

NO. 2922

CLASS. NO.

SECRET

PLAINTIFF'S
EXHIBIT

JM-1660

ASBESTOS

(Possibility for Air Transport)

DECLASSIFIED
EO 11652, Sec. 3(E) and 3(D) or (E)
TARIFF COMMLTR 3-20-74
by DR/KD DATE 6-26-74

Division of Stockpiling and Transportation
War Production Board

Prepared by R. M. Santmyers
United States Tariff Commission

January 1943

ASBESTOS

(Possibility of Air Transport)

Description.

Asbestos is a term applied to fibrous forms of several minerals. The commercial varieties are chrysotile, crocidolite (blue), and amosite. These minerals, because they differ widely in composition and in the strength, flexibility, and length of their fibers, vary considerably in their application and usefulness.

Chrysotile, a fibrous form of serpentine (hydrated magnesium silicate) is the most important. Most of the world's production of both long and short fibers is of this variety; the principal sources have been Canada, the Soviet Union, and Southern Rhodesia. The fibers are flexible, offer high resistance to heat, and have considerable tensile strength. The strategic grades of this variety of asbestos are Canadian Grades No. 1 and No. 2 and spinning fibers and the Southern Rhodesian grades C and G 1, 2, and 3.

The second most important asbestos mineral is crocidolite, (a sodium-iron amphibole) more commonly known as blue asbestos. Like chrysotile, it is highly fibrous. Its fibers have a higher tensile strength than those of chrysotile, but a much lower resistance to heat. Blue asbestos is found principally in the Cape and Transvaal Provinces of the Union of South Africa, though there has been some minor production reported in Australia and Bolivia. Practically all grades produced in South Africa are of strategic importance.

Amosite, third in importance among asbestos minerals, is a magnesium silicate rich in iron. Its fibers are flexible and have considerable

unusual length but they are harder, harsher, and usually have less tensile strength than those of chrysotile. Acids have little effect on amosite. The strategic grades are B-1 and B-3 or D-3. Amosite is found chiefly in the Transvaal Province of the Union of South Africa.

Uses.

On the basis of use, asbestos falls into two principal classes--spinning and nonspinning fibers. Under present war conditions, spinning fiber, which comprises the longer grades of chrysotile, crocidolite, and amosite, has assumed an extremely important role. The Army and the Navy use large quantities of this grade for the weaving of textiles, the most extensive application of which is in asbestos brake linings and clutch facings for automotive equipment. In the United States Canadian chrysotile is used principally for this purpose. The chrysotile obtained in Rhodesia, and to a lesser extent in other South African localities, is lower in iron content than the Canadian material and, therefore, is preferred for the manufacture of electrical tape and other equipment designed for high electrical resistance.

As amosite and blue asbestos are more resistant to acids and have a lower iron content than Canadian chrysotile, they are used in large quantities by the Navy for acid-resisting asbestos packing, insulating blankets and mattresses for turbines, electrical insulation, and bulkhead partitions for all types of naval vessels. Amosite, in particular, because of its light weight per cubic foot, is well adapted for turbine blankets. Blue asbestos is so resistant to chemical action that it is preferred for acid filters and as a constituent of acid-resistant asbestos-cement pressure pipe.

The short or nonspinning fibers are used primarily for the production

of many types of building materials, though substantial amounts are used in molded products, such as brake linings.

United States position.

Location of production. - The United States has never been important as a producer of asbestos, the domestic output being less than 1 percent of domestic requirements.

Domestic production is centered chiefly in Arizona and Vermont, though scattered deposits in other States formerly furnished limited amounts. The Arizona deposits contain considerable reserves of high grade spinning fiber, but mining costs are high and transportation is both difficult and costly. The principal deposits are located in Gila County, and extend 60 miles north from the town of Globe to the San Carlos and other Indian reservations. In 1941 there were about eight producers in Arizona.

The Vermont deposits are near Eden, in Lamoille County, about 15 miles from Hyde Park, the nearest railway station. The deposits are extensive but their yield is confined almost exclusively to short fiber used for building materials. The Ruberoid Company, New York City, owns and operates these mines.

In 1941, sales of domestic asbestos, reached 24,301 short tons, the largest in the history of the industry.

Principal United States consumers. - The United States exceeds all other countries in the manufacture of asbestos products. Although the domestic industry is composed of a great many producers (7) in 1939, most of the productive capacity is controlled by about twelve companies. The history of the industry in the United States is largely one of integration; a few large concerns have their own foreign sources of raw

Asbestos and many manufacturing branches throughout the United States.

The principal manufactures of asbestos products are the following:

John-Manville Corporation, ¹/₂ New York, N. Y.
Phill, Carey Manufacturing Co., ¹/₂ Cincinnati, Ohio
Kontner & Hatterson Co., ¹/₂ Antler, W.
Raybestos-Manhattan Corporation, ²/₃ Bridgeport, Conn.
Russell Manufacturing Co., ²/₃ Middletown, Conn.
The Asbestos Co., ³/₄ New York, N. Y.
The Thermoid Co., ³/₄ Trenton, N. J.
Asbestos Manufacturing Co., Huntington, Ind.
Asbestos Limited, New York, N. Y.
American Brake & Shoe Corporation, New York, N. Y. -

The types of products manufactured by the asbestos industry in the United States may be divided into four categories: Asbestos textiles, brake linings and related friction products, paper and allied products, and asbestos-cement products. Products in the first two categories have direct military uses. In number of companies, the industry is about equally divided, between those using spinning fibers for the production of asbestos textiles and brake linings and those using the shorter grades, or mill fibers, for the manufacture of paper, board, and asbestos-cement products.

