CA; U.S. Pumice Co., Chatsworth, CA; Amcor Precast, Idaho Falls, ID; Hess Pumice Products, Malad City, ID; Producers Pumice, Meridan, ID; Calvert Corp., Norton, KS; Kansas Minerals Inc., Mankato, KS; Copar Pumice Co. Inc., Espanola, NM; Western Mobile New Mexico, Inc., Santa Fe, NM; Utility Block Co., Albuquerque, NM; Cascade Pumice Co., Bend, OR; and Central Oregon Pumice Co., Bend, OR.

Consumption

The amount of pumice sold or used by U.S. producers rose 8% primarily due to increased consumption in the building block, concrete, and landscaping markets. Demand rebounded slightly for stonewashing pumice but producers reported that the market looks weak for 1996. Imports of stonewashing grade pumice were thought to have also decreased although hard

numbers were not available. Some laundries reportedly are moving to Mexico and most are continuing to experiment with alternate materials including diatomite, perlite, and enzymes. The laundries continued to experience either disposal or environmental problems with most of the stonewashing aides. One producer reported that due to the probable cessation of mining at one of their pumice mines, they would no longer be able to produce stonewashing-grade pumice.

The most important market for pumice remained building block, consuming 60% of the total pumice sold or used in the United States. Other important uses, in descending order, were for horticultural and landscaping (13%), stonewashing laundries (8%), abrasive uses (6%), and concrete aggregate (6%). The remaining pumice and pumicite was used for absorbent, diluents, roofing granules, water treatment, and other unspecified uses. Because construction activity remained strong in 1995, construction related uses of pumice continued to be a robust market. The abrasive market for domestically produced pumice declined 11% in 1995 while all other market segments improved. (*See table 2.*)

Foreign Trade

Pumice imports in 1995 surged 67% compared with 1994 to 238,000 tons. Greece continued to be the largest source of imports as the amount of pumice imported rose 167% to 184,000 tons. Zaire exported to the United States for the second straight year but exported only 38% of their 1994 total. Other major exporting countries to the United States were Ecuador, Italy, and Turkey. Besides these countries, nine other countries exported pumice to the United States.

Exports dropped to 16,400 metric tons with a value of \$6.7 million. Canada received 46% of U.S. exports while Japan received 21%. The remainder of exports went to 31 other countries on every continent except Africa and Antarctica. (*See table 3.*)

World Review

The USGS estimated world pumice (and related materials) production at 10.8 million tons. Globally, Italy remained the dominant producer of pumice and pozzolan, with annual production around 5 million tons. Other leading countries in the production of pumice and related materials were Chile, France, Germany, Greece, Spain, Turkey, and the United States. Besides these countries, 18 other countries produced pumice around the world. (*See table 4.*)

Outlook

Consumption of pumice and pumicite in 1996 is expected to decrease slightly from 1995 as construction activity is expected to slow and stonewashing consumption should decrease. Trade should remain at 1995 levels.

OTHER SOURCES OF INFORMATION

Bates, R.L., 1969, *Geology of the Industrial Rocks and Minerals*, Dover Publications, Inc., New York, pp. 39-50.
Bush, A.L., 1973, *Lightweight aggregates*, in Brobst, D.A., and Pratt, W.P., eds., *United States Mineral Resources: U.S. Geological Survey Professional Paper 820*, pp. 333-355.
Industrial Minerals Magazine (London).

TABLE 1
SALIENT PUMICE AND PUMICITE STATISTICS 1/

(Thousand metric tons and thousand dollars)

	1991	1992	1993	1994	1995
United States: Sold and used by producers:					
Pumice and pumicite	401	481	469	490	529
Value (f.o.b. mine and/or mill)	\$9,190	\$14,900	\$12,000	\$11,800	\$13,200
Average value per ton	\$22.90	\$30.99	\$25.68	\$24.08	\$24.99
Exports e/	13	11	18	18	16
Imports for consumption	118	257	143	143	238
Apparent consumption 2/	506	727	594	615	728
World: Production, pumice and related volcanic materials	10,700 r/	10,900	11,400 r/	11,400	10,800 e/

e/ Estimated. r/ Revised.

1/ Data are rounded to three significant digits.

2/ Production plus imports, minus exports, plus adjustments for Government and industry stock changes.

TABLE 2
PUMICE AND PUMICITE SOLD AND USED BY PRODUCERS IN THE UNITED STATES, BY USE 1/

(Thousand metric tons and thousand dollars)

Use	1994		1995	
	Quantity	Value	Quantity	Value
Abrasives 2/	35	3,660	31	3,560
Building block (includes decorative)	315	3,030	320	3,400
Concrete admixture and aggregate	24	751	32	599
Horticultural and landscaping	59	1,730	69	1,680
Laundries	38	1,870	41	2,090
Other 3/	19	770	36	1,890
Total	490	11,800	529	13,200

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

2/ Includes cleaning and scouring compounds.

