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2010 Minerals Yearbook

ASBESTOS

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ASBESTOS

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Asbestos has not been mined in the United States since 2002, and imports, 99% from Canada, satisfied the needs of domestic consumers. U.S. apparent consumption was 1,040 metric tons (t) in 2010, an increase from 869 t in 2009. World production was 2.01 million metric tons (Mt) in 2010, a decrease from 2.13 Mt in 2009.

Consumption

U.S. consumption of asbestos was 1,040 t in 2010, an increase from 869 t in 2009 (table 1). Roofing products accounted for 58% of U.S. consumption; diaphragms for the chloralkali industry, 35%; coating and compounds, 2%; and other uses, 5%. Chrysotile was the only type of asbestos used in the United States in 2010, 64% of which was grade 7, 20% was grade 5, 15% was grade 4, and 1% was unspecified (table 2).

Prices

The average free alongside ship (f.a.s.) unit value of unmanufactured asbestos fiber exports was $708 per metric ton in 2010, a decrease from $1,169 per ton in 2009. The average U.S. customs unit value for all grades of imported asbestos was $786 per ton in 2010, unchanged from that of 2009. The average value of imported crude chrysotile, all from Canada, was $872 per ton in 2010, a large increase from $203 per ton in 2009. This increase may have resulted from additional processing of the crude chrysotile or higher prices for spot, rather than long-term purchases. The average unit value for imports of milled, grade 4 chrysotile was $1,858 per ton in 2010, a slight increase from $1,843 per ton in 2009.

Foreign Trade

The following section summarizes significant trade statistics on asbestos and products manufactured using asbestos. Detailed trade statistics, by country and individual U.S. port districts, are available from the International Trade Commission's Interactive Tariff and Trade Dataweb Web site (U.S. International Trade Commission, undated).

In 2010, U.S. exports of asbestos fiber were 171 t with an f.a.s. value of $121,000, an increase in tonnage from 59 t valued at $69,000 in 2009 (tables 3, 4). Asbestos has not been produced in the United States since 2002; thus, reported exports probably consisted of reexports of imported fiber or improperly classified products. The United States exported and reexported $27 million of asbestos products in 2010, an increase from $24.5 million in 2009. Canada was the leading destination, followed by the United Kingdom, Mexico, the Republic of Korea, and China. These five countries accounted for 64% of the value of asbestos products exported and reexported from the United States in 2010 (table 3). The United Kingdom banned the use of asbestos in 1999, so imports from the United States probably were reexported from the United Kingdom or were nonasbestos products misclassified as asbestos products. The same applies to several other countries listed in table 3 that have banned the use of asbestos or asbestos products.

Friction products, including brake linings, clutch linings, and disk pads, accounted for 56% of the value of manufactured products exported in 2010 (table 4). Because no asbestos brake components under Harmonized Tariff Schedule of the United States (HTS) code 6813.20 or asbestos-cement products under HTS code 6811.40 were manufactured in the United States, shipments under these two HTS code categories probably represent reexports of asbestos products and (or) exports of products incorrectly classified under these HTS codes.

In 2010, the United States imported 1,040 t of asbestos valued at $821,000. Canada supplied 99% of the tonnage; the remainder was imported from Brazil (table 5). Most likely, only chrysotile was imported into the United States in 2010. Based on the import source, asbestos listed under "other, unspecified asbestos type" in table 5 probably represented chrysotile.

The United States also imported $5.78 million of products with a basis of asbestos and products with a basis of asbestos and magnesium carbonate, a significant decrease from $13.3 million in 2009 (U.S. International Trade Commission, undated). Some nonasbestos products probably are included under the asbestos HTS codes based on reported asbestos imports from countries that have banned asbestos use (table 6).

World Review

World production of asbestos was estimated to be 2.01 Mt in 2010, a decrease from 2.13 Mt in 2009. It was estimated that Russia was the leading producer of asbestos, followed by China, Brazil, Kazakhstan, and Canada. These five countries accounted for 99% of the world production (table 7).

Brazil.—Eternit S.A. indicated that its chrysotile mine operated at full capacity and its fiber cement plants operated at greater than 90% capacity. In 2010, chrysotile sales, including some sales from stocks, were 306,000 t, 5% greater than in 2009. Fiber cement sales were 827,000 t in 2010, 13% greater than in 2009. Eternit also increased the capacity of its fiber cement plant to 1 Mt from 850,000 t (Eternit S.A., 2011, p. 1, 3).

Canada.—Shareholders of Mine Jeffrey Inc., in Asbestos, Quebec, approved the purchase of the privately held company by an international consortium. However, the purchase was conditional on the Quebec Government guaranteeing a $56 million bank loan. At yearend, no decision had been made concerning the loan. The purchase of the mine would enable the company to complete the underground portion of its mine and eventually increase production to 250,000 metric tons per

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year (t/yr) from 15,000 t/yr (Canadian Mining Journal, 2010; Industrial Minerals, 2010).

