

# DIMENSION STONE

By Harold A. Taylor, Jr.

Production of dimension stone decreased 7% to 1.19 million short tons valued at \$218 million. More than one-half of the dimension stone produced was granite. Limestone, marble, sandstone, and slate were also produced.

Exports of dimension stone increased slightly in value to \$53 million. The value of dimension stone imports for consumption increased 11% to \$440 million, equivalent to 202% of the value of domestic production.

## Legislation and Government Programs

The Canadian International Trade Tribunal has determined that finished Indian granite monuments imported into Canada have been subsidized and are causing injury. Large duties differing from firm to firm will be put on the product of the source firms. American granite monument producers who believe they have a similar problem noted the results with interest.

The approval of General Agreements on Tariffs and Trade will reduce duties on a number of items; table 2 reflects these new duties. The reductions went into effect January 1, 1995.

## Production

Dimension stone was produced by 172 companies at 257 quarries in 36 States, plus Puerto Rico. Leading States, in order of tonnage, were Indiana, Georgia, and Vermont, together producing 39% of the Nation's total. Revised State's statistics for dimension stone (all kinds) in 1993 include New York with 32,450 tons valued at \$8.65 million and Pennsylvania with 61,970 tons valued at \$13.80 million. Of the total production, 42% was granite, 31% was limestone, 14% was sandstone, 3% was slate, 3% was marble, and the remaining 7% was miscellaneous stone. Miscellaneous stone included quartzite argillite, schist, soapstone, and traprock (basalt). Leading producing companies in terms of tonnage were Cold Spring Granite Co., principally in California, Minnesota, South Dakota, and Texas; Rock of Ages Corp. in New Hampshire and Vermont; and Fletcher Granite Co. Inc. in Massachusetts and New Hampshire.

**Granite.**—Dimension granite includes all coarse-grained igneous rocks. Production

decreased 20% to 499,000 tons and decreased 18% in value to \$90.7 million in 1994. Granite was produced by 59 companies at 97 quarries in 19 States. Georgia continued to be the leading State, producing 38% of the U.S. total, followed by Massachusetts and Vermont. These three States together produced about 60% of the U.S. total. Cold Spring Granite, Rock of Ages, and Fletcher Granite Co. were the leading producers and accounted for 37% of U.S. production.

**Limestone.**—Dimension limestone includes bituminous, dolomitic, and siliceous limestones. Indiana, the leading State, produced 173,000 tons in 1994, with Wisconsin, as the second largest producer, and Kansas as the third largest.

The assets of Alabama Limestone have been seized by AmSouth Bank and put up for sale. The assets were collateral for a \$1.5-million debt. They include 364 hectares (900 acres) of land with limestone reserves, an underground quarry and equipment and a finishing plant with 11 operational gangsaws.<sup>1</sup>

**Sandstone.**—Dimension sandstone includes calcareous- and siliceous-cemented sandstones or conglomerates. Quartzite, which also is included, may be described as any siliceous-cemented sandstone. In 1993, the U.S. total for sandstone was 138,000 tons valued at \$13.8 million (revised), Pennsylvania produced 26,400 tons of sandstone valued at \$3.6 million (revised), New York produced 20,500 tons of sandstone valued at \$5.0 million (revised), and Utah and Arizona combined totaled 19,630 tons valued at \$902,000. In 1994, Utah and Arizona combined totaled 76,700 tons valued at \$3.5 million, and in 1992, they totaled 27,400 tons valued at \$2.2 million.

In addition to the quantities shown in table 7, dimension quartzite totaled 57,100 tons worth \$5,266,000 in 1994 and 27,700 tons worth \$2,700,000 in 1992. Utah and Idaho combined totaled 14,400 tons valued at \$1,260,000 in 1994, and 7,850 tons worth \$720,000 in 1992.

Classic portland brownstone has become available after many years' absence. The portland brownstone is being shipped from a quarry in Cheshire, CT. The owners expect to produce more than 566 cubic meters per year (20,000 cubic feet/year), mostly for restoration projects. (See tables 3, 4, 5, and 6.)

Domestic production data for dimension stone are developed by the U.S. Bureau of Mines from voluntary surveys of U.S. producers of rough and finished dimension stone. Of the 324 dimension stone operations surveyed for 1994, including those that were idle, 255, or 79%, responded, representing 89% of the estimated value shown in table 1. (See table 1.)

