

Information about the scope of the survey, methodology, explanation of terms and historical notes for this survey may be found in the introduction of the 1998 Manufacturing Profiles, issued December 2000.

Current data are released electronically on Internet for all individual surveys as they become available. Use: <http://www.census.gov/econ/www/manumenu.html>. Individual reports can be accessed by choosing "Current Industrial Reports (CIR's)," clicking on "Report Number Index;" from the "Industrial Products by Numeric Index," choose the survey of interest. Follow the menu to view the PDF file or to download the worksheet file (WK format) to your personal computer.

These data are also available through the U.S. Department of Commerce and STAT-USA Electronic Bulletin Board by subscription. To access, dial 202-482-3870 and follow the prompts to register. Also, you may call 202-482-1986 or 1-800-STAT-USA, for further information. The Internet address is: [www.stat-usa.gov/](http://www.stat-usa.gov/).

NOTE. Data are now published on the new North American Industry Classification System (NAICS) basis and therefore are not always comparable to the old Standard Industrial Classification (SIC) code. For further information on NAICS, see [www.census.gov/epcd/www/naics.html](http://www.census.gov/epcd/www/naics.html).

**SUMMARY OF FINDINGS.** In 2000, total manufacturers' shipments of refractories

amounted to \$1,998.5 million, a decrease of 10 percent, from \$2,229.4 million in 1999.

Shipments of clay refractories decreased 16 percent to \$770.5 million in 2000, from \$918.7 million in 1999. Clay refractories shipments accounted for 39 percent of total refractories shipments in 2000 and 41 percent in 1999.

Shipments of nonclay refractories decreased 6 percent to \$1,227.9 million in 2000, from \$1,310.6 million in 1999. Nonclay refractories shipments accounted for 61 percent of the total refractories shipments in 2000 and 59 percent in 1999.

Brick and shapes continue to be the dominate form of refractories. Brick and shapes from clay refractories showed a decrease of 27 percent to \$364.5 million in 2000, from \$502.0 million in 1999. Brick and shapes from nonclay refractories showed a decrease of 11 percent to \$631.1 million in 2000, from \$711.8 million in 1999. Unshaped clay refractories decreased 1 percent to \$362.8 million in 2000, from \$365.1 million in 1999. Mortars decreased 6 percent to \$21.7 million in 2000, from \$23.1 million in 1999. Plastic refractories and ramming mixes from nonclay refractories decreased 7 percent to \$158.8 million in 2000, from \$171.7 million in 1999. Ceramic refractory fibers decreased 11 percent to \$102.1 million in 2000, from \$114.5 million in 1999.

Address inquiries concerning these data to Primary Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call John Linehan, 301-457-4742.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-457-4673.



**Table 1. Value of Shipments of Refractories: 1990 to 2000**  
**[Thousands of dollars]**

<b>Year</b>	<b>Total</b>	<b>Clay</b>	<b>Nonclay</b>
2000.....	1,998,472	770,547	1,227,925
1999.....	2,229,358	918,738	1,310,620
1998.....	2,380,480	1,023,210	1,357,270
1997.....	2,565,817	1,084,179	1,481,638
1996.....	2,340,757	930,006	1,410,751
1995.....	2,222,384	940,835	1,281,549
1994.....	2,046,979	906,165	1,140,814
1993.....	1,930,233	772,986	1,157,247
1992.....	1,956,083	786,078	1,170,005
1991.....	1,946,842	784,331	1,162,511
1990.....	2,002,833	771,315	1,231,518

