

CLAYS

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2007, clay and shale production was reported in 42 States. About 200 companies operated approximately 800 clay pits or quarries. The leading 20 firms supplied about 50% of the tonnage and 75% of the value for all types of clay sold or used in the United States. In 2007, domestic producers estimated that sales or use will be 40.6 million tons valued at \$1.80 billion. Major uses for specific clays were estimated to be as follows: ball clay—41% floor and wall tile, 31% sanitaryware, and 28% other uses; bentonite—26% absorbents, 23% drilling mud, 19% foundry sand bond, 15% iron ore pelletizing, and 17% other uses; common clay—57% brick, 18% cement, 17% lightweight aggregate, and 8% other uses; fire clay—72% heavy clay products, 22% refractory products, and 6% other uses; fuller's earth—70% absorbent uses and 30% other uses; and kaolin—62% paper and 38% other uses.

Salient Statistics—United States:¹	2003	2004	2005	2006	2007^e
Production, mine:					
Ball clay	1,310	1,220	1,210	1,190	1,110
Bentonite	3,770	4,550	4,710	4,940	5,070
Common clay	23,100	24,600	24,300	24,200	23,600
Fire clay	345	307	353	848	830
Fuller's earth	3,610	3,260	2,730	2,540	2,670
Kaolin	7,680	7,760	7,800	7,470	7,330
Total ²	39,800	41,700	41,200	41,200	40,600
Imports for consumption:					
Artificially activated clay and earth	21	25	17	21	15
Kaolin	224	205	262	303	225
Other	34	21	23	22	25
Total ²	279	251	301	346	265
Exports:					
Ball clay	139	107	141	140	95
Bentonite	721	915	847	1,270	1,460
Fire clay ³	285	332	368	348	430
Fuller's earth	48	49	55	69	110
Kaolin	3,520	3,640	3,580	3,540	3,400
Clays, not elsewhere classified	416	586	634	607	550
Total ²	5,130	5,630	5,620	5,980	6,050
Consumption, apparent	34,900	36,300	35,900	35,600	34,800
Price, average, dollars per ton:					
Ball clay	43	44	44	45	48
Bentonite	44	45	46	47	48
Common clay	6	7	7	10	10
Fire clay	28	28	30	22	22
Fuller's earth	96	101	100	96	99
Kaolin	122	121	110	131	139
Employment, number: ^e					
Mine	1,320	1,250	1,270	1,250	1,220
Mill	5,000	4,980	5,000	5,050	5,000
Net import reliance ⁴ as a percentage of apparent consumption	E	E	E	E	E

Recycling: Insignificant.

Import Sources (2003-06): Brazil, 79%; Mexico, 5%; United Kingdom, 5%; Canada, 3%; and other, 8%.

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Tariff: Item	Number	Normal Trade Relations 12-31-07
Kaolin and other kaolinitic clays, whether or not calcined	2507.00.0000	Free.
Bentonite	2508.10.0000	Free.
Fire clay	2508.30.0000	Free.
Common blue clay and other ball clays	2508.40.0110	Free.
Decolorizing and fuller's earths	2508.40.0120	Free.
Other clays	2508.40.0150	Free.
Chamotte or dina's earth	2508.70.0000	Free.
Activated clays and earths	3802.90.2000	2.5% ad val.
Expanded clays and other 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); and clay used for alumina and aluminum compounds, 22% (Domestic).

Government Stockpile: None.

Events, Trends, and Issues: Total sales or use of clays declined as the U.S. economy slowed and housing starts declined in 2007. However, bentonite sales increased, helped by a strong drilling mud market. Fuller's earth sales rebounded slightly after a large decline in absorbent sales in 2006. A declining U.S. dollar probably contributed to the slight increase in exports and a decline in imports in 2007. The major sources of imported clay were Brazil (kaolin), Greece (bentonite), Mexico (activated clay), and the United Kingdom (kaolin). Major markets for exported clays, by descending order of tonnage, were Canada (bentonite and kaolin), Japan (bentonite and kaolin), Mexico (kaolin), Finland (kaolin), the Netherlands (bentonite and kaolin), China (kaolin), and Taiwan (kaolin).

World Mine Production, Reserves, and Reserve Base:⁵ Reserves and reserve base are large in major producing countries, but data are not available.

	Bentonite		Mine production Fuller's earth		Kaolin	
	<u>2006</u>	<u>2007^e</u>	<u>2006</u>	<u>2007^e</u>	<u>2006</u>	<u>2007^e</u>
United States (sales)	4,940	5,070	2,540	2,670	7,470	7,330
Brazil (beneficiated)	221	240	—	—	2,410	2,500
Commonwealth of Independent States (crude)	750	750	—	—	6,020	6,000
Czech Republic (crude)	220	220	—	—	3,770	3,700
Germany (sales)	350	360	—	—	3,770	3,800
Greece (crude)	950	1,100	—	—	60	50
Italy (kaolinitic earth)	470	470	30	30	470	470
Korea, Republic of (crude)	—	—	—	—	2,400	2,400
Mexico	450	450	110	110	875	900
Spain	110	110	870	870	450	460
Turkey	950	1,000	—	—	580	450
United Kingdom	—	—	140	70	2,500	2,100
Other countries	<u>2,290</u>	<u>1,990</u>	<u>290</u>	<u>265</u>	<u>6,730</u>	<u>7,630</u>
World total (rounded)	11,700	11,800	3,980	4,020	37,500	37,800

World Resources: Resources of all clays are extremely large.

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

^eEstimated. E Net exporter. — Zero.

¹Excludes Puerto Rico.

²Data may not add to totals shown because of independent rounding.

³Also includes some refractory-grade kaolin.

⁴Defined as imports – exports.

⁵See Appendix C for definitions.