



2006 Minerals Yearbook

STONE, DIMENSION

STONE, DIMENSION

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U.S. production of dimension stone in 2006 was estimated to be 1.3 million metric tons (Mt) valued at \$265 million, which was a 2% decrease in tonnage and a 1.5% decrease in value compared with those of 2005 (table 1). Exports increased in value by 15% to \$76 million, and imports for consumption increased in value by 15% to about \$2.5 billion. The value of apparent consumption was estimated to be \$2.7 billion. Trade data in this report are from the U.S. Census Bureau. All percentages in the report were computed using unrounded data.

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.

Dimension stone is a natural rock material quarried for the purpose of obtaining blocks or slabs that meet specifications as to size (width, length, and thickness) and shape. Color, grain texture and pattern, and surface finish of the stone also are normal requirements by both customers and the stone industry. Durability (a time measure of the ability of dimension stone to endure and maintain its essential and distinctive characteristics), 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) and soapstone (massive talc).

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 geographic 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, granite, granodiorite, monzonite, syenite, and all other intermediate igneous and coarse-grained metamorphic rock types. Primary colors of commercial granites are white, gray, pink, and red; 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 are composed of calcium carbonate with or without magnesium. Included in this category are limestone, dolomite, dolomitic limestone, and travertine, which is a calcitic 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 angular rock fragments), and conglomerate (abundant rounded rock fragments) are included in this category. Other members of this category include bluestone, which is a dense, hard, fine-grained feldspathic sandstone that 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 sandy slate, typically red, tan or gray, 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 actinolite, chlorite, or epidote.

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 Swedish word "trappa," which means step, 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 commercial dimension stone types that do not easily fall into the aforementioned categories, such as soapstone, steatite, or talc, which contain various amounts of the mineral talc. Additional miscellaneous dimension stones include diatomite, mylonite, pumice, schist, tripoli, tuff, porous or scoriaceous volcanic rocks, or any other rocks used as building stones.

Production

Dimension stone production data for the United States are derived by the U.S. Geological Survey (USGS) from a voluntary canvass of U.S. quarry producers of rough and dressed dimension stone. Of the 211 dimension-stone-producing operations included in the survey for 2006, 107 (51%) responded, which represented 64% of the tonnage; the remaining tonnage was estimated based partly on prior years' reporting (table 1). 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. 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.

In 2006, limestone accounted for 559,000 metric tons (t) (42%) of the total domestic dimension stone production of 1.3 Mt, followed by granite (32%), sandstone (15%), miscellaneous stone (6%), marble (4%), and slate (1%). Granite accounted for about \$105 million (40%) of the value of total domestic production of \$265 million, followed by limestone (36%), sandstone (8%), marble (7%), miscellaneous (5%), and slate (4%).

Production was reported in 34 States and Puerto Rico. Leading producer States were, in descending order by tonnage, Wisconsin, Indiana, Vermont, Massachusetts, and Georgia. These States accounted for about 59% of the domestic production. The leading producer States were, in descending order by value, Indiana, Wisconsin, Vermont, South Dakota, and Georgia. These States contributed about 53% of the value of domestic production (table 3).

The top five producing companies were Buechel Stone Corp. in Wisconsin; Indiana Limestone Co., Inc. in Indiana; Victor Oolitic Stone Co. in Indiana; Rock of Ages Corp. in Vermont, North Carolina, and Pennsylvania; and Fletcher Granite Co., Inc. in Massachusetts, Maine, and New Hampshire. These companies produced about 43% of domestic production in tonnage and about 30% of production value. The leading 14 companies accounted for 64% of total domestically produced tonnage and 57% of the value.

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

Granite.—Dimension granite was produced by 41 companies operating 57 quarries in 17 States. Production was 428,000 t valued at \$105 million. Granite production tonnage increased by about 3% and the value decreased by about 1% compared with those of 2005. The top five producing States were, in descending order by tonnage, Massachusetts, Vermont, Georgia, South

Dakota, and New Hampshire. Massachusetts accounted for 19% of the tonnage and 11% of the value of U.S. granite production (table 4).

