

STONE, DIMENSION

By Thomas P. Dolley

Domestic survey data and tables were prepared by Aaron J. Poyer, statistical assistant.

Dimension stone can be defined as natural rock material quarried for the purpose of obtaining blocks or slabs that meet specifications as to size (width, length, and thickness) and shape (Barton, 1968, p. 4). Color, grain texture and pattern, and surface finish of the stone are also normal requirements.

Durability (essentially based on mineral composition and hardness and past performance), strength, and the ability of the stone to take a polish are other important selection criteria.

Although various igneous, metamorphic, and sedimentary rocks are used as dimension stone, the principal rock types are granite, limestone, marble, sandstone, and slate. Other varieties of dimension stone that are normally considered to be special minor types include alabaster (massive gypsum), soapstone (massive talc), and various products fashioned from natural stone.

U.S. production of dimension stone in 2001 was estimated to be 1.22 million metric tons (Mt) valued at \$263 million, which was a 12% increase in value compared with that of 2000. U.S. production tonnage of dimension stone in 2001 declined by 7.6% compared with that of 2000. Exports increased by about 23% in value to \$73.5 million, and imports for consumption increased by 8.5% in value to \$1.07 billion. The value of apparent consumption was estimated to be \$1.25 billion.

In recent years, most dimension stone has been used in construction applications with the largest portions being sold or used as ashlar and partially squared pieces, curbing, flagstone, and rough block for building and construction. Monumental stone, another major type, includes memorials of various kinds.

A noteworthy event during the year that involved the U.S. dimension stone industry was the restoration and renovation of the damage to the Pentagon that resulted from the September 11, 2001, terrorist attacks. Specifications called for the use of Indiana limestone, because this material was used when the Pentagon was originally constructed in 1943. The prime contractors for the work were Independent Limestone Co. of Indiana for quarrying the stone and Bybee Stone Co. of Indiana for fabrication and refurbishment of the stonework. The contract was awarded on October 29, 2001, and utilized approximately 1,134 metric tons (t) of Indiana limestone. The final piece of limestone was laid during a dedication ceremony on June 11, 2002 (Stone World, 2002, p. 96-102).

Dimension stone production data for the United States are derived by the U.S. Geological Survey (USGS) from a voluntary survey of U.S. quarry producers of rough and dressed dimension stone. Data in this report cover rough crude quarried stone, irregular-shaped and rectangular blocks, and more highly processed stone. A number of other terms also are used to describe further processing, such as "worked," "dressed," "finished," and "manufactured." These and other terms used by the dimension stone industry describe such features as the mineral composition of the rock, the shape of the product, the

method of finishing a stone, and the type of finish applied (Stone World, 2001, p. 106-139). No adjustments are made in the data to account for the sometimes substantial losses in processing rough stone into dressed stone. Sold or used data are considered to be equivalent to production because changes in stocks are not surveyed. Of the 222 producing dimension stone operations included in the survey for 2001, 150 (or 68%) responded, which represented 82% of the tonnage; the remaining tonnage was estimated on the basis, in part, of prior years' reporting (table 1).

Description and Terminology

Scientific and commercial descriptions of various dimension stone types overlap. The scientific description of dimension stone types is focused primarily on the stone's locality and mineralogical composition, whereas the commercial description is focused primarily on the locality and color of the stone. Furthermore, various combinations of the scientific and commercial descriptions are used by stone producers to market their stone products effectively. The descriptions that follow were adapted from Currier (1960, p. 1-10) and Barton (1968, p. 2-8).

Granite.—Commercial granites include all feldspathic crystalline rocks of mainly interlocking texture and with individual mineral grains that are visible to the naked eye. This category includes such rock types as anorthosite, gneiss, granodiorite, monzonite, syenite, and all other intermediate rock types. Primary colors of granites are white, gray, pink, and red; with green and brown are secondary colors. Although black granites are also included in this category and range in color from dark gray to black, they are not true granites mineralogically but rather mafic rocks such as diabases, diorites, gabbros, and similar rocks.

Limestone.—Commercial limestones are rocks of sedimentary origin that primarily comprise calcium carbonate with or without magnesium. Included in this category are calcitic limestone, dolomite, dolomitic limestone, and travertine, which is a rock that is precipitated from hot springs.

Marble.—Commercial marble includes metamorphosed limestones and serpentine rocks, all of which are capable of taking a polish. An important member of this classification is serpentine marble, which is also known as verde antique, and comprises green-to-black serpentine, which is a hydrous magnesium silicate mineral that is crisscrossed by veins of lighter minerals, such as calcite or dolomite.