Table 2a. Quantity and Value of Shipments of Refractories by Type: 2000  
 [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)	1,998,472
327124	Clay refractories.....	(X)	(X)	(X)	(X)	770,547
	Brick and shapes.....	(X)	854,880	775,050	262,454	364,509
3271240111	Fireclay, including semisilica, bloating and superduty fireclay brick and shapes, fireclay and high alumina pouring pit refractories; clay kiln furniture; radiant heater elements; and other miscellaneous clay refractory shapes.....	24	410,247	371,937	107,591	146,493
3271240211	High alumina brick and shapes containing 50 percent alumina and over, including glass-house pots, tank blocks, feeder parts, and upper structure shapes, made predominantly of calcined bauxite, kyanite, andalusite, and similar raw materials 1/.....	29	407,394	369,351	127,070	173,172
3271240411	Insulating brick and shapes.....	11	37,239	33,762	27,793	44,844
	Unshaped clay refractories.....	(X)	749,817	679,798	(X)	362,820
3271240421	Refractory bonding mortars, wet and dry, including clay and high alumina.....	33	122,671	111,216	(X)	57,400
3271240431	Plastic refractories and ramming mixes, less than 50 percent alumina; high alumina plastic refractories and ramming mixes, 50 percent alumina and over; and high alumina phosphate bonded plastic refractories and ramming mixes, 50 percent alumina and over 2/.....	26	152,520	138,277	(X)	79,576
3271240311	Castable refractories less than 50 percent alumina; high alumina castables 50 percent and over; and insulating castables (hydraulic setting), density up to 105 pounds/cubic foot 3/.....	35	336,715	305,272	(X)	178,136
3271240441	Fireclay gunning mixes, including hydraulic setting gunning mixes, less than 50 percent alumina; high alumina gunning mixes, 50 percent alumina and over; and insulating gunning mixes (hydraulic setting).....	25	137,911	125,033	(X)	47,708
	Other refractory raw materials and refractory materials sold in lump or ground form, either for direct use by customer as a finished refractory product or as exported material.....	(X)	157,281	142,594	(X)	23,326
3271240451	Clay and high alumina refractory raw materials 4/.....	12	147,361	133,600	(X)	21,405
3271240461	Clay and high alumina refractory materials 5/.....	8	9,920	8,994	(X)	1,921
3271240000	Clay refractories, n.s.k. 6/.....	(X)	(X)	(X)	(X)	19,892
327125	Nonclay refractories.....	(X)	(X)	(X)	(X)	1,227,925
	Brick and shapes.....	(X)	401,345	363,867	110,337	631,086
3271250111	All silica brick and shapes, excluding semisilica.....	13	19,825	17,974	10,315	46,846
3271250121	Magnesite-carbon brick and shapes, both less than 7 percent carbon, 7 percent carbon and over, predominantly pitch and resin bonded, and carbon magnesite brick.....	6	62,360	56,537	11,385	62,507
3271250131	Magnesite brick and shapes, burned and unburned.....	9	34,741	31,497	6,178	40,312
3271250141	Magnesite-chrome, chrome-magnesite, including high fires, burned and unburned brick, and chrome brick.....	5	(D)	(D)	(D)	(D)
3271250151	Silicon-carbide brick and shapes (made predominantly of silicon carbide), including kiln furniture.....	11	(D)	(D)	(D)	(D)

Table 2a. Quantity and Value of Shipments of Refractories by Type: 2000  
 [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		
3271250161	Extra-high alumina brick and shapes containing 87.5 percent alumina and higher, and extra-high alumina pouring pit refractories, including sleeves, nozzles, runners, tuyeres, ladle gate parts, and mullite brick and shapes.....	25	24,948	22,618	8,550	92,695
3271250171	Zircon and zirconia brick and shapes (made predominantly of either of these materials, including electrocast).....	16	11,375	10,313	6,583	96,411
3271250181	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.....	17	176,270	159,810	37,895	157,319
3271250211	Mortars.....	(X)	67,885	61,546	(X)	21,679
3271250216	Unshaped nonclay refractories basic bonding mortars made predominately of magnesite or chrome ore, dolomite, and other nonclay mortars (made predominantly of forsterite, zircon, and silica).....	8	(D)	(D)	(X)	(D)
3271250221	Extra-high alumina refractory mortars (made predominantly of fused or synthetic alumina and mullite).....	16	(D)	(D)	(X)	(D)
3271250226	Plastic refractories and ramming mixes.....	(X)	197,497	179,054	(X)	158,792
3271250231	Basic castable mixes, including chrome, chrome-magnesia, magnesia-chrome, magnesia, and dolomite.....	12	101,368	91,902	(X)	71,919
3271250241	Extra-high alumina plastic refractories and ramming mixes, 87.5 percent alumina and higher (made predominately of fused or synthetic aluminas and mullites), and extra-high alumina phosphate bonded plastic refractories and ramming mixes.....	15	50,223	45,533	(X)	51,374
3271250246	Extra-high alumina castables and gunning mixes.....	10	8,844	8,018	(X)	10,150
3271250251	Other nonclay plastic refractories and ramming mixes.....	9	(D)	(D)	(X)	(D)
3271250256	Other nonclay refractory castables and plastic refractories.....	9	(D)	(D)	(X)	(D)
3271250261	Gunning mixes: Basic nonclay gunning mixes, including chrome, chrome-magnesia, magnesia-chrome, magnesia, and dolomite and other nonclay gunning mixes.....	14	274,069	248,476	(X)	121,075
3271250266	Ceramic refractory fibers, 1,500 degrees F and higher.....	9	35,547	32,228	11,542	102,117
3271250271	Other nonclay refractory materials sold in lump or ground form, including ground silica.....	(X)	411,779	373,326	(X)	160,661
3271250276	Domestic shipments for direct use by customers as a finished refractory and all exported material 5/.....	16	171,625	155,598	(X)	84,624
3271250281	All other domestic shipments of nonclay refractory materials sold in lump or ground form as a refractory raw material 4/.....	8	240,154	217,728	(X)	76,037
3271250000	Nonclay refractories, n.s.k. 6/.....	(X)	(X)	(X)	(X)	32,515
327992	Dead-burned magnesia or magnesite.....	(X)	(D)	(D)	(X)	(D)
3279920331	Domestic shipments for direct use as finished refractory products and all exported material 5/.....	6	(D)	(D)	(X)	(D)