Outlook

U.S. consumption, although increasing from that of 2009, remained lower than consumption for the prior 100 years. U.S. asbestos consumption is likely to decline further as the use of products and technologies that do not require asbestos continue to increase. World production remained nearly 2.01 Mt because of continued demand for asbestos products in many regions of the world.

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TABLE 1
SALIENT ASBESTOS STATISTICS[1]

		2006	2007	2008	2009	2010
United States:						
Exports and reexports:[2, 3]						
Unmanufactured, value	thousands	$866	$421	$345	$69	$121
Asbestos products, value	do.	$443,000	$29,200	$33,200	$24,500	$27,000
Imports for consumption, unmanufactured:						
Quantity	metric tons	2,230	1,730	1,460	869	1,040
Value[4]	thousands	$1,000	$819	$1,090	$684	$821
Consumption, apparent	metric tons	2,230	1,730	1,460	869	1,040
World, production	do.	2,150,000 r	2,250,000 r	2,110,000 r	2,130,000 r	2,010,000

do. Ditto. rRevised.

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

[2]Free alongside ship value; includes exports of crudes, fibers, stucco, sand, and refuse.

[3]Export data for asbestos products prior to 2007 also included nonasbestos products.

[4]U.S. customs declared value.

TABLE 2

U.S. ASBESTOS CONSUMPTION BY END USE, GRADE, AND TYPE[1, 2]

(Metric tons)

End use	Chrysotile					
	Grade 3	Grade 4	Grade 5	Grade 7	Unspecified grade	Total
2009	2	65	152	576	74	869
2010:						
Coatings and compounds[3]	--	--	--	17	--	17
Chlorine industry	--	157	208	--	--	365
Plastics	--	--	--	7	--	7
Roofing products	--	--	--	603	--	603
Other	--	--	--	38	13	51
Total	--	157	208	666	13	1,040

-- Zero.

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

[2]Estimated distribution based upon data provided by the Chrysotile Institute, Montreal, Quebec, Canada.

[3]Most of the asbestos reported under "Coating and compounds" probably was used in roofing products.

TABLE 3

VALUE OF U.S. EXPORTS AND REEXPORTS OF ASBESTOS FIBERS AND ASBESTOS–BASED PRODUCTS[1, 2, 3]

(Thousand dollars)

Country	2009			2010		
	Unmanufactured fiber[4]	Manufactured products	Total	Unmanufactured fiber[4]	Manufactured products	Total
Australia	--	194	194	--	203	203
Brazil	--	165	165	--	58	58
Canada	--	5,560	5,560	--	5,460	5,460
China	--	1,610	1,610	--	1,210	1,210
France	--	218	218	--	49	49
Germany	--	269	269	--	242	242
Italy	--	72	72	--	253	253
Japan	--	477	477	--	175	175
Korea, Republic of	--	1,520	1,520	--	1,600	1,600
Mexico	--	4,430	4,430	83	3,880	3,970
Netherlands	--	9	9	--	5	5
United Kingdom	--	3,240	3,240	--	5,100	5,100
Venezuela	--	294	294	--	119	119
Other	69	6,450	6,520	38	8,620	8,660
Total	69	24,500	24,600	121	27,000	27,100

-- Zero.

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

[2]Free alongside ship value.

[3]Data may include some nonasbestos products based on destination countries that have banned the use of asbestos.

[4]Includes exports of crudes, fibers, stucco, sand, and refuse. May also include nonasbestos materials.

Source: U.S. Census Bureau.

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TABLE 4

U.S. EXPORTS AND REEXPORTS OF ASBESTOS AND ASBESTOS–BASED PRODUCTS[1]

	2009		2010	
	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)
Unmanufactured, asbestos[3]	59	$69	171	$121
Manufactured:				
Cement products[4]	NA	427	NA	236
Friction products[5]	NA	13,500	NA	15,000
Gaskets, packing and seals	NA	1,270	NA	1,510
Paper and millboard	NA	317	NA	50
Other articles[6]	NA	9,040	NA	10,200
Total	NA	24,500	NA	27,000

NA Not available.

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

[2]Free alongside ship value.

[3]Includes crudes, fibers, stucco, sand, and refuse. May also include nonasbestos materials.

[4]May include reexports and also cellulose fiber panel, sheet, tile, and tube cement products because asbestos-cement products are not manufactured in the United States.

[5]May include some nonasbestos brake and clutch shipments.