Sandstone.—Commercial sandstone is a lithified sand that comprises chiefly quartz or quartz and feldspar with a fragmental (clastic) texture. Sandstone contains interstitial cementing materials, such as calcite, clay, iron oxides, or silica. Arkose (abundant feldspar grains), graywacke (abundant rock

fragments), and conglomerates are included in this category. Other members of this category include bluestone, which is a dense, hard, fine-grained feldspathic sandstone, which splits easily along planes into thin, smooth slabs; brownstone, which is feldspathic sandstone of brown to reddish-brown color owing to abundant iron oxide; and flagstone, which is a sandstone or slate that splits into large, thin slabs.

Slate.—Commercial slate is a microgranular metamorphic rock formed by the recrystallization of clay sediments, such as claystone, shale, or siltstone. Characterized by excellent parallel cleavage, slates may be easily split into relatively thin slabs.

Greenstone.—Commercial greenstones are the result of the metamorphosis of basaltic rocks. Greenstone is named because of the predominance of greenish minerals, such as chlorite, epidote, or actinolite.

Basalt and Traprock.—Commercial basalt and traprock includes igneous rocks that are too fine grained to be termed “black granite.” The name traprock is derived from the term “trappa,” which means stairway, because of the characteristic terraced or steplike appearance of certain basalt lava fields. This category includes extrusive igneous rocks, such as andesite, basalt, or dacite, and intrusive igneous rocks, such as amphibolites, diabase, diorites, fine grained gabbros, peridotites, and pyroxenites.

Miscellaneous.—This category includes dimension stone types that do not easily fall into the aforementioned categories, such as soapstone, steatite, or talc, which contains various amounts of talc. Additional miscellaneous dimension stones include diatomite, mylonites, pumice, schist, tripoli, tuff, porous or scoriaceous volcanic rocks, or any other rocks used as building stones.

Production

Rough stone blocks split or cut from a quarry face are transported to processing plants that are frequently located at the quarry site, at least for preliminary sizing. Further dressing, which includes final sizing and finishing operations, such as polishing, edging, and decorating, also may be done at the quarry site.

In 2001, granite accounted for 408,000 t (33%) of the total domestic dimension stone production of 1.22 Mt, followed by limestone (26%), sandstone (15%), marble (5%), slate (2%), and miscellaneous stone (19%). Granite accounted for about \$107 million (41%) of total domestic production of \$263 million, followed by limestone (26%), sandstone (9%), marble (8%), slate (6%), and miscellaneous (10%).

Production was reported in 34 States and Puerto Rico. The leading producer States, in descending order by tonnage, were Indiana, Georgia, Wisconsin, Vermont, and Texas. These States accounted for 47% of the domestic production. The leading producer States, in descending order by value, were Indiana, Vermont, Georgia, South Dakota, and Wisconsin. These States contributed 49% of the value of domestic production (table 3).

The top five producing companies were Buechel Stone Corp. in Wisconsin; Cold Spring Granite Co. in California, Minnesota, New York, Oklahoma, South Dakota, and Texas;

Fletcher Granite Co., Inc., in Massachusetts and New Hampshire; Oolitic Victor Stone Co. in Indiana; and Rock of Ages Corp. in New Hampshire and Vermont. These companies produced about 29% of domestic production in tonnage and about 29% of production value. The leading 14 companies accounted for 54% of total domestic tonnage and 51% of the value.

Granite.—Dimension granite was produced by 36 companies operating 64 quarries in 17 States. Production was 408,000 t and was valued at \$107 million. Granite production tonnage decreased by about 2% and value decreased by 4.5% compared with those of 2000. The top five producing States, in descending order by tonnage, were Massachusetts, Georgia, Vermont, South Dakota, and New Hampshire. Massachusetts accounted for 20% of the tonnage of U.S. granite production. Massachusetts and Georgia combined accounted for 19% of the value of the U.S. granite production (table 4).

Cold Spring Granite, Fletcher Granite, and Rock of Ages, which were the leading producers accounted for 52% of U.S. granite production in tonnage and 49% of U.S. granite production in value.

Limestone.—Dimension limestone was produced by 26 companies from 29 quarries in 9 States. Production decreased by about 27% to 321,000 t from 440,000 t in 2000, and the value increased by 5% to \$68.8 million from \$65.5 million in 2000. The top five producing States, in descending order by tonnage, were Indiana, Texas, Wisconsin, Oklahoma, and Ohio. Indiana produced 57% of the U.S. tonnage and 51% of the value (table 5).

BG Hoadley Quarries, Inc., Buechel Stone Corp., Indiana Limestone Co., Inc., Oolitic Victor Stone, and Texas Stone Quarries, which were the leading producers, accounted for 75% of total U.S. limestone tonnage and about 51% of the value.