Table 2a. Quantity and Value of Shipments of Refractories by Type: 2000  
 [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		
3279920336	All other domestic shipments predominantly for use as a refractory raw material.....	7	(D)	(D)	(X)	(D)
3274100311	Dead-burned dolomite.....	2	(D)	(D)	(X)	(D)

D Withheld to avoid disclosing data for individual companies. n.s.k. Not specified by kind. X Not applicable.

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

2/Includes products referred to as plastic firebrick and less plastic materials intended for ramming into place after 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 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 manufacture of brick and other refractories. Includes all exports.

6/Not specified by kind (n.s.k.) represents value of shipments for establishments that did not report detailed information and establishments, typically with less than five employees that were not included on MA327C mailing panel.

Table 2b. Quantity and Value of Shipments of Refractories by Type: 1999  
 [Value in thousands of dollars]

Product code	Product description	No. of cos.	Quantity shipped (unit of measure)				Value of shipments
			Short tons	Metric tons	M bricks (1,000 9-inch equivalent)		
327124	Clay and nonclay refractories.....	(X)	(X)	(X)	(X)	2,229,358	
	Clay refractories.....	(X)	(X)	(X)	(X)	918,738	
3271240111	Brick and shapes.....	(X)	905,268	820,733	290,579	502,037	
3271240211	Fireclay, including semisilica, bloating and superduty fireclay brick and shapes, fireclay and high alumina pouring pit refractories; clay kiln furniture; radiant heater elements; and other miscellaneous clay refractory shapes.....	27	420,134	380,901	116,903	159,904	
3271240411	High alumina brick and shapes containing 50 percent alumina and over, including glass-house pots, tank blocks, feeder parts, and upper structure shapes, made predominantly of calcined bauxite, kyanite, andalusite, and similar raw materials 1/.....	29 r/	437,492 r/	396,638	135,498 r/	284,610	
	Insulating brick and shapes.....	13	47,643	43,194 r/	38,178	57,523	
3271240421	Unshaped clay refractories.....	(X) r/	782,156 r/	709,117	(X) r/	365,062	
3271240431	Refractory bonding mortars, wet and dry, including clay and high alumina.....	35	133,873	121,372	(X)	60,520	
3271240311	Plastic refractories and ramming mixes, less than 50 percent alumina; high alumina plastic refractories and ramming mixes, 50 percent alumina and over; and high alumina phosphate bonded plastic refractories and ramming mixes, 50 percent alumina and over 2/.....	27	156,643	142,015	(X)	78,070	
3271240441	Castable refractories less than 50 percent alumina; high alumina castables 50 percent and over; and insulating castables (hydraulic setting), density up to 105 pounds/cubic foot 3/.....	32 r/	328,050 r/	297,416	(X) r/	168,433	
3271240451	Fireclay gunning mixes, including hydraulic setting gunning mixes, less than 50 percent alumina; high alumina gunning mixes, 50 percent alumina and over; and insulating gunning mixes (hydraulic setting).....	26 r/	163,590 r/	148,314	(X) r/	58,039	
3271240461	Other refractory raw materials and refractory materials sold in lump or ground form, either for direct use by customer as a finished refractory product or as exported material.....	(X) r/	155,305 r/	140,802	(X) r/	27,921	
3271240000	Clay and high alumina refractory raw materials 4/.....	16 r/	143,052 r/	129,694	(X) r/	24,860	
	Clay and high alumina refractory materials 5/.....	10	12,252	11,108	(X) r/	3,061	
	Clay refractories, n.s.k. 6/.....	(X)	(X)	(X)	(X) r/	23,718	
327125	Nonclay refractories.....	(X)	(X)	(X)	(X)	1,310,620	
3271250111	Brick and shapes.....	(X)	468,913	425,125	107,259	711,806	
3271250121	All silica brick and shapes, excluding semisilica.....	11	28,331	25,685	13,446	53,909	
3271250131	Magnesite-carbon brick and shapes, both less than 7 percent carbon, 7 percent carbon and over, predominantly pitch and resin bonded, and carbon magnesite brick.....	6 r/	102,382 r/	92,821 r/	19,045 r/	103,979	
3271250141	Magnesite brick and shapes, burned and unburned.....	9 r/	39,705 r/	35,997 r/	6,735 r/	43,551	
	Magnesite-chrome, chrome-magnesite, including high fires, burned and unburned brick, and chrome brick.....	5	(D)	(D)	(D)	(D)	

