

U.S. Census Bureau  
Refractories - 2007  
MA327C(07)  
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Address inquiries concerning these data to Primary Goods Industries Branch, U.S. Department of Commerce, Census Bureau, Manufacturing and Construction Division, Washington, DC 20233-6900, or call Casey Bretz, 301-763-4736.

These data are also available online through STAT-USA by subscription. For further information, visit <http://www.stat-usa.gov/> or call 1-800-STAT-USA.

Table 1. Value of Shipments of Refractories: 2002 to 2007  
 [Value in thousands of dollars]

Year	Total	Clay	Nonclay
2007.....	2,266,055	957,923	1,308,132
2006.....	2,126,525	r/ 962,973	1,163,552
2005.....	2,013,544	860,844	1,152,700
2004.....	1,979,225	780,551	1,198,674
2003.....	1,740,171	828,440	911,731
2002.....	1,811,903	818,959	992,944

r/ Revised by 5 percent or more from previously published data

Table 2a. Quantity and Value of Shipments of Refractories by Type: 2007  
 [Value in thousands of dollars]

Product code	Product description	No. of cos.	Quantity shipped (unit of measure)		M bricks (1,000 9-inch equivalent)	Value of shipments
			Short tons	Metric tons		
	Clay and nonclay refractories.....	(X)	(X)	(X)	(X)	2,266,055
327124	Clay refractories.....	(X)	(X)	(X)	(X)	957,923
3271240125	Fireclay, high alumina, and insulating brick shapes. 1/.....	43 a/	528,537	a/ 479,181	b/ 105,799	a/ 513,987
3271240135	Unshaped clay refractory bonding mortars, castable refractories, and gunning mixes. 2/, 3/ .....	39	719,477	652,291	(X)	409,686
	Other refractory raw materials and refractory materials sold in lump or ground form, either for direct use by customers as a finished refractory product or as exposed materials .....	(X)	317,538	287,886	(X)	34,250
3271240451	Clay and high alumina refractory raw materials. 4/ .....	10	269,511	244,344	(X)	11,047
3271240461	Clay and high alumina refractory materials. 5/ .....	9 b/	48,027	b/ 43,542	(X) a/	23,203
327125	Nonclay refractories .....	(X)	(X)	(X)	(X)	1,308,132
	Brick and shapes .....	(X)	443,560	402,140	68,970	778,566
3271250125	Magnesite-chrome, chrome-magnesite, including high fires, burned and unburned brick, and chrome brick. ....	9 a/	121,559	a/ 110,208	a/ 18,440	b/ 185,000
3271250135	All other brick and shapes, including dolomite, dolomite magnesite, forsterite, pyrophyllite-zircon, carbon and graphite crucibles, retorts, stopper heads, natural graphite refractories, and molten cast .....	29	322,001	291,932	50,530	593,566
3271250145	Unshaped nonclay refractories basic bonding mortars made predominately of magnesite or chrome ore, dolomite, and other nonclay mortars, made predominately of forsterite, zircon, and silica .....	35	327,068	296,526	(X)	236,492
	Other nonclay refractory materials sold in lump or ground form, including ground silica .....	(X)	403,494	365,815	(X)	293,074
3271250256	Domestic shipments for direct use by customers as a finished refractory and all exported material. 5/ .....	13 a/	171,986	a/ 155,926	(X) b/	183,337
3271250261	All other domestic shipments of nonclay refractory materials sold in lump or ground form as refractory raw material. 4/ .....	9	231,508	209,889	(X)	109,737

X Not applicable

1/Includes high alumina pouring pit refractories (containing 50% alumina and over), sleeves, nozzles, runners, and ladle gate parts. Excludes data for mullite and extra-high alumina refractories. These products are included in the nonclay refractories section.

2/Includes products referred to as plastic firebrick and the less plastic materials intended for ramming into place after the addition of water (when shipped in dry form).

3/Includes hydraulic setting castables designed for low thermal conductivity and having bulk densities as defined in ASTM classification C-401, not greater than 105 pounds/cubic foot.

4/Includes shipments to refractory producers for reprocessing in the manufacture of brick and other refractories.

