

STONE, DIMENSION

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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 2000 was estimated to be 1.25 million metric tons (Mt) valued at \$235 million—a 7% decrease in value compared with that of 1999. U.S. production of dimension stone in 2000 was the largest amount reported since 1993 and exceeded the 1999 amount by about 2,000 metric tons (t). Exports increased by 9.7% in value to \$59.8 million, and imports for consumption increased by 14% in value to \$925 million. Apparent consumption was estimated to be \$1.1 billion.

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

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, 2000, p. 147-177). 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 228 producing dimension stone operations included in the survey for 2000, 107 (or 47%) responded, which represented 58% of the tonnage; the remaining tonnage was estimated (table 1).

Description and Terminology

There are overlaps between scientific and commercial descriptions of various dimension stone types. 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 effectively market their stone products. The descriptions that follow were adapted from Barton (1968, p. 2-8) and Currier (1960, p. 1-10).

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 rock types such as gneiss, syenite, monzonite, granodiorite, anorthosite, and all other intermediate rock types. Primary colors of granites are white, gray, pink, and red, with green and brown being secondary colors. Black granites (which

Dimension Stone in the 20th Century

Punctuated by labor strikes and high costs and wages, production of all types of dimension stone in the United States in 1900 amounted to 1.6 million metric tons. The top producing State, by value, was Pennsylvania. In the early 20th century, reinforced concrete and structural steel superseded dimension stone as major structural components in buildings. As early as 1906, granite quarriers in the United States expressed concern over the encroachment of substitute materials, such as concrete, on their industry. With the emergence of the automobile, concrete and asphalt were viewed as more suitable materials than dimension stone for road building. In 1931, when the Empire State Building was officially opened, it featured cladding of Indiana limestone and helped in creating a new market for dimension stone as interior and exterior paneling. That same year, U.S. production of dimension stone rose to the highest level of the

20th century—more than 6 million tons. The lowest U.S. production of dimension stone of the 20th century occurred in 1944 during World War II at 649,000 metric tons, owing to a lack of skilled labor, nonessential commodity status, and building construction being at a virtual standstill.

In 2000, production of dimension stone in the United States amounted to about 1.3 million tons. The top producing State, by value, was Indiana. The United States was a significant importer of stone, importing dimension stone valued at more than \$1 billion in 2000. Dimension stone was used extensively in home improvements, historic preservation, exterior and interior paneling for buildings, and construction applications. Most dimension stone was sold or used as rough blocks for building and construction, flagstone, curbing, ashlar and partially squared pieces, and monumental and memorial stones.

are not true granites mineralogically but rather such mafic rocks as diabases, diorites, gabbros, and similar rocks) are also included in this category and range in color from dark gray to black.

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

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

Sandstone.—Commercial sandstone is a lithified sand composed chiefly of quartz or quartz and feldspar of fragmental (clastic) texture. Sandstone contains interstitial cementing materials, such as silica, iron oxides, calcite, or clay. Arkose (abundant feldspar grains), graywacke (abundant rock fragments), and conglomerates are included in this category. Other members of this category include bluestone (a dense, hard, fine-grained feldspathic sandstone, which splits easily along planes into thin, smooth slabs), brownstone (feldspathic sandstone of brown to reddish-brown color owing to abundant iron oxide), and flagstone (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 (shale, siltstone, or claystone). 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 so 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,” meaning stairway—the characteristic terraced or steplike appearance of certain basalt lava fields. This category includes both 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, talc, or steatite (rocks containing 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, frequently located at the quarry site, at least for preliminary sizing. Further dressing, including final sizing and finishing operations, such as polishing, edging, and decorating, also may be done at the quarry site.

In 2000, limestone accounted for 432,000 t (or 35%) of the total domestic dimension stone production of 1.25 Mt, followed by granite (33%), sandstone (18%), miscellaneous stone (9%), marble (3%), and slate (2%). Granite accounted for about \$112 million (or 48%) of total domestic production of \$235 million,

followed by limestone (28%), sandstone (10%), slate (6%), miscellaneous (5%), and marble (3%).