Table 2b. Quantity and Value of Shipments of Refractories by Type: 1999  
 [Value in thousands of dollars]

Product code	Product description	No. of cos.	Quantity shipped (unit of measure)			Value of shipments
			Short tons	Metric tons	M bricks (1,000 9-inch equivalent)	
3271250151	Silicon-carbide brick and shapes (made predominantly of silicon carbide), including kiln furniture.....	11	(D)	(D)	(D)	(D)
3271250161	Extra-high alumina brick and shapes containing 87.5 percent alumina and higher, and extra-high alumina pouring pit refractories, including sleeves, nozzles, runners, tuyeres, ladle gate parts, and mullite brick and shapes.....	23	40,090	36,346 r/	11,216	118,307
3271250171	Zircon and zirconia brick and shapes (made predominantly of either of these materials, including electrocast).....	16 r/	13,436 r/	12,181	4,307 r/	88,272
3271250181	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.....	18	175,847	159,426	37,273 r/	178,530
3271250211	Mortars.....	(X)	71,601	64,915	(X)	23,094
3271250216	Unshaped nonclay refractories basic bonding mortars made predominately of magnesite or chrome ore, dolomite, and other nonclay mortars (made predominantly of forsterite, zircon, and silica).....	9	(D)	(D)	(X)	(D)
3271250221	Extra-high alumina refractory mortars (made predominantly of fused or synthetic alumina and mullite).....	17	(D)	(D)	(X)	(D)
3271250221	Plastic refractories and ramming mixes.....	(X) r/	205,653 r/	186,449	(X)	171,660
3271250226	Basic castable mixes, including chrome, chrome-magnesia, magnesia-chrome, magnesia, and dolomite.....	13 r/	101,660 r/	92,167	(X) r/	72,513
3271250241	Extra-high alumina plastic refractories and ramming mixes, 87.5 percent alumina and higher (made predominately of fused or synthetic aluminas and mullites), and extra-high alumina phosphate bonded plastic refractories and ramming mixes.....	19 r/	55,499 r/	50,316	(X) r/	58,136
3271250241	Extra-high alumina castables and gunning mixes.....	11	8,344	7,565	(X)	9,978
3271250236	Other nonclay plastic refractories and ramming mixes.....	10	(D)	(D)	(X)	(D)
3271250231	Other nonclay refractory castables and plastic refractories.....	14	(D)	(D)	(X)	(D)
3271250246	Gunning mixes: Basic nonclay gunning mixes, including chrome, chrome-magnesia, magnesia-chrome, magnesia, and dolomite and other nonclay gunning mixes.....	15	243,125	220,422	(X) r/	102,258
3271250251	Ceramic refractory fibers, 1,500 degrees F and higher.....	10 r/	44,673 r/	40,501 r/	13,154 r/	114,456
3271250256	Other nonclay refractory materials sold in lump or ground form, including ground silica.....	(X)	394,429	357,597	(X)	152,641
3271250256	Domestic shipments for direct use by customers as a finished refractory and all exported material 5/.....	18	176,210	159,755	(X) r/	81,421

Table 2b. Quantity and Value of Shipments of Refractories by Type: 1999  
 [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		
3271250261	All other domestic shipments of nonclay refractory materials sold in lump or ground form as a refractory raw material 4/.....	9	218,220	197,842	(X) r/	71,220
3271250000	Nonclay refractories, n.s.k. 6/.....	(X)	(X)	(X)	(X)	34,705
327992	Dead-burned magnesia or magnesite.....	(X)	(D)	(D)	(X)	(D)
3279920331	Domestic shipments for direct use as finished refractory products and all exported material 5/.....	6	(D)	(D)	(X)	(D)
3279920336	All other domestic shipments predominantly for use as a refractory raw material.....	8	(D)	(D)	(X)	(D)
3274100311	Dead-burned dolomite.....	2	(D)	(D)	(X)	(D)

D Withheld to avoid disclosing data for individual companies. n.s.k. Not specified by kind. r/Revised by 5 percent or more from previously published data. X Not applicable.