Cold Spring Granite, Inc., Fletcher Granite, and Rock of Ages, which were the leading producers, accounted for 55% of U.S. granite production in tonnage and 55% of U.S. granite production in value.

Limestone.—Dimension limestone was produced by 25 companies from 32 quarries in 9 States. Production decreased in 2006 by 4% to 559,000 t from 581,000 t in 2005. The value increased slightly to \$96.1 million in 2006 from \$95.8 million in 2005. The top five producing States were, in descending order by tonnage, Wisconsin, Indiana, Minnesota, Texas, and Ohio. Wisconsin and Indiana combined produced more than 87% of the U.S. tonnage and 74% of the value (table 5). Buechel Stone, Elliott Stone Co., Independent Limestone Co., Indiana Limestone, and Victor Oolitic Stone, which were the leading producers, accounted for 78% of all U.S. limestone tonnage and about 58% of the value.

Sandstone.—Dimension sandstone was produced by 25 companies that operated 26 quarries in 16 States. Production increased by 1% to 195,000 t in 2006 from 192,000 t in 2005. The value decreased by 8% to \$22.4 million in 2006 from \$24.3 million in 2005. The top five producing States were, in descending order by tonnage, Arizona, New York, Ohio, Colorado, and Arkansas (table 6).

American Sandstone, Finger Lakes Stone Co. Inc., Hackett Quarry Co., Loukonen Brothers Stone Co., and Jude Stone Quarry Co., which were the leading producers, accounted for about 65% of the tonnage and 51% of the value of domestic production.

Marble.—Marble was mined by five companies that operated six quarries in five States. Production decreased in 2006 to 46,400 t valued at \$18.1 million from 72,300 t valued at \$18.9 million in 2005 (table 10). Georgia was the leading producing State, followed by Vermont, Tennessee, Colorado, and Alabama. The leading producers were Georgia Marble Co. (a subsidiary of Polycor Inc.), Tennessee Valley Marble, and Vermont Quarries Co. Additional data have been withheld to avoid disclosing company proprietary information.

Slate.—Slate was produced by 14 companies that operated 14 quarries in 5 States. Production decreased to 17,700 t in 2006 from 18,200 t in 2005. The value remained unchanged at \$11.2 million in 2006 compared with that of 2005 (table 12). The top producing States were Vermont, Pennsylvania, and California. The leading producers were Pennsylvania Big Red Slate Co. Inc., Quarry Slate Industries Inc., and U.S. Quarried Slate Products Inc. Additional data have been withheld to avoid disclosing company proprietary information.

Consumption

Dressed stone represented 56% by tonnage and 61% by value of the total stone sold or used. The leading uses within dressed stone, by tonnage, were in other uses, which included panels and veneer, tile, blackboards, exports, and unlisted and unspecified uses (28%), flagging (27%), and ashlar and partially squared pieces (20%). Rough stone represented about 44% of the

tonnage and 39% of the value of all dimension stone sold or used by domestic producers, which included exports. The leading uses of rough stone, by tonnage, were in building and construction (50%), and in other uses, which included flagging, exports, and unlisted and unspecified uses (20%) (table 7).

Uses for the different varieties of dimension stone varied considerably. The major uses of granite sold or used in 2006, by tonnage, were in curbing (30%), monumental rough stone (20%), monumental dressed stone (14%), and other uses, including rough stone for exports and unlisted uses (12%) (table 8). Primary uses of limestone, by tonnage, were in rough blocks for building and construction (36%), and dressed stone other uses, including curbing, panels, veneer, tile, and unlisted and unspecified uses (35%) (table 9). Primary uses of marble, by tonnage, were rough blocks for building and construction (40%), and dressed stone, including slabs and blocks, flagging, monumental, panels and veneer, ashlar and partially squared pieces, tile, and other uses (34%) (table 10). Primary uses of sandstone, by tonnage, were in dressed stone for flagging (63%) and ashlar and partially squared pieces (13%) (table 11). Dimension slate sold or used by producers in the United States in 2006, by tonnage, was principally for flooring (50%), roofing (19%), and structural and sanitary purposes (13%) (table 12).