Sandstone.—Dimension sandstone was produced by 28 companies that operated 31 quarries in 18 States. Production decreased to 186,000 t in 2001 from 229,000 t in 2000. The value increased by 2.6% to \$23.5 million in 2001 from \$22.9 million in 2000. The top five producing States, in descending order by tonnage, were New York, Arizona, Ohio, California, and Michigan. New York was the leading producing State with 23% of the tonnage and 19% of the value (table 6).

American Sandstone, Finger Lakes Stone Co. Inc., Hackett Quarry Co., Waller Brothers Stone Co., and Jude Stone Quarry Co., which were the leading producers, accounted for about 64% of the tonnage and 49% of the value of domestic production.

Marble.—Marble was mined by five companies that operated seven quarries in five States. Production increased to 63,400 t valued at \$19.8 million from 31,300 t valued at \$7.2 million in 2000 (table 10). Much of the production increase is directly related to improved response to the USGS survey of marble producers. Georgia was the leading producing State, followed by Vermont, Tennessee, Colorado, and Alabama. The leading producers were, in descending order, Georgia Marble Co., Vermont Quarries Co., and Tennessee Marble Co. Additional data have been withheld to avoid disclosing company proprietary information.

Slate.—Slate was produced by 13 companies that operated 16 quarries in 5 States. Production decreased to 23,900 t in 2001

from 29,600 t in 2000. The value increased by about 5% to \$14.9 million in 2001 from \$14.2 million in 2000 (table 12). The producing States, in descending order by tonnage, were Vermont, Pennsylvania, New York, North Carolina, and California. The leading producers were U.S. Quarried Slate Products Inc., McAlpine Alfred Inc., Quarry Slate Industries Inc., Williams and Sons Slate and Tile Inc., and Pennsylvania Big Red Slate Co. Inc. Additional data have been withheld to avoid disclosing company proprietary information.

Consumption

Rough stone represented 50% of the tonnage and 41% of the value of all dimension stone sold or used by domestic producers, which included exports. The largest uses of rough stone, by tonnage, were in construction (38%) and monumental (26%) applications. Dressed stone represented 50% by tonnage and 59% by value of the total stone sold or used. The largest uses of dressed stone, by tonnage, were in flagging (26%), curbing (21%), and ashlar and partially squared pieces (14%) (table 7).

Uses for the different varieties of dimension stone varied considerably. The major uses of granite sold or used in 2001, by tonnage, were in curbing (31%), monumental rough stone (25%), monumental dressed stone (13%), rough blocks for construction (12%), and ashlar and partial squared pieces (1%) (table 8). Primary uses of limestone, by tonnage, were in rough blocks for building and construction (42%) and ashlar and partially squared pieces (14%) (table 9). Primary uses of marble, by tonnage, were rough blocks for building and construction (27%), and monumental rough stone, which included unspecified and unlisted uses (25%) (table 10). Primary uses of sandstone, by tonnage, were in dressed stone for flagging (61%) and rough blocks for building and construction (16%) (table 11). Dimension slate sold or used by producers in the United States in 2001, by tonnage, was principally for flooring (40%), roofing (34%), and flagging (10%) (table 12).

Overall, the value of apparent consumption of dimension stone in the United States was estimated to be \$1.25 billion in 2001; this was an increase of about 8% compared with that of 2000. Apparent consumption is defined as production plus imports for consumption minus exports. Value data are used in the apparent consumption calculation because tonnage data are not available for imports and exports. Also, changes in industry stocks are not considered because the data are not available.

Prices

The average 2001 value for dimension stone was \$216 per metric ton; this was an increase of 21% from that of 2000 based on the USGS survey. The average unit values for different types of dimension stone were granite, \$262 per ton; limestone, \$214 per ton; sandstone, \$126 per ton; marble, \$312 per ton; and slate, \$623 per ton. Available price data show considerable variation. Prices are substantially different not only for the kind of stone, but also for the appearance of the same kind of stone. Color, grain structure, and finish contribute significantly to price and marketability.

Foreign Trade

Exports.—In 2001, total exports of dimension stone increased in value by about 23% to about \$73.5 million compared with those of 2000; granite accounted for 66% of the export value. The largest share of granite was exported to China (table 13). Although unreported, a significant amount of granite was probably reexported back to the U.S. market.

Imports.—The value of imports for consumption of dimension stone types increased in 2001 by about 8.5% to \$1.07 billion. Italy, which continued to be the major single source of granite, accounted for 39% of granite imports. Other important granite import sources included Brazil (18%), India (13%), and Canada (10%) (table 14). Italy also was a major source of rough and dressed marble and travertine imports (tables 15, 16). Duties on imported dimension stone are listed in table 2.