Production was reported in 34 States and Puerto Rico. Leading producer States, in descending order by tonnage, were Indiana, Vermont, Wisconsin, Texas, and Georgia. These States accounted for 48% of the domestic production. The leading producer States, in descending order by value, were Indiana, Vermont, Minnesota, South Dakota, and North Carolina. These States contributed 49% of the value of domestic production (table 3).

The top five producing companies, listed alphabetically, 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 27% of domestic production in tonnage and about 31% of production in value. The leading 14 companies accounted for 45% of total domestic tonnage and 47% of the value.

Granite.—Dimension granite was produced by 38 companies operating 70 quarries in 20 States. Production was 415,000 t valued at \$112 million. Granite production tonnage decreased by 5% and value decreased by 3% compared with that of 1999. The top five producing States, in descending order by tonnage, were Massachusetts, Georgia, New Hampshire, South Dakota, and Idaho. Massachusetts accounted for 17% of the tonnage of U.S. granite production. Massachusetts and Georgia combined accounted for 23% of the value of the U.S. granite production (table 4).

The leading producers were Cold Spring Granite, Fletcher Granite, and Rock of Ages accounting for over one-half of U.S. granite production in tonnage and value.

Limestone.—Dimension limestone was produced by 30 companies from 34 quarries in 10 States. Production decreased by 3% to 432,000 t from 446,000 t in 1999, and the value decreased by 18% to \$65.2 million from \$79.1 million in 1999. The top five producing States, in descending order by tonnage, were Indiana, Wisconsin, Texas, Minnesota, and Kansas. Indiana produced 53% of the U.S. tonnage and 49% of the value (table 5).

The leading producers were Buechel Stone; Independent Limestone Co.; Indiana Limestone Co., Inc.; Oolitic Victor Stone; and Texas Stone Quarries. These firms accounted for 59% of total U.S. tonnage and about 42% of the value.

Sandstone.—Dimension sandstone was produced by 28 companies operating 33 quarries in 16 States. Production increased to 229,000 t in 2000 from 197,000 t in 1999. The value decreased by 12% to \$22.9 million in 2000 from \$25.9 million in 1999. 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 25% of the tonnage and 19% of the value (table 6).

The leading producers were American Sandstone, Finger Lakes Stone Co. Inc., Waller Brothers Stone Co., Jude Stone Quarry Co., and Ulti-Solutions Inc. These companies accounted for about 67% of the tonnage and 58% of the value of domestic production.

Marble.—Marble was mined by six companies operating eight quarries in five States. Production declined to 31,300 t valued at \$7.2 million from 38,300 t valued at \$8.6 million in 1999 (table 10). Vermont was the leading producing State, followed by Georgia, Tennessee, Colorado, and Alabama. The leading producers were Vermont Quarries Co., Georgia Marble

Co., and Tennessee Marble Co. Additional data have been withheld to avoid disclosing company proprietary information.

Slate.—Slate was produced by 14 companies operating 20 quarries in 5 States. Production increased slightly to 28,700 t in 2000 from 28,600 t in 1999. The value increased by 1% to \$14.2 million in 2000 from \$14 million in 1999 (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., Dally Slate Co., Ritchie Bros. Slate Co., and Quarry Slate Industries Inc. Additional data have been withheld to avoid disclosing company proprietary information.

Consumption

Rough stone represented 55% of the tonnage and 46% of the value of all dimension stone sold or used by domestic producers, including exports. The largest uses of rough stone were in construction (50%) and irregular-shaped stone (19%) applications, by tonnage. Dressed stone represented 45% by tonnage and 54% by value of the total stone sold or used. The largest uses of dressed stone, by tonnage, were in flagging (28%), ashlar and partially squared pieces (20%), and curbing (10%) (table 7).

