

## CLAYS

(Data in thousand metric tons unless otherwise noted)

**Domestic Production and Use:** In 2005, clay and shale production was reported in 41 States. About 240 companies operated approximately 810 clay pits or quarries. The leading 20 firms supplied about 47% of the tonnage and 77% of the value for all types of clay sold or used in the United States. Domestic producers estimated that sales or use will be about 42 million tons valued at \$1.70 billion in 2005. Major uses for specific clays were estimated to be as follows: ball clay—35% floor and wall tile, 26% sanitaryware, and 39% other uses; bentonite—24% foundry sand bond, 23% absorbents, 21% drilling mud, 15% iron ore pelletizing, and 17% other uses; common clay—58% brick, 17% cement, 15% lightweight aggregate, and 10% other uses; fire clay—54% refractories and 46% other uses; fuller's earth—78% absorbent uses and 22% other uses; and kaolin—66% paper and 34% other uses.

<b>Salient Statistics—United States:</b> <sup>1</sup>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005<sup>e</sup></b>
Production, mine:					
Ball clay	1,100	1,120	1,310	1,220	1,320
Bentonite	3,970	3,970	3,770	4,060	4,430
Common clay	23,200	23,000	23,100	24,600	25,500
Fire clay <sup>2</sup>	383	446	345	307	262
Fuller's earth	2,890	2,730	3,610	3,260	3,170
Kaolin	8,110	8,010	7,680	7,760	7,200
Total <sup>3</sup>	39,600	39,300	40,000	41,200	41,900
Imports for consumption:					
Artificially activated clay and earth	21	27	21	25	12
Kaolin	114	158	224	205	280
Other	13	32	34	21	28
Total <sup>3</sup>	148	217	279	251	320
Exports:					
Ball clay	174	127	139	107	115
Bentonite	628	722	721	915	740
Fire clay <sup>2</sup>	238	251	285	332	375
Fuller's earth	146	60	48	49	56
Kaolin	3,440	3,350	3,520	3,640	3,620
Clays, not elsewhere classified	337	449	416	586	431
Total <sup>3</sup>	4,970	4,960	5,130	5,630	5,340
Consumption, apparent	34,800	34,600	35,100	35,800	36,900
Price, average, dollars per ton:					
Ball clay	42	42	43	44	40
Bentonite	48	45	44	44	40
Common clay	6	6	6	7	7
Fire clay	20	24	28	28	29
Fuller's earth	92	90	96	101	98
Kaolin	108	119	122	121	130
Stocks, yearend <sup>4</sup>	NA	NA	NA	NA	NA
Employment, number: <sup>e</sup>					
Mine	1,400	1,350	1,320	1,250	1,270
Mill	5,800	5,200	5,000	4,980	5,000
Net import reliance <sup>5</sup> as a percentage of apparent consumption	E	E	E	E	E

**Recycling:** Insignificant.

**Import Sources (2001-04):** Brazil, 71%; Mexico, 7%; United Kingdom, 7%; Canada, 4%; and other, 11%.

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<b>Tariff:</b> Item	Number	Normal Trade Relations <u>12-31-05</u>
Kaolin and other kaolinitic clays, whether or not calcined	2507.00.0000	Free.
Bentonite	2508.10.0000	Free.
Fuller's and decolorizing earths	2508.20.0000	Free.
Fire clay	2508.30.0000	Free.
Common blue and other ball clays	2508.40.0010	Free.
Other clays	2508.40.0050	Free.
Chamotte or dina's earth	2508.70.0000	Free.
Activated clays and earths	3802.90.2000	2.5% ad val.
Expanded clays and mixtures	6806.20.0000	Free.

**Depletion Allowance:** Ball clay, bentonite, fire clay, fuller's earth, and kaolin, 14% (Domestic and foreign); clay used in the manufacture of common brick, lightweight aggregate, and sewer pipe, 7.5% (Domestic and foreign); clay used in the manufacture of drain and roofing tile, flower pots, and kindred products, 5% (Domestic and foreign); clay used for alumina and aluminum compounds, 22% (Domestic).

**Government Stockpile:** None.

**Events, Trends, and Issues:** Domestic sales or use of clays is estimated to be 41.9 million tons in 2005, up from 41.2 million tons in 2004. Imports for consumption increased to an estimated 320,000 tons. The major sources of imported clay were Brazil (kaolin), Canada (bentonite), Mexico (activated clay), and the United Kingdom (kaolin). Exports decreased to 5.34 million tons. Major markets for exported clays, by descending order of tonnage, were Canada, Netherlands, Japan, Republic of Korea, Australia, Mexico, and Italy.

**World Mine Production, Reserves, and Reserve Base:**<sup>6</sup> Reserves and reserve base are large in major producing countries, but data are not available.

	Bentonite		Mine production Fuller's earth		Kaolin	
	2004	2005 <sup>e</sup>	2004	2005 <sup>e</sup>	2004	2005 <sup>e</sup>
United States (sales)	4,060	4,430	3,260	3,170	7,760	7,200
Brazil (beneficiated)	200	200	—	—	2,100	2,200
Commonwealth of Independent States (crude)	750	750	—	—	6,240	6,250
Czech Republic (crude)	175	220	—	—	4,000	4,000
Germany (sales)	405	405	500	500	3,750	3,750
Greece (crude)	950	1,000	—	—	60	60
Italy	500	500	30	30	10	10
Korea, Republic of (crude)	—	—	—	—	2,780	2,800
Mexico	470	565	155	130	800	655
Spain	150	150	840	850	350	350
Turkey	850	900	—	—	400	500
United Kingdom (sales)	—	—	140	140	2,400	2,400
Other countries	1,990	1,590	465	580	13,800	14,300
World total (rounded)	10,500	10,700	5,390	5,400	44,500	44,500

**World Resources:** Resources of all clays are extremely large.

**Substitutes:** Alternatives, such as calcium carbonate and talc, are available for filler and extender applications.

<sup>e</sup>Estimated. E Net exporter. NA Not available. — Zero.

<sup>1</sup>Excludes Puerto Rico.

<sup>2</sup>Refractory uses only.

<sup>3</sup>Data may not add to totals shown because of independent rounding.

<sup>4</sup>Data on stocks are not available and are assumed to be zero for apparent consumption and net import reliance calculations.

<sup>5</sup>Defined as imports – exports + adjustments for Government and industry stock changes.

<sup>6</sup>See Appendix C for definitions.