5/Includes shipments for direct use as finished refractory products by establishments classified in manufacturing industries and excludes shipments to refractory producers for reprocessing in the manufacture of brick and other refractories. Includes all exports.

Note: Percent of estimation of each item is indicated as follows: a/10 to 25 percent of this item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of this item is estimated.

Table 2b. Quantity and Value of Shipments of Refractories by Type: 2006  
[Value in thousands of dollars]

Product code	Product description	No. of cos.	Quantity shipped (unit of measure)		M bricks (1,000 9-inch equivalent)	Value of shipments
			Short tons	Metric tons		
327124	Clay and nonclay refractories.....	(X)	(X)	(X)	(X)	2,126,525
3271240125	Clay refractories.....	(X)	(X)	(X)	(X)	962,973
3271240135	Fireclay, high alumina, and insulating brick shapes. 1/ .....	43	a/ 585,635	a/ 530,947	c/r/ 113,155	r/ 519,172
	Unshaped clay refractory bonding mortars, castable refractories, and gunning mixes. 2/, 3/ .....	39	a/ 961,873	a/ 872,052	(X)	a/ 411,052
	Other refractory raw materials and refractory materials sold in lump or ground form, either for direct use by customers as a finished refractory product or as exposed materials 4/ .....	(X)	144,217	130,750	(X)	32,749
3271240451	Clay and high alumina refractory raw materials. 4/ .....	10	98,866	89,634	(X)	8,103
3271240461	Clay and high alumina refractory materials. 5/ .....	9	c/ 45,351	c/ 41,116	(X)	b/ 24,646
327125	Nonclay refractories .....	(X)	(X)	(X)	(X)	1,163,552
	Brick and shapes .....	(X)	421,736	382,353	65,974	714,875
3271250125	Magnesite-chrome, chrome-magnesite, including high fires, burned and unburned brick, and chrome brick. ....	9	a/ 116,733	a/ 105,832	a/ 18,302	b/ 145,932
3271250135	All other brick and shapes, including dolomite, dolomite magnesite, forsterite, pyrophyllite-zircon, carbon and graphite crucibles, retorts, stopper heads, natural graphite refractories, and molten cast .....	29	305,003	276,521	47,672	568,943
3271250145	Unshaped nonclay refractories basic bonding mortars made predominately of magnesite or chrome ore, dolomite, and other nonclay mortars, made predominately of forsterite, zircon, and silica .....	35	a/ 334,973	a/ 303,693	(X)	a/ 233,655
	Other nonclay refractory materials sold in lump or ground form, including ground silica .....	(X)	351,945	319,080	(X)	215,022
3271250256	Domestic shipments for direct use by customers as a finished refractory and all exported material. 5/ .....	13	r/ 165,536	r/ 150,078	(X)	130,263
3271250261	All other domestic shipments of nonclay refractory materials sold in lump or ground form as refractory raw material. 4/ .....	9	r/ 186,409	r/ 169,002	(X)	84,759

X Not applicable r/ Revised by 5 percent or more from previously published data

1/Includes high alumina pouring pit refractories (containing 50% alumina and over), sleeves, nozzles, runners, and ladle gate parts. Excludes data for mullite and extra-high alumina refractories. These products are included in the nonclay refractories section.

2/Includes products referred to as plastic firebrick and the less plastic materials intended for ramming into place after the addition of water (when shipped in dry form).

3/Includes hydraulic setting castables designed for low thermal conductivity and having bulk densities as defined in ASTM classification C-401, not greater than 105 pounds/cubic foot.

4/Includes shipments to refractory producers for reprocessing in the manufacture of brick and other refractories.

5/Includes shipments for direct use as finished refractory products by establishments classified in manufacturing industries and excludes shipments to refractory producers for reprocessing in the manufacture of brick and other refractories. Includes all exports.

Note: Percent of estimation of each item is indicated as follows: a/10 to 25 percent of this item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of this item is estimated.