World Review

World dimension stone production, which excluded that of the United States, was estimated to be approximately 67 Mt in 2001; this was an increase of about 5 Mt compared with that of 2000. Although some small-scale production probably occurred in the majority of the world's nations, dimension stone was produced and officially reported in about 34 countries. The top five producing countries in 2001, in descending order by tonnage, were China, Italy, India, Iran, and Spain. These countries accounted for about 74% of the world production. The United States ranked 10th in world production of dimension stone in 2001 (Internazionale Marmi e Macchine Carrara S.p.A., 2002¹).

Outlook

The renewed growth experienced by the U.S. dimension stone industry in recent years was dealt a setback by the September 11, 2001, terrorist attacks. An economic slowdown was already in progress, however, by the time the event happened. In the months after the event, the industry rebounded to levels that were consistent with the prior 2 years' performance. Dimension stone sales during the near term are expected to remain level. For residential and office building construction, growth in the use of dimension stone is expected in new prestige markets for home improvement as well as in renovations to attract and keep tenants. Conversely, some sectors of the stone industry report a lack of skilled labor at quarries and that in recent years competent masons have left the stone industry for more-lucrative and higher paying building projects, such as courthouses, schools, and restorations.

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¹A reference that includes a section twist (§) is found in the Internet Reference Cited section.

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

(Thousand metric tons and thousand dollars)

	1997	1998	1999	2000	2001
Sold or used by producers: 2/					
Quantity	1,180	1,140	1,250	1,320 r/	1,220
Value	\$225,000	\$225,000	\$254,000	\$235,000 r/	\$263,000
Exports (value)	\$54,800	\$59,600	\$54,500	\$59,800	\$73,500
Imports for consumption (value)	\$548,000	\$698,000	\$808,000	\$986,000 r/	\$1,070,000

r/ Revised.

1/ Data are rounded to no more than three significant digits.

2/ Includes Puerto Rico and other U.S. possessions and territories.

TABLE 2
U.S. IMPORT DUTIES ON DIMENSION STONE

Tariff item	HTS. No.	Normal trade relations (NTR)	
		January 1, 2001	Non-NTR January 1, 2001
Slate, rough blocks or slabs	2514.00.0000	Free	25% ad valorem.
Rough blocks or slabs of marble, travertine, other calcareous monumental or building stone:	2515.00.0000		
Marble and travertine:			
Crude or roughly trimmed	2515.11.0000	Free	\$22.95 per cubic meter.
Marble, merely cut	2515.12.1000	do.	13% ad valorem.
Travertine, merely cut	2515.12.2000	3.0% ad valorem	50% ad valorem.
Other calcareous stone alabaster	2515.20.0000	do.	Do.
Rough blocks or slabs of granite, porphyry, basalt, sandstone, 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	2.8% ad valorem	60% ad valorem.
Sandstone:			
Crude or roughly trimmed	2516.21.0000	Free	\$5.30 per cubic meter.
Merely cut	2516.22.0000	3.0% ad valorem	50% ad valorem.
Other monumental or building stone	2516.90.0000	do.	Do.
Setts, curbstones, flagstones	6801.00.0000	2.8% ad valorem	60% ad valorem.
Worked monumental or building stone:	6802.00.0000		
Tiles and cubes under 7 centimeters square, granules	6802.10.0000	4.8% ad valorem	40% ad valorem.
Other stone and articles with a flat or even surface:			
Marble, travertine, and alabaster:			
Travertine	6802.21.1000	4.2% ad valorem	50% ad valorem.
Other	6802.21.5000	1.9% ad valorem	13% ad valorem.
Other calcareous stone	6802.22.0000	4.9% ad valorem	50% ad valorem.
Granite	6802.23.0000	3.7% ad valorem	60% ad valorem.
Other stone	6802.29.0000	6.0% ad valorem	30% ad valorem.
Other:			
Marble, travertine, and alabaster:			
Marble:			
Slabs	6802.91.0500	2.5% ad valorem	15% ad valorem.
Other	6802.91.1500	4.9% 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	4.2% ad valorem	Do.
Other	6802.91.2500	3.7% ad valorem	40% ad valorem.
Alabaster	6802.91.3000	4.7% ad valorem	50% ad valorem.
Other calcareous stone	6802.92.0000	4.9% ad valorem	Do.
Granite	6802.93.0000	3.7% ad valorem	60% ad valorem.
Other stone	6802.99.0000	6.5% ad valorem	40% ad valorem.
Worked slate and articles:			
Roofing slate	6803.00.1000	3.3% ad valorem	25% ad valorem.
Other	6803.00.5000	Free	Do.