Uses for the different varieties of dimension stone varied considerably. The major uses of granite sold or used in 2000, by tonnage, were in rough blocks for construction (24%), monumental rough stone (21%), curbing (13%), monumental dressed stone (7%), and ashlar and partial squared pieces (6%) (table 8). Primary uses of limestone, by tonnage, were in rough blocks for building and construction (45%) and irregular-shaped stone (14%) (table 9). Primary uses of marble, by tonnage, were rough blocks for building and construction (44%) and dressed slabs and blocks for building and construction (13%) (table 10). Primary uses of sandstone, by tonnage, were in dressed stone for flagging (59%) and rough blocks for building and construction (12%) (table 11). Dimension slate sold or used by producers in the United States in 2000, by tonnage, was principally for roofing (38%), flooring (37%), and flagging (8%) (table 12).

Overall, the apparent consumption of dimension stone in the United States was estimated to be \$1.1 billion in 2000, an increase of 8% compared with that of 1999. 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. Additionally, changes in industry stocks are not considered because the data are not available.

Prices

The average 2000 value for dimension stone was \$188 per metric ton—a decrease of 7.8% from that of 1999, based on the USGS survey. The average unit values for different types of dimension stone were granite, \$270 per ton; limestone, \$151 per ton; sandstone, \$100 per ton; marble, \$228 per ton; and slate, \$495 per ton. Price data that are available 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 2000, total exports of dimension stone increased in value by about 9% to about \$60 million compared with those of 1999; granite accounted for 58% of the export value. The largest share of granite was exported to China (table 13).

Imports.—The value of imports for consumption of dimension stone types increased in 2000 by about 14% to \$925 million. Italy continued to be the major single source of granite, accounting for 42% of granite imports. Other important granite import sources included Brazil (18%), India (13%), and Canada (11%) (table 14). Italy also was a major source of rough and dressed marble, slate, and travertine imports (tables 15, 16). Duties on imported dimension stone are listed in table 2.

World Review

World dimension stone production, excluding the United States, was estimated to be approximately 60 Mt in 1999, and preliminary numbers indicated that this total was unchanged for 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 1999, in descending order by tonnage, were China, Italy, India, Iran, and Spain. These countries accounted for about 72% of the world production. The United States ranked 10th in world production of dimension stone in 1999 (Internazionale Marmi e Macchine Carrara S.p.A., [2001], International quarry production, accessed August 27, 2001, at URL <http://www.immcarrara.com/stat/english-version/index-stone-sector.html>).

Outlook

The U.S. dimension stone industry has experienced renewed growth in the past 2 to 3 years, but the economic slowdown in late 2000 and early 2001 has reduced domestic production backlogs for most stone types. However, industry experts anticipate growth in dimension stone sales during the near term because of improved technology and variety and the increased costs of alternative construction materials. Additionally, 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.

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GENERAL SOURCES OF INFORMATION

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

(Thousand metric tons and thousand dollars)

	1996	1997	1998	1999	2000
Sold or used by producers: 2/					
Quantity	1,150	1,180	1,140	1,250	1,250
Value	234,000	225,000	225,000	254,000 r/	235,000
Exports (value)	49,500	54,800	59,600	54,500	59,800
Imports for consumption (value)	462,000	548,000	698,000	808,000	925,000