## Consumption

Dimension stone was marketed over wide areas. Industry stockpiles were not monitored, and production during the year was assumed to equal consumption.

Consumption of domestic dimension stone decreased 7% to 1.19 million tons valued at \$218.0 million in 1994 compared with 1.28 million tons valued at \$226.0 million (revised) in 1993 and 1.14 million tons valued at \$198.0 million in 1992.

Consumption of domestic granite decreased to 499,000 tons valued at \$90.7 million in 1994 compared with 525,000 tons valued at \$85.0 million in 1993.

The black granite of the Vietnam Veteran's Memorial in Washington, DC, is developing cracks. After first appearing 11 years ago, some of the cracks are now 230 millimeters (9 inches) long. A firm has been hired to study the cracks, develop a maintenance plan, and locate a source for replacement stone. A Korean War Veterans Memorial made of Academy black granite from California is in the last stages of planning.

Consumption of domestic limestone was 366,000 tons valued at \$58.5 million in 1994 compared with 375,000 tons (revised) valued at \$50.1 million (revised) in 1993.

Consumption of domestic marble, including travertine, totaled 36,300 tons valued at \$20.7 million in 1994 compared with 29,800 tons valued at \$26.5 million in 1993.

Consumption of domestic dimension sandstone was 172,000 tons valued at \$15.6 million in 1994, compared with 138,300 (revised) tons valued at \$13.8 million (revised) in 1993. In 1993, flagging totaled 42,700 tons valued at \$5.0 million and other dressed sandstone totaled 13,400 tons valued at \$2.8 million (revised).

Consumption of domestic slate totaled 35,200 tons valued at \$23.2 million in 1994

compared with 26,000 tons valued at \$16.7 million in 1993. (See tables 7, 8, 9, 10, 11, and 12.)

### Prices

The average price for dimension stone increased to \$183 per ton, up slightly from \$177 in 1993.

### Foreign Trade

**Exports.**—Exports of dimension stone, about 50% of which was granite, increased slightly in value.

**Imports.**—Imports for consumption of dimension stone increased 11% in value to \$440 million, mostly because of decreases in imports of major granite categories of dimension stone. On a value basis, marble accounted for 44% of imports, followed by granite, 30%. (See tables 13, 14, 15, and 16.)

### World Review

There are a number of stone fairs around the world that feature a wide variety of available stones and the latest quarrying and stone finishing equipment. In the United States, the important fairs are Stone Expo, the Marble Institute of America Convention, and the International Tile and Stone Expo (ITSE), at various (rotated) locations. The three major shows in the rest of the world are Internazionale Marmi e Macchine (Carrara, Italy); Intermarmomach/Marmomacchine (Verona, Italy); and Stone + Tec (Nuremberg, Germany). Significant regional shows include Japan Stone Fair, Kostone (Korea), the International Granite and Marble Fair (Brazil), and Expopedra (Spain).

A detailed article recently described R.E.D. Graniti Group, an Italian firm specializing in quarrying and trading rough blocks of dimension granite and marble. This firm recently leased the Danby marble quarry, which it runs through its subsidiary, Vermont Quarries Corp. The firm has two quarrying subsidiaries in South Africa, two in Namibia, one in India, and one in Brazil. It is developing an 80%-owned quarry in Zaire. It is considering quarries in China, Vietnam, and Russia near Vladivostok. The firm has sales subsidiaries in France, Germany, and Spain.<sup>2</sup>

**Brazil.**—The rapidly growing Brazilian dimension stone industry has been making news. Nemer S.A. has brought a new finishing plant equipped with Italian machinery on-stream in Espiritu Santo State. The plant features a tile line and a slab line, has a capacity of 35,000 square meters per month, and obtains

its input from 50 company-owned quarries. The Granos Group has built a new Italian-equipped finishing plant at Fortaleza and placed it under its Imarf Marmores e Granitos subsidiary. The plant has a capacity of 35,000 square meters per month of tile, slab and cut-to-size items, and draws on four new quarries in northwest Ceara State.<sup>3</sup>