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

State	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
California	33,300	\$5,790	40,200	\$9,540
Colorado	W	W	10,800	2,130
Georgia	74,200	11,400	108,000	26,400
Indiana	235,000	32,400	184,000	35,300
Kansas	14,100	1,890	13,000	4,780
Maryland	28,700	3,560	27,500	3,440
Massachusetts	69,600	16,800	81,400	11,400
Minnesota	W	W	15,700	11,800
Montana	W	W	8,990	2,400
New Mexico	W	W	36,100	1,320
New York	62,200	5,780	47,000	9,040
North Carolina	40,500	16,800	41,500	18,200
Ohio	34,500	3,050	30,700	5,150
Oklahoma	14,100 r/	1,530	16,500	2,190
Pennsylvania	49,500	12,100	50,400	11,600
South Carolina	W	W	9,300	855
Texas	84,700	11,500	85,900	12,600
Vermont	103,000	26,600	98,000	26,500
Virginia	W	W	5,590	626
Wisconsin	93,100	11,700	98,900	18,900
Other 2/	382,000 r/	74,500 r/	213,000	48,700
Total	1,320,000 r/	235,000	1,220,000	263,000

r/ Revised. 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/ Includes Alabama, Arizona, Arkansas, Connecticut, Idaho, Maine, Michigan, Missouri, New Hampshire, South Dakota, Tennessee, Utah, Washington, West Virginia, Puerto Rico and other U.S. possessions and territories, and States indicated by symbol W.

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

State	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
California	9,220	\$1,820	17,300	\$5,750
Georgia	66,700	9,220	69,400	8,700
Massachusetts	69,600	16,800	81,400	11,400
South Carolina	9,230	855	9,230	855
Wisconsin	2,360	1,170	2,310	2,060
Other 2/	258,000	82,000 r/	228,000	77,900
Total	415,000	112,000	408,000	107,000

r/ Revised.

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

2/ Includes Maine, Minnesota, Missouri, New Hampshire, New York, Oklahoma, North Carolina, Pennsylvania, South Dakota, Texas, Vermont, Virginia, and Puerto Rico and other U.S. possessions and territories.

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

State	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Indiana	233,000	\$32,300	182,000	\$35,200
Kansas	13,000	1,790	12,000	4,680
Wisconsin	72,600	10,000	W	W
Other 2/	121,000 r/	21,100	128,000	28,900
Total	440,000 r/	65,200	321,000	68,800

r/ Revised. 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/ Includes Arkansas, California, Minnesota, Ohio, Oklahoma, Texas, and States indicated by symbol W.

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

State	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
New York	57,600	\$4,350	42,100	\$4,710
Pennsylvania	15,800	827	7,390	877
Other 2/	156,000	17,800	137,000	17,900
Total	229,000	22,900	186,000	23,500

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

2/ Includes Alabama, Arizona, Arkansas, California, Colorado, Idaho, Kansas, Maryland, Michigan, New Mexico, Ohio, Oklahoma, Utah, Virginia, West Virginia, and Wisconsin.

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

Use	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	349,000	\$46,400	237,000	\$40,100
Irregular-shaped stone	134,000	13,300	161,000	23,800
Monumental	93,400	18,700	162,000	26,800
Other 3/	104,000 r/	21,300 r/	55,500	17,800
Dressed stone:				
Ashlars and partially squared pieces	113,000	24,200	83,000	15,200
Slabs and blocks for building and construction	30,800	5,960	22,700	5,660
Monumental	37,000	18,500	57,600	34,200
Curbing	55,700	22,800	127,000	21,700
Flagging	160,000	12,600	157,000	16,800
Flagging (slate)	2,400	585	2,450	843
Roofing slate	10,800	6,690	8,230	8,260
Structural and sanitary	2,040	2,830	2,340	2,630
Flooring slate	10,700	2,190	9,450	2,070
Other 4/	214,000 r/	39,300 r/	138,000	46,900
Total	1,320,000 r/	235,000	1,220,000	263,000

r/ Revised.

1/ Includes Puerto Rico and other U.S. possessions and territories.

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

3/ Includes flagging (2000), exports, uses not specified, and uses not listed.

4/ Includes panels and veneer, tile, blackboards, exports, uses not specified, and uses not listed.