Overall, the value of apparent consumption of dimension stone in the United States was estimated to be \$2.7 billion in 2006; this was an increase of 13% compared with that of 2005. 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 such data are not available.

Prices

The average 2006 value for dimension stone was \$199 per metric ton; this was an increase of 1% from that of 2005 based on the USGS canvass. The average unit values for different types of dimension stone were granite, \$245 per ton; limestone, \$172 per ton; marble, \$390 per ton; sandstone, \$115 per ton; and slate, \$633 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 2006, total exports of dimension stone increased in value by 15% to \$76 million compared with those of 2005; granite accounted for 46% 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 2006 by 15% to \$2.5 billion. Brazil was the major single source of imported granite in 2006, accounting for 36% by value. Italy, which continued to be a major source of granite, accounted for 21% of granite imports by value. Other important granite import sources included China

(20%) and India (15%) (table 14). Italy also was a major source of rough and dressed marble imports (tables 15-16). Duties on imported dimension stone are listed in table 2.

World Review

World dimension stone production, including the United States, was estimated to be approximately 103 Mt in 2006. Although there was probably some small-scale production in the majority of the world's nations, dimension stone was produced and officially reported in about 25 countries. Global production of dimension stone continued to increase in 2006, particularly among countries in Asia and Europe. Additionally, China's production of dimension stone remained steady and Chinese imports of stone continued to increase (Napoli, 2007). The top five producing countries in 2006 were, in descending order by tonnage, China, India, Italy, Iran, and Turkey, and these countries accounted for about 69% of the world's production. The United States ranked 11th in world production of dimension stone in 2006 (Internazionale Marmi e Macchine Carrara S.p.A., 2007).

Outlook

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 home construction, 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 in the construction industry.

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TABLE 1
 SALIENT U.S. DIMENSION STONE STATISTICS¹

(Thousand metric tons and thousand dollars)

	2002	2003	2004	2005	2006
<u>Sold or used by producers:²</u>					
Quantity	1,260	1,340	1,460	1,360 ^r	1,330
Value	254,000	268,000	281,000	269,000	265,000
Exports, value	64,400	63,500	63,700	66,100	76,000
Imports for consumption, value	1,190,000	1,390,000	1,790,000	2,180,000	2,500,000

^rRevised.

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

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

TABLE 2
U.S. IMPORT DUTIES ON DIMENSION STONE

Tariff item	HTS ¹ code	NTR, ²	
		January 1, 2006	Non-NTR, ² January 1, 2006
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:	6802.21.0000		
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:			
Travertine articles of subheading 6802.21.1000 that have been dressed or polished, but not further worked	6802.91.2000	4.2% ad valorem	50% ad valorem.
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:	6803.00.0000		
Roofing slate	6803.00.1000	3.3% ad valorem	25% ad valorem.
Other	6803.00.5000	Free	Do.

¹Harmonized Tariff Schedule of the United States.

²Normal trade relations.

TABLE 3
DIMENSION STONE SOLD OR USED BY PRODUCERS IN
THE UNITED STATES, BY STATE¹

State	2005		2006	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Alabama	W	W	4,430	\$3,630
California	41,000	\$10,200	40,300	10,000
Colorado	18,200	2,400	18,200	2,400
Georgia	111,000 ^r	21,000	80,500	19,100
Indiana	240,000	46,300	233,000	39,000
Kansas	13,100	1,590	16,800	2,270
Maryland	25,700	3,010	14,100	1,750
Massachusetts	81,800	11,500	81,600	11,500
Minnesota	18,600	13,400	21,600	12,400
Montana	11,600	2,620	11,600	2,620
New York	42,100	7,470	39,100	3,860
North Carolina	39,500	17,000	41,000	17,800
Ohio	28,200	4,880	29,300	4,950
Oklahoma	3,200	501	3,040	502
Pennsylvania	35,400	11,800	38,000	12,800
South Carolina	9,230	850	9,230	850
Texas	44,000	12,200	31,300	12,600
Vermont	98,000	27,800	100,000	27,600
Virginia	5,640	631	5,640	631
Wisconsin	278,000	27,600	297,000	35,400
Other ²	216,000 ^r	45,800 ^r	223,000	47,100
Total	1,360,000 ^r	269,000	1,330,000	265,000