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) status January 1, 2000	Non-NTR January 1, 2000
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	do.	\$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 of building stone:	2516.00.0000		
Granite:			
Crude of 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 of 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:	6802.91.0000		
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	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Alabama	7,210	\$2,380	W	W
California	29,400	4,930	33,300	\$5,790
Colorado	14,700	3,430	W	W
Georgia	83,400	12,200	74,200	11,400
Idaho	39,300	5,510	W	W
Indiana	255,000	33,500	235,000	32,400
Kansas	16,100	1,640	14,100	1,890
Maryland	26,000	3,150 r/	28,700	3,560
Massachusetts	70,400	16,900	69,600	16,800
Minnesota	42,700	20,700	W	W
Montana	9,500	1,440	W	W
New Mexico	17,900	2,320	W	W
New York	49,300	8,940	62,200	5,780
North Carolina	54,700	17,700	40,500	16,800
Ohio	25,600	2,390	34,500	3,050
Oklahoma	3,480	635	5,910	1,530
Pennsylvania	50,800	12,600	49,500	12,100
South Carolina	9,230	855	W	W
Texas	82,500	24,200	84,700	11,500
Vermont	98,600	25,600	103,000	26,600
Virginia	5,640	624	W	W
Wisconsin	85,500	13,400	93,100	11,700
Other 2/	175,000 r/	39,300 r/	326,000	73,900
Total	1,250,000	254,000 r/	1,250,000	235,000

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 Arizona, Arkansas, Connecticut, 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	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
California	9,420	\$1,830	9,220	\$1,820
Georgia	76,100	10,200	66,700	9,220
Massachusetts	70,400	16,900	69,600	16,800
North Carolina	53,100	16,900	W	W
South Carolina	9,230	855	9,230	855
Wisconsin	2,860	2,480	2,360	1,170
Other 2/	216,000	66,100	258,000	81,900
Total	437,000	115,000	415,000	112,000

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 Idaho, Maine, Minnesota, Missouri, Montana, New Hampshire, New Mexico, New York, Oklahoma, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Puerto Rico and other U.S. possessions and territories, and States indicated by symbol W.

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

State	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Indiana	252,000	\$33,500	233,000	\$32,300
Kansas	15,200	1,510	13,000	1,790
Wisconsin	72,600	10,000	72,600	10,000
Other 2/	106,000	34,100 r/	113,000	21,100
Total	446,000	79,100 r/	432,000	65,200

See footnotes at end of table.

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

r/ Revised.

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

2/ Includes Alabama, Arkansas, California, Minnesota, Ohio, Texas, Vermont, and Puerto Rico and other U.S. possessions and territories.

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

State	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
New York	44,900	\$7,370	57,600	\$4,350
Pennsylvania	17,100	2,490	15,800	827
Other 2/	135,000	16,000	156,000	17,800
Total	197,000	25,900	229,000	22,900

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, Michigan, New Mexico, North Carolina, Ohio, Oklahoma, West Virginia, and Wisconsin.

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

Use	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	345,000	\$47,000	349,000	\$46,400
Irregular-shaped stone	143,000	13,100	134,000	13,300
Monumental	133,000	25,000	93,400	18,700
Other 3/	87,200	17,900	115,000	30,000
Dressed stone:				
Ashlars and partially squared pieces	103,000	22,600	113,000	24,200
Slabs and blocks for building and construction	52,300	11,000	30,800	5,960
Monumental	39,000	20,500	37,000	18,500
Curbing	52,900	22,900	55,700	22,800
Flagging	134,000	14,700	160,000	12,600
Flagging (slate)	2,110	434	2,400	585
Roofing slate	10,300	6,900	10,800	6,690
Structural and sanitary	2,050	2,810	2,040	2,830
Flooring slate	10,600	2,140	10,700	2,190
Other 4/	137,000 r/	47,400 r/	139,000	30,100
Total	1,250,000	254,000 r/	1,250,000	235,000

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	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	90,800	\$18,000	99,200	\$18,600
Irregular-shaped stone	4,540	173	4,360	108
Monumental	126,000	23,400	89,400	18,300
Other 2/	53,700	11,400	57,800	14,200
Dressed stone:				
Ashlars and partially squared pieces	25,700	10,200	27,700	10,400
Slabs and blocks for building and construction	1,290	225	1,620	619
Monumental	33,400	18,700	32,100	17,000

See footnotes at end of table.