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

Use	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	99,200	\$18,600	48,000	\$8,380
Irregular-shaped stone	4,360	108	1,010	114
Monumental	89,400	18,300	101,000	18,900
Other 2/	57,800	14,200	51,800	17,300
Dressed stone:				
Ashlars and partially squared pieces	27,700	10,400	5,230	1,890
Slabs and blocks for building and construction	1,620	619	973	825
Monumental	32,100	17,000	53,900	29,300
Curbing	54,800	22,700	126,000	21,700
Other 3/	48,200	9,850 r/	19,400	8,260
Total	415,000	112,000	408,000	107,000

r/ Revised.

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

2/ Includes exports and uses not listed.

3/ Includes panels and veneer, tile, uses not specified, and uses not listed.

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

Use	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	196,000	\$22,100	134,000	\$20,600
Irregular-shaped stone	59,900	4,270	15,100	4,510
Monumental	W	W	19,300	4,990
Other 2/	29,900	5,550	3,700	549
Dressed stone:				
Ashlars and partially squared pieces	65,500 r/	10,000	45,700	7,430
Slabs and blocks for building and construction	22,700	3,670	17,700	3,590
Flagging	9,060	1,050	13,100	3,660
Other 3/	57,000 r/	18,800 r/	73,100	23,500
Total	440,000 r/	65,500 r/	321,000	68,800

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

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

2/ Includes exports, monumental stone (2000), uses not listed, and uses indicated by symbol W.

3/ Includes curbing, panels and veneer, tile, uses not specified, and uses not listed.

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

Use	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	13,800	\$2,730	17,000	\$8,110
Other 3/	2,630	364	15,700	2,930
Dressed stone:				
Slabs and blocks for building and construction	4,190	1,020	W	W
Monumental	W	W	W	W
Flagging	W	W	W	W
Tile	W	W	W	W
Other 4/	10,600	3,030	30,700	8,790
Total	31,300	7,150	63,400	19,800

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

1/ Includes Puerto Rico.

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

3/ Includes monumental, uses not specified, and uses not listed.

4/ Includes slabs and blocks (2001), flagging, monumental, panels and veneer, ashlars and partially squared pieces, tile, uses not listed, and uses indicated by symbol W.

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

Use	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	28,400	\$1,990	29,400	\$2,290
Irregular-shaped stone	10,400	1,210	13,400	1,590
Other 2/	785	214	--	--
Dressed stone:				
Ashlars and partially squared pieces	17,500	2,390	14,200	1,950
Slabs and blocks for building and construction	2,190	592	2,780	843
Curbing	726	66	W	W
Flagging	136,000	10,300	113,000	10,900
Panels and veneer	6,000	1,490	1,370	341
Other 3/	27,000 r/	4,700 r/	12,500	5,570
Total	229,000	22,900	186,000	23,500

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Dressed stone: Other." -- Zero.

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

2/ Includes flagging and uses not listed.

3/ Includes tile, curbing (2001), exports, uses not specified, uses not listed, and uses indicated by symbol W.

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

Use	2000		2001	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Flagging	2,400	\$585	2,450	\$843
Roofing	10,800	6,690	8,230	8,260
Structural and sanitary purposes	2,040	2,830	2,340	2,630
Flooring	10,700	2,190	9,450	2,070
Other 2/	3,600 r/	1,910	1,390	1,110
Total	29,600 r/	14,200	23,900	14,900

r/ Revised.

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

2/ Includes uses not specified, and uses not listed.

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

(Thousand metric tons and thousand dollars)

Type	2000		2001		Major destination in 2001, percentage 2/
	Quantity	Value	Quantity	Value	
Marble, travertine, alabaster worked 3/	20	3,740	25	3,140	Canada, 35%
Marble, travertine, crude or roughly trimmed	2	879	2	729	Canada, 55%
Marble, travertine, merely cut, by sawing or otherwise 4/	11	1,590	2	915	Canada, 24%
Granite, crude or roughly trimmed	116	29,500	128	42,100	China, 44%
Granite, merely cut by sawing or otherwise 4/	18	5,910	13	6,290	China, 33%
Sandstone, crude or roughly trimmed	3	545	8	929	Canada, 97%
Sandstone, merely cut, by sawing or otherwise 4/	5	1,220	5	1,280	Canada, 86%
Slate, worked and articles of slate	NA	10,700	NA	10,500	Belize, 36%
Slate, whether or not roughly trimmed or merely cut 4/	NA	682	NA	837	Canada, 61%
Other calcareous monumental or building stone; alabaster 5/	8	2,170	12	3,000	Canada, 53%
Other monumental or building stone 6/	14	2,900	11	3,830	Canada, 57%
Total	XX	59,800	XX	73,500	

NA Not available. XX Not applicable.

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

2/ By value.

3/ Further worked than simply cut with a flat surface.

4/ Blocks or slabs.