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

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

²Includes Arizona, Arkansas, Connecticut, Idaho, Maine, Michigan, Missouri, New Hampshire, New Mexico, South Dakota, Tennessee, Utah, Washington, West Virginia, Puerto Rico, and other U.S. possessions and territories.

TABLE 4
DIMENSION GRANITE SOLD OR USED BY PRODUCERS IN
THE UNITED STATES, BY STATE¹

State	2005		2006	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
California	17,300	\$5,810	17,300	\$5,810
Georgia	64,300	8,590	62,000	8,520
Massachusetts	81,800	11,500	81,600	11,500
South Carolina	9,230	850	9,230	850
Other ²	243,000 ^r	79,000 ^r	258,000	77,900
Total	416,000	106,000	428,000	105,000

^rRevised.

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

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

TABLE 5
DIMENSION LIMESTONE SOLD OR USED BY PRODUCERS
IN THE UNITED STATES, BY STATE¹

State	2005		2006	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Indiana	240,000	\$46,300	231,000	\$39,000
Kansas	11,700	1,490	11,900	1,450
Other ²	330,000 ^r	48,000 ^r	316,000	55,700
Total	581,000	95,800 ^r	559,000	96,100

^rRevised.

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

²Includes Arkansas, California, Minnesota, Ohio, Oklahoma, Texas, and Wisconsin.

TABLE 6
DIMENSION SANDSTONE SOLD OR USED BY PRODUCERS IN
THE UNITED STATES, BY STATE¹

State	2005		2006	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
New York	39,700	\$6,080	37,300	\$2,670
Other ²	152,000 ^r	18,200 ^r	157,000	19,800
Total	192,000	24,300	195,000	22,400

^rRevised.

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

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

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

Use	2005		2006	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	301,000 ^r	\$43,000	294,000	\$45,500
Irregular-shaped stone	72,900	9,850	68,400	8,250
Monumental	221,000	27,700	102,000	20,200
Other ³	226,000 ^r	66,000	116,000	30,100
Dressed stone:				
Ashlars and partially squared pieces	91,100	20,600	147,000	27,000
Slabs and blocks for building and construction	14,400	3,670	25,600	5,230
Monumental	59,500	27,500	64,300	32,100
Curbing	129,000	20,600	129,000	20,500
Flagging	146,000	13,700	158,000	15,500
Flagging (slate)	2,550	837	1,800	685
Roofing slate	3,310	5,130	3,310	5,040
Structural and sanitary	2,270	2,590	2,260	2,740
Flooring slate	9,030	1,920	8,800	1,890
Other ⁴	82,400	25,700	213,000	50,300
Total	1,360,000 ^r	269,000	1,330,000	265,000

^rRevised.

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

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

³Includes flagging stone, exports, uses not specified, and uses not listed.

⁴Includes 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 USE¹

Use	2005		2006	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	48,800	\$8,700	46,900	\$10,400
Irregular-shaped stone	10,900	1,430	1,870	316
Monumental	90,900	18,500	86,800	16,500
Other ²	48,200	17,000	51,200	17,700
Dressed stone:				
Ashlars and partially squared pieces	5,260	2,140	1,580	1,420
Slabs and blocks for building and construction	731	595	646	523
Monumental	59,400	27,400	61,800	28,600
Curbing	129,000	20,500	129,000	20,500
Other ³	22,900	9,350	48,200	8,670
Total	416,000	106,000	428,000	105,000

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

²Includes exports and uses not listed.