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

2/Includes products referred to as plastic firebrick and less plastic materials intended for ramming into place after 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 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 manufacture of brick and other refractories. Includes all exports.

6/Not specified by kind (n.s.k.) represents value of shipments for establishments that did not report detailed information and establishments, typically with less than five employees that were not included on MA327C mailing panel.



Table 3. Value of Shipments, Exports, Imports, and Apparent Consumption of Refractories by Type: 2000 and 1999  
 [Value in thousands of dollars]

Product code 1/	Product description	Manu- facturers' shipments	Exports of domestic mer- chandise 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 consumption
2000							
	Clay and nonclay refractories 6/.....	1,758,870	353,659	20.1	417,561	1,822,772	22.9
	Clay refractories.....	727,329	69,765	9.6	203,012	860,576	23.6
3271240111, 211, 411	Brick and shapes.....	364,509	52,082	14.3	201,155	513,582	39.2
3271240311, 421, 431, 441	Unshaped refractories and gunning mixes.....	362,820	17,683	4.9	1,857	346,994	0.5
	Nonclay refractories.....	1,031,541	283,894	27.5	214,549	962,196	22.3
3271250121, 131, 141	Nonclay magnesite and magnesite-chrome brick and shapes and chrome brick.....	160,931	56,167	34.9	83,967	188,731	44.5
3271250111, 151, 161, 171, 181	All other brick and shapes.....	466,947	119,048	25.5	100,796	448,695	22.5
3271250211, 216, 221, 226, 231, 236, 241, 246, 251	Unshaped nonclay refractories and gunning mixes.....	403,663	108,679	26.9	29,786	324,770	9.2
1999							
	Clay and nonclay refractories 6/.....	1,990,373	351,372	17.7	333,394	1,972,395	16.9
	Clay refractories.....	867,099	54,881	6.3	107,812	920,030	11.7
3271240111, 211, 411	Brick and shapes.....	502,037	45,003	9.0	106,280	563,314	18.9
3271240311, 421, 431, 441	Unshaped refractories and gunning mixes.....	365,062	9,878	2.7	1,532	356,716	0.4
	Nonclay refractories.....	1,123,274	296,491	26.4	225,582	1,052,365	21.4
3271250121, 131, 141	Nonclay magnesite and magnesite-chrome brick and shapes and chrome brick.....	202,403	58,267	28.8	92,031	236,167	39.0
3271250111, 151, 161, 171, 181	All other brick and shapes.....	509,403	133,400	26.2	107,320	483,323	22.2
3271250211, 216, 221, 226, 231, 236, 241, 246, 251	Unshaped nonclay refractories and gunning mixes.....	411,468	104,824	25.5	26,231	332,875	7.9

1/For comparison of North American Industry Classification System-based product codes with Schedule B export numbers, and HTSUSA import numbers, 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 total of shipments plus imports (including duty).

6/"Clay and nonclay refractories" total shown here excludes product codes 3271240451, 3271240461, 3271240000, 3271250256, 3271250261, 3271250000, 3279920331, 3279920336, and 3274100311; therefore, they differ from the totals shown in Tables 1 and 2a.

**Table 4. Comparison of North American Industry Classification System-Based Product Codes with Schedule B Export Numbers, and HTSUSA Import Numbers: 2000**

<b>Product code</b>	<b>Product description</b>	<b>Export number 1/</b>	<b>Import number 2/</b>
3271240111, 211, 411	Clay brick and shapes.....	6902.20.1010 6902.20.5010 6902.90.1010 6902.90.5010 6903.90.0010	6902.20.1010 6902.20.5010 6902.90.1010 6902.90.5010 6903.90.0010
3271240311, 421, 431, 441	Unshaped clay refractories and gunning mixes.....	3816.00.0010	3816.00.0010
3271250121, 131, 141	Nonclay magnesite and magnesite-chrome brick and shapes, and chrome brick .....	6902.10.1000 6902.10.5000	6902.10.1000 6902.10.5000
3271250111, 151, 161, 171, 181	All other nonclay brick and shapes.....	6902.20.5020 6902.90.1020 6902.90.5020 6903.90.0050	6902.20.5020 6902.90.1020 6902.90.5020 6903.90.0050
3271250211, 216, 221, 226, 231, 236, 241, 246, 251	Unshaped nonclay refractories and gunning mixes.....	3816.00.0050	3816.00.0050

1/Source: 2000 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 (2000).