[6]May also include some nonasbestos materials.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF ASBESTOS FIBERS, BY TYPE AND ORIGIN[1]

	Canada		Brazil		Zimbabwe		Total	
Type	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)
2009:								
Chrysotile:								
Crude	40	$8	--	--	--	--	40	$8
Milled, grade 4	106	178	7	$19	14	$38	127	234
All other	332	128	53	147	--	--	385	275
Other, unspecified asbestos type	317	167	--	--	--	--	317	167
Total	795	480	60	166	14	38	869	684
2010:								
Chrysotile:								
Crude	234	204	--	--	--	--	234	204
Milled, grade 4	177	307	13	46	--	--	190	353
All other	374	145	--	--	--	--	374	145
Other, unspecified asbestos type	246	119	--	--	--	--	246	119
Total	1,030	775	13	46	--	--	1,040	821

-- Zero.

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

[2]U.S. customs declared value.

Source: U.S. Census Bureau.

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TABLE 6
U.S. IMPORTS OF PRODUCTS WITH BASIS OF ASBESTOS IN 2010

HTS[1] code	Category	Quantity (metric tons)	Value[2]	Major sources[3]	Percentage of category total[4]
2524.00.00.00	Asbestos	1,040	$821,000	Canada	99% of weight.
6811.40.00.00	Asbestos-cement products	3,080	380,000	do.	91% of weight.
6812.80.90.00	Other, fabricated crocidolite fibers; clothing[5]	(6)	3,400	Germany[7]	Do.
6812.91.10.00	Footwear, fabricated asbestos fibers; clothing[8]	(6)	5,760	Pakistan	Do.
6812.91.90.00	Other, fabricated asbestos fibers; clothing[8]	(6)	5,250	China	Do.
6812.92.00.00	Felt, millboard, and paper[8]	NA	45,400	India	80% of value.
6812.93.00.00	Compressed asbestos fiber jointing[8]	NA	437,000	Mexico	97% of value.
6812.99.00.01	Other, miscellaneous[8]	37	1,000,000	Austria[7], Mexico	100% of weight.
6812.99.00.02	Yarn and thread[8]	3	67,300	China, Mexico	Do.
6812.99.00.04	Woven or knitted fabric[8]	6	65,300	China	99% of weight.
6812.99.00.20	Gaskets, packing, and seals[8]	54	318,000	do.	94% of weight.
6812.99.00.25	Building materials	NA	27,000	Canada	100% of weight.
6812.99.00.55	Other, fabricated asbestos fiber[8]	NA	86,500	South Africa	63% of value.
6813.20.00.10	Brake lining and pads, civil aircraft[8]	NA	295,000	Brazil	53% of value.
6813.20.00.15	Brake lining and pads, other	NA	2,160,000	China, Japan[7]	67% of value.
6813.20.00.25	Other, friction materials	NA	59,700	Canada, Bolivia	82% of value.

Do., do. Ditto. NA Not available.

[1]Harmonized Tariff Schedule of the United States.

[2]U.S. customs declared value.

[3]Countries are listed in decreasing order.

[4]Percentage contribution of total imports by major import sources, by weight or value.

[5]Products likely to have been inaccurately classified and products probably do not contain crocidolite.

[6]Less than ½ unit.

[7]Source likely a supplier of nonasbestos products only.

[8]Mixtures with basis of asbestos or with a basis of asbestos and magnesium carbonate.

Source: U.S. Census Bureau.

TABLE 7
ASBESTOS: WORLD PRODUCTION, BY COUNTRY[1, 2]

(Metric tons)

Country[3]	2006	2007	2008	2009	2010
Argentina	299	282	298	290	300
Brazil, fiber	227,000	254,000	288,000	288,000	270,000 [e]
Canada[e]	200,000	180,000 [4]	160,000	150,000	100,000
China[e]	360,000	390,000	380,000	440,000 [r]	400,000
India[e]	20,000	21,000	20,000	19,000	20,000
Iran[e]	1,300	--	--	--	--
Kazakhstan	315,000	293,000	230,000	230,000 [e]	214,000
Russia[e]	925,000	1,030,000 [4]	1,020,000 [4]	1,000,000	1,000,000
Serbia	4,500	--	--	--	--
Zimbabwe	100,000 [r]	84,500 [r]	11,500 [r]	4,970 [r]	1,000 [e]
Total	2,150,000 [r]	2,250,000 [r]	2,110,000 [r]	2,130,000 [r]	2,010,000

[e]Estimated. [r]Revised. -- Zero.

[1]World totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

[2]Marketable fiber production. Table includes data available through April 20, 2011.

[3]In addition to the countries listed, Afghanistan, North Korea, Romania, and Slovakia also produce asbestos, but output is not officially reported, and available general information is inadequate for the formulation of reliable estimates of output levels.

[4]Reported figure.

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