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

Use	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Dressed stone--Continued:				
Curbing	52,600	22,900	54,800	22,700
Other 3/	48,700	10,400	48,200	9,820
Total	437,000	115,000	415,000	112,000

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	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	208,000	\$24,100	196,000	\$22,100
Irregular-shaped stone	60,100	4,110	59,900	4,270
Other 2/	30,800	6,140 r/	29,900	5,550
Dressed stone:				
Ashlars and partially squared pieces	50,600	8,320	57,300	10,000
Slabs and blocks for building and construction	44,000	8,800 r/	22,700	3,670
Flagging	5,920	483	9,060	1,050
Other 3/	46,200	27,200 r/	57,000	18,500
Total	446,000	79,100 r/	432,000	65,200

r/ Revised.

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

2/ Includes exports, monumental stone (2000), and uses not listed.

3/ Includes curbing (2000), monumental stone (1999), 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	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	11,500	\$2,400	13,800	\$2,730
Other 3/	7,430	1,870	2,630	364
Dressed stone:				
Slabs and blocks for building and construction	4,080	1,180	4,190	1,020
Monumental	4,950	1,400	W	W
Flagging	444	29	W	W
Tile	6,380	1,650	W	W
Other 4/	3,520 r/	73 r/	10,600	3,030
Total	38,300 r/	8,600 r/	31,300	7,150

r/ Revised. 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 flagging (2000), monumental (2000), panels and veneer, ashlars and partially squared pieces, tile (2000), and uses not listed.

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

Use	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	28,900	\$2,160	28,400	\$1,990
Irregular-shaped stone	9,020	1,180	10,400	1,210
Other 2/	--	--	785	214
Dressed stone:				
Ashlars and partially squared pieces	11,700	1,630	17,500	2,390
Slabs and blocks for building and construction	2,880	761	2,190	592
Flagging	112,000	12,900	136,000	10,300
Other 3/	32,400	7,230	33,700	6,260
Total	197,000	25,900	229,000	22,900

-- 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 panels and veneer, tile, curbing, exports, uses not specified, and uses not listed.

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

Use	1999		2000	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Flagging	2,110	\$434	2,400	\$585
Roofing	10,300	6,900	10,800	6,690
Structural and sanitary purposes	2,050	2,810	2,040	2,830
Flooring	10,600	2,140	10,700	2,190
Other 2/	3,560	1,700	2,660	1,910
Total	28,600	14,000	28,700	14,200

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

2/ Includes blackboards (1999), 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	1999		2000		Major destination in 2000, percentage 2/
	Quantity	Value	Quantity	Value	
Marble, travertine, alabaster worked 3/	33	4,770	20	3,740	Jamaica, 34%.
Marble, travertine--crude or roughly trimmed	1	725	2	879	Canada, 43%.
Marble, travertine--merely cut, by sawing or otherwise 4/	4	2,030	11	1,590	Bahamas, 25%.
Granite, crude or roughly trimmed	150	25,900	116	29,500	China, 30%.
Granite, merely cut by sawing or otherwise 4/	16	6,430	18	5,910	Italy, 28%.
Sandstone, crude or roughly trimmed	5	570	3	545	Canada, 71%.
Sandstone, merely cut, by sawing or otherwise 4/	6	1,250	5	1,220	Canada, 91%.
Slate, worked and articles of slate	NA	8,760	NA	10,700	Belize, 41%.
Slate, whether or not roughly trimmed or merely cut 4/	NA	504	NA	682	Canada, 81%.
Other calcareous monumental or building stone; alabaster 5/	8	2,170	8	2,170	Canada, 48%.
Other monumental or building stone 6/	8	1,430	14	2,900	Canada, 70%.
Total	XX	54,500	XX	59,800	