**Canada.**—The diverse Ontario dimension stone industry was described in a comprehensive article. Northwestern Ontario around Kenora has a number of granite quarries run by firms such as Nelson Granite Ltd., Palin Granite Canada Inc., and Boundary Stone Inc., plus a number of future sites. Near Sudbury, Manex Granit Inc. has four granite quarries, Ontario Quarries Inc. has several marble quarries, Jarvis Resources Ltd. has several marble and limestone quarries, and other firms are developing granite, marble, and limestone quarries. The Bruce Peninsula contains some limestone and marble quarries owned by Arriscraft Corp. and Owen Sound Ledgerock Ltd.<sup>4</sup>

**Japan.**—According to Japanese import statistics, 1994 purchases of imported rough granite totaled 1,077,600 tons of rough granite, of which 369,500 tons came from China, 184,700 tons from India, 177,100 from Korea, and the balance from other sources. Imported finished granite purchases in 1994 totaled 672,300 tons, of which 487,100 tons came from China, 33,700 tons from Italy, 105,600 tons from Korea, and 45,900 tons from other sources. Imported rough marble purchases in 1994 totaled 73,000 tons, of which 46,200 tons came from Italy, and the balance from other sources. The United States was a minor source in all instances.

### Current Research and Technology

The American Society for Testing and Materials (ASTM) issued "Standard Guide for Design, Selection, and Installation of Exterior Dimension Stone Anchors," a guide to stone anchoring. The ASTM guide will help eliminate stone failure caused by misinstallation.

### Outlook

Projected demand for dimension granite totaled 1.5 million tons for the year 2000. Demand for dimension marble totaled 450,000 tons for the year 2000. Demand for dimension limestone totaled 550,000 tons for the year 2000, while demand for slate should be 40,000 tons in the year 2000. This relatively slow rate reflects a major drop in the market for building stone in 1989-91 and a welcomed recovery later

in the 1990's. A few segments will continue to grow rapidly, such as uses in kitchens and bathrooms, limestone tiles, and landscaping stone. The supply will be adequate and is likely to shift in favor of domestic producers.

<sup>1</sup>Stone World. Newslite, A Noble Experiment V. 11, No. 7, July 1994, pp. 12, 122.

<sup>2</sup>———. The Strength is in the Block. V. 11, No. 3, Mar. 1994, pp. 52-56, 91.

<sup>3</sup>———. Brazilian Company Adds New Plant for the U.S. Market. Technology and Training Form a New Plant in Brazil. V. 11, No. 5, May 1994, pp. 64-67, 90.

<sup>4</sup>———. Taking Stock of Ontario's Stone Production. V. 11, No. , Oct. 1994, pp. 42-49.

### OTHER SOURCES OF INFORMATION

#### U.S. Bureau of Mines Publications

Dimension Stone. Ch. in Mineral Commodity Summaries, annual.

Dimension Stone. Ch. in Minerals Yearbook, annual.

Dimension Stone. Reported annually in Mineral Industry Surveys.

Directory of Principal Dimension Stone Producers in the United States.

Leading Country Activity.

Market Activity.

#### Other Sources

Dimensional Stone.

Industrial Minerals (United Kingdom).

Stone Industries (United Kingdom).

Stone World.

TABLE 1  
SALIENT U.S. DIMENSION STONE STATISTICS 1/

(Thousand metric tons and thousand dollars)

	1990	1991	1992	1993	1994
<u>Sold or used by producers:</u>					
Quantity 2/	1,120 e/	1,160	1,140 r/	1,280 r/	1,190
Value 2/	\$232,000 e/	\$211,000	\$198,000 r/	\$226,000 r/	\$218,000
Exports (value)	\$54,000	\$64,900	\$54,900	\$52,700 r/	\$53,000
Imports for consumption (value)	\$586,000	\$475,000	\$404,000	\$398,000	\$440,000

e/ Estimated. r/ Revised.

1/ Previously published and 1994 data are rounded by the U. S. Bureau of Mines to three significant digits.

2/ Includes Puerto Rico.