5/ Crude, roughly trimmed, or merely cut into blocks or slabs. Other than marble and travertine (includes alabaster).

6/ Crude, roughly trimmed, or merely cut into blocks or slabs. Other than calcareous stone and alabaster, granite, sandstone, slate, dolomite, quartzite, and steatite.

Source: U.S. Census Bureau.

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

(Thousand dollars)

Country	Dressed									Total worked	Total dressed
	Worked granite								Other		
	Cut to size 2/						Building minimum 7.5 centimeters				
	Rough granite 3/	Simply cut 4/	Not cut to size 5/	Maximum 1.5 centimeters	1.5-7.5 centimeters	Monumental minimum 7.5 centimeters					
2000:											
Argentina	--	36	219	16	837	--	66	180	1,320	1,350	
Brazil	2,160	5,140	12,100	2,920	37,500	409	3,790	12,900	69,600	74,800	
Canada	4,810	1,050	139	2,730	17,600	6,440	10,400	5,800	43,100	44,100	
China	1,170	2,990	1,020	3,930	7,890	1,720	3,790	8,430	26,800	29,800	
Finland	19	--	--	--	47	--	13	48	108	108	
India	1,140	3,980	3,030	6,580	18,700	4,530	7,310	7,670	47,800	51,700	
Italy	3,240	10,600	29,500	8,160	79,800	499	17,200	28,700	164,000	174,000	
Japan	10	10	--	5	12	39	--	27	84	94	
Mexico	148	192	41	115	2,320	--	348	136	2,960	3,150	

See footnotes at end of table.

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

(Thousand dollars)

Country	Dressed									Total worked	Total dressed
	Worked granite								Other		
	Cut to size 2/					Monumental minimum 7.5 centimeters	Building minimum 7.5 centimeters				
	Rough granite 3/	Simply cut 4/	Not cut to size 5/	Maximum 1.5 centimeters	1.5-7.5 centimeters						
2000--Continued:											
Norway	94	6	16	--	82	--	7	--	106	112	
Portugal	47	96	19	77	63	--	61	77	297	393	
Saudi Arabia	50	111	76	39	1,180	--	69	155	1,520	1,640	
South Africa	1,640	343	45	--	372	30	68	48	563	906	
Spain	294	642	2,700	1,130	10,100	30	2,170	1,610	17,700	18,400	
Other	1,470	804	4,450	580	5,320	56	1,130	2,880	14,400	15,200	
Total	16,300	26,000	53,400	26,300	182,000	13,800	46,400	68,700	390,000	416,000	
2001:											
Argentina	--	71	182	4	1,110	--	30	220	1,550	1,620	
Brazil	2,600	6,650	17,000	2,140	40,100	201	1,780	16,000	77,200	83,900	
Canada	4,750	2,210	132	2,940	13,000	7,720	11,200	5,780	40,800	43,000	
China	1,730	3,990	1,750	6,330	11,400	2,380	3,510	10,800	36,200	40,100	
Finland	46	--	--	17	51	--	36	52	156	156	
India	1,210	4,670	3,970	6,810	22,000	5,050	6,560	9,550	54,000	58,600	
Italy	3,690	13,200	29,800	8,070	91,800	611	9,410	30,400	170,000	183,000	
Japan	6	8	--	--	2	8	--	--	10	18	
Mexico	224	90	--	81	2,120	--	452	246	2,900	2,990	
Norway	48	--	--	17	17	--	87	--	121	121	
Portugal	23	112	--	22	169	--	12	247	450	562	
Saudi Arabia	--	46	69	14	752	--	15	136	986	1,030	
South Africa	1,070	582	47	32	744	34	16	183	1,060	1,640	
Spain	423	873	3,220	996	12,500	22	1,050	2,640	20,500	21,300	
Other	2,140	1,320	6,570	206	4,700	19	891	3,460	15,800	17,200	
Total	18,000	33,800	62,800	27,700	201,000	16,000	35,000	79,700	422,000	456,000	

-- Zero.

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

2/ One or more faces worked more than simply cut.

3/ Normal quarry products; includes crude or roughly trimmed and roughly cut by sawing or otherwise; Harmonized Tariff Schedule of the United States (HTS) 2516.11.0000, 2516.12.0030, and 2516.12.0060.

4/ Simply cut with a flat even surface; HTS 6802.23.0000.

5/ Only one face worked more than simply cut; HTS 6802.93.0010.

Source: U.S. Census Bureau.