³Includes 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 USE¹

Use	2005		2006	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	172,000	\$24,600	203,000	\$27,900
Irregular-shaped stone	11,500	1,000	17,500	1,030
Monumental	W	W	W	W
Other ²	29,500 ^r	7,900 ^r	7,710	1,650
Dressed stone:				
Ashlars and partially squared pieces	52,300	12,000	99,600	17,600
Slabs and blocks for building and construction	8,270	1,980	19,500	3,600
Flagging	4,140	1,270	16,100	3,290
Other ³	304,000 ^r	47,000 ^r	196,000	41,000
Total	581,000	95,800 ^r	559,000	96,100

¹Revised. W Withheld to avoid disclosing company proprietary data; included with "Rough stone, other."

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

³Includes curbing limestone, 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	2005		2006	
	Quantity ^f (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	24,000	\$6,910	18,800	\$4,710
Other ³	45,300	9,040	11,700	3,720
Dressed stone:				
Slabs and blocks for building and construction	W	W	W	W
Monumental	W	W	W	W
Flagging	W	W	W	W
Tile	W	W	W	W
Other ⁴	2,980	2,960	15,900	9,620
Total	72,300	18,900	46,400	18,100

^fRevised. W Withheld to avoid disclosing company proprietary data; included with "Dressed stone, other."

¹Includes Puerto Rico.

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

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

⁴Includes slabs and blocks, flagging, monumental, panels and veneer, ashlar 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 USE¹

Use	2005		2006	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	29,400	\$2,350	20,000	\$2,070
Irregular-shaped stone	16,300	2,780	17,700	2,460
Other ²	2,270	2,000	230	20
Dressed stone:				
Ashlars and partially squared pieces	15,500	2,950	26,000	4,160
Slabs and blocks for building and construction	2,490	746	W	W
Curbing	W	W	W	W
Flagging	121,000	9,750	122,000	9,940
Panels and veneer	1,360	340	1,450	349
Other ³	3,910	3,400	7,350	3,450
Total	192,000	24,300	195,000	22,400

W Withheld to avoid disclosing company proprietary data; included with "Dressed stone, other." -- Zero.

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

²Includes flagging stone and uses not listed.

³Includes tile, curbing, 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 USE¹

Use	2005		2006	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Flagging	2,550	\$837	1,800	\$685
Roofing	3,310	5,130	3,310	5,040
Structural and sanitary purposes	2,270	2,590	2,260	2,740
Flooring	9,030	1,920	8,800	1,890
Other ²	1,040	762	1,570	869
Total	18,200	11,200	17,700	11,200

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

²Includes uses not specified and uses not listed.

TABLE 13
U.S. EXPORTS OF DIMENSION STONE, BY TYPE¹

(Thousand metric tons and thousand dollars)

Type	2005		2006		Major destination in 2006 ²
	Quantity	Value	Quantity	Value	
Marble, travertine, alabaster worked ³	42	\$4,320	42	\$5,310	Canada, 43%.
Marble, travertine, crude or roughly trimmed	3	1,040	2	1,420	Canada, 59%.
Marble, travertine, merely cut, by sawing or otherwise ⁴	5	1,700	3	3,030	Canada, 25%.
Granite, crude or roughly trimmed	123	33,000	99	34,600	China, 58%.
Granite, merely cut by sawing or otherwise ⁴	12	5,010	9	5,110	Mexico, 20%.
Sandstone, crude or roughly trimmed	5	1,580	5	1,610	Canada, 62%.
Sandstone, merely cut, by sawing or otherwise ⁴	5	1,680	4	1,540	Canada, 87%.
Slate, worked and articles of slate	NA	4,150	NA	4,820	Canada, 40%.
Slate, whether or not roughly trimmed or merely cut ⁴	NA	733	NA	655	Canada, 38%.
Other calcareous monumental or building stone; alabaster ⁵	36	8,730	68	12,900	Canada, 94%.
Other monumental or building stone ⁶	33	4,130	13	5,020	Canada, 90%.
Total	XX	66,100	XX	76,000	

NA Not available. XX Not applicable.