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										
	Cut to size 2/										
	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	Building minimum 7.5 centimeters	Other			
1999:											
Argentina	2	16	303	--	822	--	71	153		1,350	1,370
Brazil	1,610	3,480	7,190	1,850	24,400	185	1,970	8,690		44,300	47,800
Canada	3,940	1,720	153	2,170	13,600	5,470	10,700	5,120		37,200	38,900
China	728	2,090	1,030	2,580	4,700	1,200	2,340	7,100		19,000	21,000
Finland	14	--	--	--	--	--	--	111		111	111
India	2,720	3,220	1,890	6,790	12,800	4,330	2,320	5,220		33,300	36,500
Italy	3,800	11,800	26,900	8,440	56,400	575	12,700	26,300		131,000	143,000
Japan		16	--	--	2	--	--	--		2	18
Mexico	23	254	49	21	2,210	--	823	11		3,120	3,370
Norway	13	--	--	36	178	20	--	--		234	234
Portugal	32	141	--	--	125	--	5	101		231	372
Saudi Arabia	217	55	115	28	603	--	36	161		943	998
South Africa	1,860	224	--	24	364	--	25	185		598	822
Spain	214	842	1,770	859	7,260	3	1,750	2,310		13,900	14,800
Other	893	679	1,170	344	2,750	55	1,030	1,110		6,460	7,140
Total	16,100	24,500	40,600	23,100	126,000	11,800	33,800	56,600		292,000	317,000
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
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

-- 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) codes 2516.11.0000, 2516.12.0030, and 2516.12.0060.

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

5/ Only one face worked more than simply cut. HTS code 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/		Other dressed calcareous stone 4/		Rough marble 5/	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
1999:								
China	4,830	\$2,910	6,120	\$6,340	7,740	\$5,000	75	\$98
France	104	182	161	175	20,100	18,400	3	7
Greece	4,820	4,960	5,050	5,820	24,300	3,600	214	163
India	805	728	1,120	1,260	2,010	770	63	59
Italy	43,200	37,600	57,300	58,700	80,400	55,100	2,490	2,560
Mexico	609	780	8,250	7,630	11,300	10,700	243	303
Portugal	940	733	1,930	1,570	14,000	7,800	138	91
Spain	8,720	5,770	22,700	19,700	65,900	38,100	740	1,050
Taiwan	1,050	1,180	4,620	8,450	1,420	645	45	57
Turkey	3,740	3,120	5,270	3,760	6,100	3,760	120	134
Other	5,970	5,530	8,950	10,200	57,100	24,300	8,190	1,250
Total	74,700	63,500	121,000	124,000	290,000	168,000	12,300	5,770
2000:								
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
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	7,770	7,320	10,900	11,700	96,000	31,600	1,060	938
Total	81,600	75,500	141,000	136,000	434,000	202,000	5,510	5,520

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) code 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 code 6802.92.0000.

5/ Simply cut by sawing or otherwise into rectangular blocks or slabs. HTS code 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	1999		2000		Major source in 2000, percentage 2/
		Quantity	Value (thousands)	Quantity	Value (thousands)	
Calcareous stone, other 3/	metric tons	32,100	\$5,120	5,500	\$4,010	Mexico, 46%.
Marble and alabaster 4/	do.	16,600	11,000	11,200	9,590	Italy, 37%.
Sandstone, cut, by sawing or otherwise 5/	do.	497	224	342	222	Italy, 44%.
Slate, roofing	million square feet	10	6,660	19	9,950	Canada, 31%.
Slate, roughly trimmed or simply cut 5/	do.	5,000	2,140	7,890	3,090	China, 37%.
Slate, worked and articles of slate, and other 6/	do.	NA	50,600	NA	57,900	India, 37%.
Travertine, monumental or building stone and articles thereof 7/	do.	28,700	15,100	29,000	17,400	Italy, 49%.
Travertine, worked monumental or building stone 8/	do.	59,100	34,900	59,000	44,500	Italy, 43%.
Other stone-monumental or building stone 9/	do.	10,800	4,310	10,100	4,110	Italy, 23%.

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.