TABLE 2  
U.S. IMPORT DUTIES ON DIMENSION STONE

Tariff item	HTS. No.	Most favored nation (MFN)	Non-MFN
		Jan. 1, 1995	Jan. 1, 1995
Slate: Rough blocks or slabs	2514.00.0000	3% ad valorem	25% ad valorem.
Rough blocks or slabs of marble, travertine, and other calcareous monumental or building stone:	2515.00.0000		
Marble and travertine:			
Crude or roughly trimmed	2515.11.0000	\$2.77 per cubic meter	\$22.95 per cubic meter.
Marble, merely cut	2515.12.0010	1.7% ad valorem	13% ad valorem.
Travertine, merely cut	2515.12.0020	5.4% ad valorem	50% ad valorem.
Other calcareous stone alabaster	2515.20.0000	5.4% ad valorem	50% ad valorem.
Rough blocks or slabs of granite, porphyry, basalt, sandstone, and other monumental or building stone:	2516.00.0000		
Granite:			
Crude or roughly trimmed	2516.11.0000	Free	\$8.83 per cubic meter.
Merely cut	2516.12.0000	3.9% ad valorem	60% ad valorem.
Sandstone:			
Crude or roughly trimmed	2516.21.0000	Free	\$5.30 per cubic meter.
Merely cut	2516.22.0000	5.4% ad valorem	50% ad valorem.
Other monumental or building stone	2516.90.0000	5.4% ad valorem	50% ad valorem.
Setts, curbstones, and flagstones	6801.00.0000	3.9% ad valorem	60% ad valorem.
Worked monumental or building stone	6802.00.0000		
Tiles and cubes under 7cm square, granules	6802.10.0000	6.5% ad valorem	40% ad valorem.
Other stone and articles with a flat or even surface:			
Marble, travertine and alabaster:	6802.21.0000		
Travertine:	6802.21.1000	5.6% ad valorem	50% ad valorem.
Other:	6802.21.5000	2.1% ad valorem	13% ad valorem.
Other calcareous stone	6802.22.0000	5.8% ad valorem	50% ad valorem.
Granite	6802.23.0000	4.1% ad valorem	60% ad valorem.
Other stone	6802.29.0000	7.2% ad valorem	30% ad valorem.
Other:			
Marble, travertine, and alabaster:	6802.91.0000		
Marble:			
Slabs:	6802.91.0500	2.7% ad valorem	15% ad valorem.
Other:	6802.91.1500	5.8% ad valorem	50% ad valorem.
Travertine:			
Articles of subheading 6802.21.1000 that have been dressed or polished, but not further worked	6802.91.2000	5.6% ad valorem	50% ad valorem.
Other	6802.91.2500	5% ad valorem	40% ad valorem.
Alabaster	6802.91.3000	5.2% ad valorem	50% ad valorem.
Other calcareous stone	6802.92.0000	5.8% ad valorem	50% ad valorem.
Granite	6802.93.0000	4.1% ad valorem	60% ad valorem.
Other stone	6802.99.0000	6.5% ad valorem	40% ad valorem.
Worked slate and articles:	6803.00.0000		
Roofing slate	6803.00.0010	5.9% ad valorem	25% ad valorem.
Other	6803.00.0050	3% ad valorem	25% ad valorem.

TABLE 3  
DIMENSION STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, 1/ BY STATE 2/ 3/

State	1992 r/		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
California	27,700	4,940	22,300	\$5,640
Colorado	5,008	1,268	7,030	\$1,270
Georgia 3/	152,000	17,300	188,000	17,800
Indiana 3/	163,000	23,700	173,000	25,800
Kansas 3/	23,900	2,650	23,700	1,730
Maryland	15,700	1,620	20,800	1,700
Massachusetts	94,100	6,330	57,300	9,600
Minnesota	38,500	8,020	W	W
New Hampshire	24,300	4,350	22,500	3,820
New York	41,600	9,470	32,100	8,860
North Carolina 3/	30,100	10,800	41,200	14,500
Ohio	29,500	1,300	W	W
Oklahoma 3/	3,130	545	3,980	1,250
Pennsylvania	50,100	11,800	57,200	12,100
South Dakota	31,800	6,290	W	W
Utah	21,800	2,400	W	W
Vermont	102,000	33,400	87,100	28,700
Wisconsin	78,600	9,650	118,000	14,900
Other 4/	209,000	43,900	337,000	70,100
Total	1,140,000	198,000	1,190,000	218,000

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

1/ Includes Puerto Rico.