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

²By value.

³Further worked than simply cut with a flat surface.

⁴Blocks or slabs.

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

⁶Crude, 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 COUNTRY¹

(Thousand dollars)

Country	Dressed										
	Worked granite									Total worked	Total dressed
	Cut to size ²						Other				
	Rough granite ³	Simply cut ⁴	Not cut to size ⁵	Maximum 1.5 centimeters	1.5-7.5 centimeters	Monumental		Building			
minimum 7.5 centimeters						minimum 7.5 centimeters					
2005:											
Argentina	--	269	219	21	1,700	--	45	285	2,270	2,540	
Brazil	12,800	54,700	67,400	6,920	215,000	291	5,910	36,200	331,000	386,000	
Canada	3,960	1,040	663	4,160	14,400	7,430	8,700	6,920	42,200	43,300	
China	5,520	24,900	20,700	21,100	86,300	7,000	10,000	47,600	193,000	218,000	
Finland	--	8	33	--	69	--	6	392	500	508	
India	7,170	31,900	21,000	11,200	86,300	7,350	6,500	24,100	156,000	188,000	
Italy	6,050	29,500	42,900	4,920	154,000	313	7,260	53,700	263,000	311,000	
Japan	3	147	--	--	--	--	--	--	--	147	
Mexico	431	1,470	185	68	62	--	2	275	592	2,060	
Norway	199	25	--	--	111	--	--	49	160	185	
Portugal	8	54	54	3	269	--	60	123	509	563	
Saudi Arabia	337	163	123	49	2,620	--	27	39	2,860	3,020	
South Africa	2,040	10	514	3	4,230	--	29	265	5,040	5,050	
Spain	515	3,910	3,130	840	16,800	--	182	3,680	24,600	28,500	
Other	2,110	4,870	21,100	770	19,400	233	1,700	6,310	49,500	54,400	
Total	41,200	153,000	178,000	50,100	601,000	22,600	40,500	180,000	1,070,000	1,240,000	
2006:											
Argentina	--	244	151	18	1,360	16	66	487	2,090	2,340	
Brazil	9,800	81,400	85,800	7,880	295,000	87	5,710	58,300	453,000	534,000	
Canada	4,250	825	442	3,650	17,200	8,630	4,600	6,330	40,800	41,700	
China	7,410	39,500	19,000	25,900	126,000	6,700	13,600	62,400	254,000	293,000	
Finland	--	--	--	8	119	--	--	34	161	161	
India	13,400	44,100	22,300	7,800	101,000	6,830	3,890	31,500	173,000	218,000	
Italy	4,330	30,200	43,700	5,380	162,000	--	7,180	62,900	281,000	311,000	
Japan	--	--	--	3	9	--	3	18	--	--	
Mexico	303	1,600	101	26	45	--	11	257	440	2,040	
Norway	251	21	--	5	189	--	--	6	200	221	
Portugal	--	17	45	14	324	2	48	200	633	650	
Saudi Arabia	90	159	365	3	2,180	--	26	203	2,780	2,940	
South Africa	1,520	108	88	79	4,190	--	2	479	4,840	4,950	
Spain	1,080	3,500	4,110	568	14,000	--	101	2,410	21,200	24,700	
Other	2,230	5,530	23,800	2,330	25,700	73	4,160	7,470	63,500	69,000	
Total	44,700	207,000	200,000	53,700	749,000	22,300	39,400	233,000	1,300,000	1,500,000	

-- Zero.

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

²One or more faces worked more than simply cut.

³Normal 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.