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

Country	Dressed marble, slabs 2/		Dressed marble, other 3/		Dressed stone, other calcareous 4/		Rough marble 5/	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
2000:								
Brazil	1,020	\$1,200	215	\$258	1,280	\$922	--	--
China	6,750	3,610	11,100	9,140	14,300	4,990	717	\$215
France	306	239	295	422	69,100	23,200	28	42
Greece	4,910	5,160	7,230	6,380	13,400	4,070	75	68
India	743	792	1,410	2,250	1,680	1,190	30	41
Israel	1,320	1,440	2,740	2,690	9,690	9,470	200	194
Italy	43,900	44,400	62,900	64,700	115,000	67,600	2,800	3,270
Mexico	1,020	1,030	7,140	7,180	14,700	12,700	172	174
Portugal	1,650	1,290	1,640	1,390	13,900	9,540	50	30
Spain	9,010	6,580	27,800	21,300	86,500	40,800	296	260
Taiwan	1,120	1,260	3,830	6,370	2,290	998	37	79
Turkey	4,400	3,840	6,620	4,970	7,580	5,410	250	407
Other r/	5,430	4,680	7,990	8,760	85,000	21,200	859	744
Total	81,600	75,500	141,000	136,000	434,000	202,000	5,510	5,520

See footnotes at end of table.

TABLE 15--Continued

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

Country	Dressed marble, slabs 2/		Dressed marble, other 3/		Dressed stone, other calcareous 4/		Rough marble 5/	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
2001:								
Brazil	1,550	\$1,390	405	\$339	2,080	\$1,730	128	\$89
China	3,240	1,810	28,900	14,900	10,500	6,160	545	543
France	146	250	542	1,160	73,200	21,200	20	137
Greece	6,310	5,870	5,470	5,920	2,990	3,340	6	11
India	1,170	935	1,190	1,930	5,050	1,950	81	67
Israel	1,370	1,440	4,110	3,670	31,200	11,700	76	62
Italy	54,900	50,800	69,900	69,700	115,000	66,300	2,620	2,770
Mexico	1,360	1,240	11,200	11,600	15,300	12,500	178	139
Portugal	1,470	1,020	2,020	1,490	12,700	8,720	24	11
Spain	11,500	8,330	28,300	20,600	72,400	46,700	1,390	937
Taiwan	745	743	2,660	5,030	1,580	903	25	32
Turkey	4,340	3,110	6,430	5,360	11,500	5,220	2,040	1,300
Other	2,960	2,780	11,000	10,500	116,000	29,800	585	654
Total	91,000	79,700	172,000	152,000	470,000	216,000	7,710	6,750

r/ Revised. -- Zero.

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

2/ Worked more than simply cut with a flat surface; Harmonized Tariff Schedule of the United States (HTS) 6802.91.0500.

3/ Merely cut by sawing or otherwise.

4/ Worked more than simply cut with a flat surface; other than marble and travertine; HTS 6802.92.0000.

5/ Simply cut by sawing or otherwise into rectangular blocks or slabs; HTS 2515.12.1000.

Source: U.S. Census Bureau as modified by the U.S. Geological Survey.

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

Type	Quantity	2000		2001		Major source for 2001, percentage 2/
		Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	
Calcareous stone, other 3/	metric tons	5,500	\$4,010	8,590	\$5,390	Mexico, 49%.
Marble and alabaster 4/	do.	11,200	9,590	10,200	8,900	Italy, 41%.
Sandstone, cut, by sawing or otherwise 5/	do.	342	222	657	392	United Kingdom, 33%.
Slate, roofing	million square feet	19	9,950	16	10,100	China, 32%.
Slate, roughly trimmed or simply cut 5/	do.	7,890	3,090	10,400	4,770	China, 44%.
Slate, worked and articles of slate, and other 6/	do.	NA	57,900	NA	63,100	India, 35%.
Travertine, monumental or building stone and articles thereof 7/	do.	29,000	17,400	34,000	19,000	Italy, 43%.
Travertine, worked monumental or building stone 8/	do.	59,000	44,500	65,400	47,500	Italy, 37%.
Other stone, monumental or building stone 9/	do.	10,100	4,110	11,500	4,310	Mexico, 20%.

NA Not available.

1/ Data are rounded to no more than three significant digits. Does not include totals shown on tables 14 and 15.

2/ By value.

3/ Other than marble, travertine, and alabaster; simply cut with a flat surface.

4/ Simply cut with a flat surface.

5/ Rectangular blocks or slabs.

6/ Other than roofing, including agglomerated slate.

7/ Simply cut with a flat surface. Other than tiles and granules.

8/ Dressed or polished but not further worked.

9/ Simply cut with a flat surface. Other than granite, calcareous stone, alabaster, slate, dolomite, quartzite, and steatite.

Source: U.S. Census Bureau.