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

3/Totals only include Georgia granite, Indiana limestone, Kansas limestone, North Carolina granite and Oklahoma granite and limestone (1994); other stone included with "Other."

4/ Includes data for Alabama, Arizona, Arkansas, Connecticut, Idaho, Illinois (1994), Iowa, Maine, Michigan, Missouri, Montana, New Mexico, South Carolina, Tennessee, Texas, Washington and West Virginia.

TABLE 4  
DIMENSION GRANITE SOLD OR USED BY PRODUCERS  
IN THE UNITED STATES, BY STATE 1/

State	1992 r/		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Georgia	152,000	17,300	188,000	17,800
Massachusetts	94,100	6,330	57,300	9,600
New Hampshire	24,300	4,350	22,500	3,820
North Carolina	28,000	10,200	37,800	13,300
Oklahoma	3,130	545	2,280	1,110
Pennsylvania	11,900	3,390	10,600	2,900
Vermont	80,600	16,800	55,100	11,500
Wisconsin	3,040	2,870	3,320	2,910
Other 2/	128,000	23,300	122,000	27,700
Total	525,000	85,000	499,000	90,700

r/ Revised.

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 California, Colorado, Connecticut, Maine, Minnesota, Missouri, New York, South Carolina, South Dakota, Texas, and Virginia.

TABLE 5  
DIMENSION LIMESTONE SOLD OR USED BY PRODUCERS IN THE  
UNITED STATES, BY STATE 1/

State	1992		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Indiana	163,000	\$23,700	173,000	\$25,800
Kansas	23,900	2,650	23,700	1,730
Minnesota	18,200	8,020	W	W
Oklahoma	--	--	1,700	146
Wisconsin	75,600	6,790	114,000	12,000
Other 2/	94,600	8,990	52,900	18,800
Total	375,000	50,100	366,000	58,500

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

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 Alabama, Arkansas, California, Iowa, New Mexico, New York (1992), Ohio, Texas, and Utah.

TABLE 6  
DIMENSION SANDSTONE SOLD OR USED BY PRODUCERS IN THE  
UNITED STATES, BY STATE 1/

State	1992		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
New York	19,500	\$3,910	21,800	\$6,200
Pennsylvania	27,700	3,780	25,300	3,560
Other 2/	93,200	5,550	125,000	5,850
Total	140,000	13,200	172,000	15,600

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 Alabama, Arizona, Arkansas, California, Colorado, Indiana (1992), Kansas, Michigan, North Carolina, Ohio, Oklahoma, and Utah.

TABLE 7  
DIMENSION STONE SOLD OR USED BY PRODUCERS IN THE  
UNITED STATES, 1/ BY USE 2/

Use	1992 e/		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	223,000	\$27,700	339,000	\$37,300
Irregular-shaped stone	95,300	9,760	134,000	8,060
Monumental	201,000	20,600	189,000	23,100
Other 3/	W	W	40,300	8,030
Dressed stone:				
Ashlars and partially squared pieces	199,000	31,800	145,000	34,200
Slabs and blocks for building and construction	53,900	26,100	32,700	17,000
Monumental	42,500	22,800	31,900	21,800
Curbing	143,000	19,900	97,200	18,600
Flagging	94,400	4,170	80,300	9,110
Flagging (slate)	5,710	870	7,200	1,650
Roofing slate	11,200	9,480	14,600	12,100
Structural and sanitary	3,140	2,780	4,860	4,290
Flooring slate	2,470	1,940	4,750	2,850
Other 3/	63,300	20,600	70,800	20,000
Total	1,140,000	198,000	1,190,000	218,000

e/ Estimated. W Withheld to avoid disclosing company proprietary data, included in "Dressed stone: Other."

1/ Includes Puerto Rico.

2/ Data rounded by the U. S. Bureau of Mines to three significant digits; may not add to totals shown.

3/ Includes uses not specified.

TABLE 8  
DIMENSION GRANITE SOLD OR USED BY PRODUCERS IN THE  
UNITED STATES, BY USE 1/

Use	1992 e/		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	75,400	\$13,100	131,000	19,500
Irregular-shaped stone 2/	3,520	849	16,400	3,500
Monumental	197,000	18,900	185,000	22,000
Dressed stone:				
Ashlars and partially squared pieces	57,200	13,300	22,700	7,550
Slabs and blocks for building and construction	11,700	6,060	2,310	917
Monumental	37,800	13,400	26,300	12,600
Curbing	134,000	19,200	97,100	18,500
Other 3/	7,590	335	18,000	6,120
Total	525,000	85,000	499,000	90,700

e/ Estimated.