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

⁵Only 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 COUNTRY¹

Country	Dressed							
	Marble, slabs ²		Marble, other ³		Other 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)
2005:								
Brazil	3,580	\$3,130	573	\$455	3,600	\$1,490	398	\$216
Canada	77	225	427	933	323,000	5,270	15	24
China	31,200	16,400	41,900	35,900	31,900	20,100	1,260	829
France	672	1,630	846	1,420	59,200	15,700	18	30
Greece	5,390	7,710	7,200	10,500	1,370	1,520	8	8
India	4,600	3,880	4,640	5,830	3,690	2,090	105	87
Israel	2,450	2,100	6,630	6,620	20,100	16,700	40	61
Italy	71,100	92,200	54,400	79,900	35,000	39,900	2,510	2,950
Mexico	3,160	2,940	12,200	13,400	28,500	11,100	124	179
Portugal	4,860	3,980	2,990	2,780	13,100	10,700	16	22
Spain	33,900	31,100	39,600	37,700	48,900	42,100	871	984
Taiwan	1,120	1,070	1,810	3,010	1,190	361	35	42
Turkey	12,600	9,710	50,500	35,000	15,100	13,000	2,520	1,120
Other	12,200	10,100	30,000	24,800	59,200	25,900	1,270	905
Total	187,000	186,000	254,000	258,000	644,000	206,000	9,190	7,450
2006:								
Brazil	3,800	3,440	1,340	797	2,020	1,820	67	41
Canada	17	39	381	823	186,000	5,300	2	2
China	36,200	24,800	61,400	51,000	34,500	13,800	2,470	1,800
France	367	573	565	1,130	9,720	13,000	4	16
Greece	7,660	10,400	5,830	8,870	905	1,070	--	--
India	6,540	5,020	5,320	4,370	4,530	2,000	120	58
Israel	4,920	3,650	8,150	8,150	39,000	18,700	106	79
Italy	84,400	114,000	60,700	84,400	45,400	36,700	1,060	1,680
Mexico	2,480	2,410	11,100	13,000	12,100	12,900	2,350	3,810
Portugal	2,680	2,620	3,540	3,300	33,100	12,100	40	166
Spain	45,900	41,300	42,300	41,300	44,500	35,000	1,360	1,290
Taiwan	1,030	1,020	2,010	2,780	432	586	4	6
Turkey	18,000	13,300	56,300	43,800	19,100	15,000	242	144
Other	18,100	15,100	30,500	27,600	68,500	29,800	497	692
Total	232,000	238,000	290,000	291,000	500,000	198,000	8,310	9,780

-- Zero.

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

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

³Merely cut by sawing or otherwise.

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

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

Source: U.S. Census Bureau; data adjusted by the U.S. Geological Survey.

TABLE 16
U.S. IMPORTS FOR CONSUMPTION OF DIMENSION STONE, BY TYPE¹

Type		2005		2006		Major source for 2006 ²
		Quantity	Value (thousands)	Quantity	Value (thousands)	
Calcareous stone, other ³	metric tons	34,700	\$8,280	12,800	\$6,270	Canada, 20%.
Marble and alabaster ⁴	do.	29,200	23,500	30,000	19,600	Italy, 23%.
Sandstone, cut, by sawing or otherwise ⁵	do.	4,420	2,180	10,000	3,420	India, 42%.
Slate, roofing	million square feet	13	7,970	14	10,800	Canada, 37%.
Slate, roughly trimmed or simply cut ⁵	do.	18,300	6,000	21,900	8,460	India, 43%.
Slate, worked and articles of slate, and other ⁶	do.	NA	113,000	NA	122,000	China, 41%.
Travertine, monumental or building stone and articles thereof ⁷	do.	67,000	41,400	42,900	26,700	Turkey, 43%.
Travertine, worked monumental or building stone ⁸	do.	118,000	62,800	85,800	51,500	Turkey, 54%.
Other stone, monumental or building stone ⁹	do.	20,500	11,100	17,400	11,700	Mexico, 20%.

NA Not available.

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

²By value.

³Simply cut with a flat surface, other than marble, travertine, and alabaster.

⁴Simply cut with a flat surface.

⁵Rectangular blocks or slabs.

⁶Other than roofing, including agglomerated slate.

⁷Simply cut with a flat surface, other than tiles and granules.

⁸Dressed or polished but not further worked.

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

Source: U.S. Census Bureau.