Table 3. Shipments, Exports, Imports, and Apparent Consumption of Refractories by Type: 2007 and 2006  
 [Value in thousands of dollars]

Product code 1/	Product description	Manu- facturers' shipments	Exports of domestic merchan- dise 1/ 2/ (value at port)	Percent exports to manu- facturers' shipments	Imports for consump- tion 1/ 3/ (value at port) 4/	Apparent consump- tion 5/	Percent imports to apparent consump- tion
<b>2007</b>							
	Clay and nonclay refractories 6/.....	1,938,731	483,958	25.0	468,476	1,923,249	24.4
	Clay refractories.....	923,673	106,729	11.6	95,739	912,683	10.5
3271240125	Fireclay, high alumina, and insulating brick shapes.....	513,987	64,806	12.6	95,419	544,600	17.5
3271240135	Unshaped clay refractory bonding mortars, castable refractories, and gunning mixes.....	409,686	41,923	10.2	320	368,083	0.1
	Nonclay refractories.....	1,015,058	377,229	37.2	372,737	1,010,566	36.9
3271250125	Magnesite-chrome, chrome- magnesite, including high fires, burned and unburned brick, and chrome brick.....	185,000	69,565	37.6	131,445	246,880	53.2
3271250135	All other brick and shapes.....	593,566	161,666	27.2	211,415	643,315	32.9
3271250145	Unshaped refractories and gunning mixes.....	236,492	145,998	61.7	29,877	120,371	24.8
<b>2006</b>							
	Clay and nonclay refractories 6/.....	1,878,754	395,928	21.1	358,138	1,840,964	19.5
	Clay refractories.....	930,224	81,694	8.8	58,788	907,318	6.5
3271240125	Fireclay, high alumina, and insulating brick shapes.....	r/ 519,172	55,612	10.7	57,865	521,425	11.1
3271240135	Unshaped clay refractory bonding mortars, castable refractories, and gunning mixes.....	411,052	26,082	6.3	923	385,893	0.2
	Nonclay refractories.....	948,530	314,234	33.1	299,350	933,646	32.1
3271250125	Magnesite-chrome, chrome- magnesite, including high fires, burned and unburned brick, and chrome brick.....	145,932	56,181	38.5	146,874	236,625	62.1
3271250135	All other brick and shapes.....	568,943	130,371	22.9	125,633	564,205	22.3
3271250145	Unshaped refractories and gunning mixes.....	233,655	127,682	54.6	26,843	132,816	20.2

r/Revised by 5 percent or more from previously published data.

1/For comparison of North American Industry Classification System (NAICS)-based product codes with Schedule B export codes and HTSUSA import codes, see Table 4.

2/Source: Census Bureau report EM 545, U.S. Exports.

3/Source: Census Bureau report IM 146, U.S. Imports for Consumption and General Imports.

4/"Value at port" includes both import value and duty value.

5/Apparent consumption is derived by subtracting exports from the total of shipments plus imports (including duty).

6/The "Clay and nonclay refractories" total shown here excludes product codes 3271240451, 3271240461, 3271250256, 3271250261; therefore, they differ from the totals shown in Tables 1, 2a, and 2b.

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes and HTSUSA Import Codes: 2007

Product code	Product description	Export code 1/	Import code 2/
3271240125	Clay brick and shapes.....	6902.20.1010	6902.20.1010
		6902.20.5010	6902.20.5010
		6902.90.1010	6902.90.1010
		6902.90.5010	6902.90.5010
		6903.90.0010	6903.90.0010
3271240135	Unshaped clay refractories and gunning mixes.....	3816.00.0010	3816.00.0010
3271250125	Nonclay magnesite and magnesite-chrome brick and shapes, and chrome brick.....	6902.10.1000	6902.10.1000
		6902.10.5000	6902.10.5000
3271250135	All other nonclay brick and shapes.....	6902.20.1020	6902.20.1020
		6902.20.5020	6902.20.5020
		6902.90.1020	6902.90.1020
		6902.90.5020	6902.90.5020
		6903.90.0050	6903.90.0050
3271250211	Unshaped nonclay refractories and gunning mixes.....	3816.00.0050	3816.00.0050

1/Source: 2007 edition, Harmonized System-based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (2007).

## HISTORICAL NOTE

The Census Bureau has collected data on refractories since 1947.

Historical Current Industrial Reports data (called Facts for Industry before 1959) may be obtained from a Federal Depository Library. To locate a Federal Depository Library in your area, please visit <http://www.gpoaccess.gov/libraries.html>.