1/ Data rounded by the U. S. Bureau of Mines to three significant digits; may not add to totals shown.

2/ Includes rubble and a minor amount of uses not specified.

3/ Includes stone used for flagging, paving block, and unspecified uses for dressed stone.

TABLE 9  
DIMENSION LIMESTONE SOLD OR USED BY PRODUCERS IN THE  
UNITED STATES, BY USE 1/

Use	1992 e/		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	113,000	\$8,830	154,000	\$12,700
Irregular-shaped stone 2/	50,300	3,810	27,900	1,830
Dressed stone:				
Ashlars and partially squared pieces	67,000	10,000	86,700	22,000
Slabs and blocks for building and construction	28,900	9,260	21,600	9,010
Flagging	62,000	1,060	23,300	2,880
Other 3/	54,400	17,200	52,400	10,100
Total	375,000	50,100	366,000	58,500

e/ Estimated.

1/ Data rounded by the U. S. Bureau of Mines to three significant digits; may not add to totals shown.

2/ Includes uses not specified.

3/ Includes dressed monumental, curbing, and unspecified uses for dressed stone.

TABLE 10  
DIMENSION MARBLE SOLD OR USED BY PRODUCERS IN THE  
UNITED STATES 1/, BY USE 2/

Use	1992 e/		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	13,800	\$6,380	17,300	\$2,940
Other 3/	3,230	1,490	5,710	1,250
Dressed stone:				
Ashlars and partially squared pieces	W	W	3,560	683
Slabs and blocks for building and construction	7,140	9,510	4,760	6,620
Other 4/	5,670	9,110	4,950	9,250
Total	29,800	26,500	36,300	20,700

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

1/ Puerto Rico.

2/ Data rounded by the U. S. Bureau of Mines to three significant digits; may not add to totals shown.

3/ Includes rubble, irregular shaped stone, monumental stone, and unspecified uses.

4/ Includes stone used for monumental purposes, a small amount of flagging, and unspecified.

TABLE 11  
DIMENSION SANDSTONE SOLD OR USED BY PRODUCERS IN THE  
UNITED STATES, BY USE 1/

Use	1992 e/		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	18,800	\$865	19,800	\$1,080
Irregular-shaped stone 2/	28,300	3,590	78,000	3,580
Other 3/	--	--	W	W
Dressed stone:				
Ashlars and partially squared pieces	61,200	6,390	19,700	2,280
Slabs and blocks for building and construction	2,880	450	4,080	466
Flagging	17,600	1,210	44,000	4,850
Other 4/	11,700	728	6,180	3,350
Total	140,000	13,200	172,000	15,600

e/ Estimated. W Withheld to avoid disclosing company proprietary data.

1/ Data rounded by the U. S. Bureau of Mines to three significant digits; may not add to totals shown.

2/ Includes rubble.

3/ Includes uses not specified.

4/ Includes dressed monumental, curbing, and unspecified uses for dressed stone.

TABLE 12  
DIMENSION SLATE SOLD OR USED BY PRODUCERS IN THE  
UNITED STATES, BY USE 1/

Use	1992 e/		1994	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Flagging	5,710	\$859	7,230	\$1,650
Roofing	11,200	9,360	14,600	12,100
Structural and sanitary purposes	3,140	2,750	4,880	4,290
Flooring	2,470	1,920	4,770	2,850
Other 2/	3,490	1,840	3,740	2,270
Total	26,000	16,700	35,200	23,200

e/ Estimated.

1/ Data rounded by the U. S. Bureau of Mines to three significant digits; may not add to totals shown.

2/ Includes a minor amount of slate used for billard tabletops, blackboard, school slates, and unspecified uses.