3/ Includes absorbent, diluents, filter aids, roofing granules, and other unspecified uses.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF PUMICE, BY CLASS AND COUNTRY 1/

(Thousand metric tons and thousand dollars)

Country	Crude or unmanufactured		Wholly or partly unmanufactured	
	Quantity	Value	Quantity	Value
1994:				
Ecuador	4	373	--	--
Greece 2/	69	5,500	--	--
Italy	(3/)	57	1	--
Mexico	2	325	--	472
Turkey	11	1,220	--	--
Zaire 2/	56	4,500	--	--
Other 4/	(3/)	68	(3/)	119
Total	142	12,000	1	591
1995:				
Ecuador	25	294	--	--
Greece 2/	184	14,700	--	--
Italy	(3/)	281	1	246
Mexico	(3/)	63	--	--
Turkey	7	894	--	--
Zaire 2/	21	146	--	--
Other 5/	(3/)	17	(3/)	83
Total	237	16,400	1	329

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

2/ The Journal of Commerce Port Import/Export Reporting Service data.

3/ Less than 1/2 unit.

4/ Includes Austria, Canada, Chile, China, France, Germany, India, Israel, Japan, Republic of Korea, Pakistan, Syria, Taiwan, and the United Kingdom.

5/ Includes Austria, Canada, Germany, Guatemala, Republic of Korea, Spain, Taiwan, and the United Kingdom.

Source: Bureau of the Census.

TABLE 4
PUMICE AND RELATED MATERIALS: WORLD PRODUCTION, BY COUNTRY 1/ 2/

(Metric tons)

Country 3/	1991	1992	1993	1994	1995 e/
Argentina 4/	69,700	89,100	89,000	89,000 e/	89,000
Austria: Trass	8,200	7,490	9,100	5,620 r/	6,000
Burkina Faso e/	10,000	10,000	10,000 r/	11,000 r/	11,000
Cameroon: Pozzolan e/	130,000	130,000	130,000	130,000	130,000
Cape Verde Islands: Pozzolan e/	53,000	53,000	25,000	5,000	5,000
Chile: Pozzolan	321,000	385,000	448,000	450,000 e/	450,000
Costa Rica e/	8,000	8,000	8,000	8,000	8,000
Dominica: Pumice and volcanic ash e/	100,000	100,000	100,000	100,000	100,000
Ecuador	33,500	20,600 r/	12,200 r/	13,000 r/	15,000
Ethiopia e/	37,000	49,000	40,000	113,000 r/	115,000
France: Pozzolan and lapilli	400,000 e/	404,000	526,000	500,000 e/	500,000
Germany: Pumice (marketable) e/	366,000	591,000	647,000 5/	615,000 r/	625,000
Greece: e/					
Pumice	445,000 5/	400,000	400,000	400,000	400,000
Pozzolan	536,000 5/	500,000	500,000	500,000	500,000
Guadeloupe: Pumice e/	230,000	220,000	210,000	210,000	210,000
Guatemala: Pumice	6,130	6,590	6,300	6,000 e/	6,200
Iceland	33,400	33,500	45,000 e/	23,000 r/ e/	30,000
Iran	215,000	330,000	185,000	200,000 e/	200,000
Italy: e/					
Pumice and pumiceous lapilli	700,000	600,000	700,000	700,000	650,000
Pozzolan	4,500,000	4,400,000	4,500,000	4,500,000	4,000,000
Macedonia: Volcanic tuff e/	XX	100,000	75,000	75,000	75,000
Martinique: Pumice e/	150,000	140,000	130,000	130,000	130,000
New Zealand	52,600	112,000	69,200 r/	70,000 r/ e/	70,000
Serbia and Montenegro: Volcanic tuff	XX	109,000	74,200 r/	75,000 r/ e/	75,000
Slovenia: Volcanic tuff e/	XX	50,000	40,000	40,000	40,000
Spain e/ 6/	800,000	800,000	700,000	700,000	600,000
Turkey e/	682,000 r/	736,000	1,220,000 r/	1,200,000 r/	1,200,000
United States (sold and used by producers)	401,000	481,000	469,000	490,000	529,000 5/
Yugoslavia: Volcanic tuff 7/	380,000	XX	XX	XX	XX
Total	10,700,000 r/	10,900,000	11,400,000 r/	11,400,000	10,800,000

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

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

2/ Table includes data available through May 30, 1996.

3/ Pumice and related volcanic materials are also produced in a number of other countries, including (but not limited to) Japan, Mexico, the former U.S.S.R., and Zaire; output is not reported quantitatively, and available information is inadequate for the formulation of reliable estimates of output levels.

4/ Unspecified volcanic materials produced mainly for use in construction products (includes pumice, perlite, pozzolan and toba).

5/ Reported figure.

6/ Includes Canary Islands.

7/ Dissolved in Apr. 1992.