TABLE 13  
U.S. EXPORTS OF DIMENSION STONE, BY TYPE 1/

(Thousand metric tons and thousand dollars)

Type	1993		1994		Major destination in 1994, (percent 2/)
	Quantity	Value	Quantity	Value	
Marble, travertine, alabaster worked	35 r/	\$2,560	18	\$3,130	Canada, 24%
Marble, travertine - crude or roughly trimmed	3	936	2	531	Canada, 52%
Marble, travertine - merely cut, by sawing or otherwise	4 r/	1,100	22	2,540	Mexico, 15%
Granite, crude or roughly trimmed	61	13,800	97	22,000	Italy, 33%
Granite, merely cut by sawing or otherwise	72 r/	17,800	65	14,100	Taiwan, 26%
Granite, dressed, worked	9	5,180	8	7,530	Hong Kong, 12%
Sandstone, crude or roughly trimmed	1	286	1	207	Canada, 85%
Sandstone, merely cut, by sawing or otherwise	6	1,230	6	1,130	Canada, 93%
Slate, worked and articles of slate	NA	11,100	NA	6,090	Belize, 25%
Slate, whether or not roughly trimmed or merely cut	NA	740	NA	760	Canada, 54%
Other calcareous monumental or building stone; alabaster	4	942	3	1,240	Canada, 48%
Other monumental or building stone	14 r/	2,220	8	1,270	Canada, 72%
Total	XX	52,700	XX	53,000	

r/ Revised. NA Not available. 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/ By value.

Source : Bureau of the Census.



TABLE 14  
U.S IMPORTS FOR CONSUMPTION OF DIMENSION GRANITE, BY COUNTRY 1/

(Thousand dollars)

Country	Rough granite 2/	Dressed granite articles	Not cut to size	Dressed worked granite						Total Worked	Total Dressed		
				Cut to size				All 3/ Min 10 cm	Monumental Min 10 cm			Building Min 10 cm	Other
				Max 1.5 cm	1.5-10 cm	Min 10 cm	Min 10 cm						
1993:													
Argentina	\$97	\$149	\$280	\$50	\$195	--	--	\$34	\$178	\$737	\$886		
Brazil	332	1,370	2,620	988	5,380	\$19	\$19	21	1,680	10,700	12,100		
Canada	3,260	1,840	2,000	662	3,260	1,470	835	548	2,880	11,700	13,500		
China	113	340	196	353	392	170	47	10	1,160	2,330	2,670		
Finland	115	37	74	--	92	--	--	--	5	171	208		
India	750	1,640	1,490	2,480	3,600	3,310	1,060	594	2,650	15,200	16,800		
Italy	592	4,030	7,750	2,960	11,300	1,060	25	503	15,900	39,500	43,600		
Japan	41	148	--	--	14	--	--	--	590	604	752		
Mexico	106	54	--	5	96	--	--	--	117	218	272		
Norway	215	--	--	--	28	26	12	--	48	114	114		
Portugal	248	209	35	8	20	--	--	--	499	562	771		
Saudi Arabia	89	30	425	46	117	--	--	--	43	630	660		
South Africa, Republic of	915	393	84	71	88	10	--	10	151	414	807		
Spain	228	685	694	641	1,930	--	--	25	1,660	4,950	5,630		
Other	583	228	490	404	662	--	10	15	1,150	2,730	2,960		
Total	7,690	11,200	16,100	8,670	27,200	6,060	2,010	1,760	28,700	90,500	102,000		
1994:													
Argentina	26	225	51	22	141	NA	--	36	51	301	526		
Brazil	294	1,380	5,770	1,230	6,530	NA	287	160	3,810	17,800	19,200		
Canada	3,460	1,590	1,370	63	3,400	NA	2,220	1,070	3,690	11,800	13,400		
China	169	543	268	825	321	NA	55	226	1,500	3,190	3,740		
Finland	12	28	24	--	21	NA	4	--	22	71	99		
India	1,450	2,140	2,090	2,920	5,760	NA	3,350	1,440	4,600	20,100	22,300		
Italy	729	2,970	11,000	2,560	13,800	NA	71	1,920	19,400	48,900	51,800		
Japan	55	44	--	4	21	NA	--	--	102	127	171		
Mexico	52	22	20	59	502	NA	--	26	158	765	787		
Norway	156	--	10	45	19	NA	42	--	2	117	117		
Portugal	799	--	35	--	54	NA	--	44	18	151	151		
Saudi Arabia	129	2	352	29	82	NA	--	--	1	464	466		
South Africa, Republic of	839	264	116	151	113	NA	85	169	250	885	1,150		
Spain	70	485	1,090	659	3,410	NA	3	175	1,090	6,420	6,910		
Other	577	289	429	552	499	NA	--	4	748	2,230	2,520		
Total	8,810	9,980	22,700	9,120	34,700	NA	6,120	5,270	35,500	113,000	123,000		

NA Not available.

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 crude or roughly trimmed, and merely cut by sawing or otherwise.

3/ In 1993 all granite with a minimum thickness of 10 cm was divided into monumental and building.

Sources: Bureau of the Census.

TABLE 15  
U.S. IMPORTS FOR CONSUMPTION OF MAJOR CATEGORIES OF DIMENSION MARBLE AND OTHER CALCAREOUS STONE,  
BY COUNTRY 1/

Country	Dressed marble slabs		Dressed marble - other		Dressed marble and other calcareous stone 2/		Rough marble 3/	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
1993:								
China	922	\$749	839	\$1,030	1,930	\$1,520	99	\$74
France	62	97	307	421	23,400	11,500	25	29
Greece	12,200	7,650	3,690	4,600	3,550	2,970	273	92
India	237	228	564	659	258	152	168	58
Italy	26,000	24,500	34,800	33,800	25,700	24,600	707	938
Mexico	336	334	1,090	1,370	9,790	8,440	87	138
Portugal	1,280	1,360	1,040	1,280	5,440	3,980	22	9
Spain	2,590	2,260	3,720	4,370	24,900	21,200	166	289
Other	9,950	9,100	8,360	12,800	11,900	7,330	247	233
Total	53,600	46,300	54,400	60,300	107,000	81,800	1,800	1,860
1994:								
China	1,140	696	2,670	2,060	2,000	1,720	114	89
France	125	150	211	414	9,060	10,200	4	4
Greece	4,730	5,200	3,980	4,290	4,140	4,640	118	83
India	616	610	925	934	411	282	2	4
Italy	25,200	24,800	36,900	34,400	32,400	27,000	779	966
Mexico	1,340	1,290	1,590	1,290	6,620	6,610	52	35
Portugal	940	981	1,260	1,090	6,560	4,440	24	24
Spain	3,270	2,470	5,870	5,630	27,900	23,400	20	8
Other	11,100	9,500	9,610	12,800	12,700	7,250	242	351
Total	48,500	45,600	63,100	62,900	102,000	85,500	1,360	1,560

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/ HTS No. 6802.92.0000: The material from Italy is almost all marble; from France, is both limestone and marble; from Spain is almost all marble; and from Mexico, is both limestone and marble.

3/ Marble-merely cut by sawing or otherwise.

Source: Bureau of the Census as modified by the U.S. Bureau of Mines.

TABLE 16  
U.S. IMPORTS FOR CONSUMPTION OF DIMENSION STONE, BY TYPE 1/

Type		1993		1994		Major source for 1994, (percent 2/)
		Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	
Calcareous stone-other 3/	metric tons	18,700	\$3,290	72,600	\$6,590	Spain, 27%
Marble, travertine alabaster and other	do.	3,370	3,470	3,540	3,170	Italy, 47%
Sandstone, merely cut, by sawing or otherwise	do.	102	60	151	148	Canada, 42%
Slate, roofing	million square feet	4.0	1,840	8.2	3,290	Spain, 33%
Slate, whether or not roughly trimmed or merely cut	do.	5,940	2,570	2,790	1,630	Italy, 83%
Slate, worked and articles of slate, and other	do.	NA	20,800	NA	22,700	Italy, 48%
Stone, worked monumental or building stone-other	metric tons	44,100	49,200	52,100	55,600	Italy, 30%
Travertine, monumental or building stone and articles thereof	do.	6,850	3,930	6,650	3,530	Italy, 90%
Travertine, worked monumental or building stone	do.	10,100	8,350	13,100	10,600	Italy, 83%
Other monumental or building stone	do.	14,900	3,500	14,700	3,090	South Africa, Rep. of, 62%
Other stone-monumental or building stone-articles thereof	do.	2,490	1,190	3,410	1,780	Mexico, 40%

NA Not available.

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/ By value.

3/ HTS No. 6802.22.0000.

Source: Bureau of the Census.