In 1939, according to the Census of Manufactures, there were 79 establishments producing asbestos products (except sheet piling and pipe and boiler covering). The value of the output of these companies was 60.8 million dollars, a slight decrease from 1937.

Normal requirements. - Table 1 gives the domestic sales, exports, imports, and apparent consumption of unmanufactured asbestos in the United States, for the years 1932 to 1941, inclusive.

¹/₂ Own mines in Canada.

²/₃ Controlled by Turner & Townsend, Ltd., Montreal, Canada.

³/₄ Own plants in Canada.

Table 1. - Asbestos, unmanufactured: United States sales, imports, exports, and apparent consumption, 1939-41

(In short tons)			
Item	1939	1940	1941 ^{1/2}
Sales by domestic producers ----	15,459	20,360	22,701
Imports -----	242,561	246,613	247,000
Exports -----	2,472	4,474	4,621
Apparent consumption -----	255,547	264,147	274,080

^{1/} January-September, inclusive.

^{2/} Partly estimated.

Source: Official statistics of the U. S. Bureau of Mines.

NOTE: Of the above figures representing apparent consumption, about 40,000 tons (all imported) may be considered as of strategic importance, i.e., spinning fibers of the three varieties of asbestos designated by the Asbestos-Corr Materials Branch of the War Production Board.

Estimated requirements for 1942. - Table 2 presents the estimated requirements of strategic grades of asbestos for the United States, by foreign sources, for 1942. Estimates of requirements in 1943 are not yet available.

Table 2. - Asbestos, crude (strategic grades): United States estimated requirements, by foreign countries, 1942

(In short tons)			
Item	South African		Canadian
	Chrysotile, : Amosite, B-1:	Crude: No. 1 and	
	C and G-1, 2, : and	Blue : No. 2 and spin-	ning fibers
	and 3	B-3 or D-1:	
United States new supply			
(imports):			
1942 (Estimated) -----	4,138	12,210	6,560
1942, Jan.-July (actual) --	2,566	4,555	1,666
United States requirements:-			
1942 (Estimated) -----	4,134	6,377	4,651
1942, Jan.-July (actual) --	2,227	3,227	1,651
Industrial stocks as of			
Aug. 1, 1942 -----	3,310	4,446	2,505

Source: Commodity Chartbook, Asbestos - Corr. Materials Branch of the War Production Board.

Contracts Reported to the War Production Board During the Period
November 1 to November 8, 1942

Company and Location	Contract Item	Dollar Value	Contract Awarded	Completion Date	Awarding Agency
Buck X Ograph Co. St. Louis, Mo.	X-ray Equipment: Cassettes, 10" x 12" and 14" x 12"	\$ 401,000	10/42	9/43	Army
" "	X-ray Equipment: Cassettes, 10" x 12" and 14" x 17"	95,000	10/42	1/43	Army
Burdick Corp. Milton, Wis.	Medical Equipment: Diathermy Apparatus	61,000	10/42	6/43	Army
Caulk Co., L. D. Milford, Del.	Medical Supplies: Dental Alloy	111,000	8/42	11/42	Navy
Dentists Supply Co. of N. Y. New York, N. Y.	Medical Supplies: Articulators; Teeth, Crown Assortments; Teeth, Combination Set	84,000	8/42	4/43	Army
East Rutherford Syringes, Inc. East Rutherford, N. J.	Syringes, Glass	178,000	8/42	5/43	Navy
Fischer Co., H. G. Chicago, Ill.	X-ray Equipment: Table Units	721,000	10/42	5/43	Army
Halperin Co., A. W. Boston, Mass.	Medical Supplies First Aid Kits	66,000	8/42	12/42	Navy
Johnson and Johnson New Brunswick, N. J.	Medical Supplies: Dressings, Bottle	258,000	8/42	1/43	Navy
Kelley Koett Mfg. Co. Covington, Ky.	Medical Equipment: Illuminator, Radio- graphic and Fluores- cent	118,000	10/42	5/43	Army
" "	X-ray Machines Portable, Radiographic and Fluorescent	714,000	10/42	5/43	Army

Contracts Reported to the War Production Board During the Period
November 1 to November 8, 1942

Company and Location	Contract Item	Dollar Value	Contract Awarded	Completion Date	Awarding Agency
Kelley Koett Mfg. Co. Covington, Ky.	Medical Equipment: Localization, Eye, Sweet Method, Com- plete with Chart	\$ 51,000	10/42	11/43	Army
" "	Medical Equipment: Urological Table	161,000	10/42	5/43	Army
Kendall Co. Bauer and Black Division Chicago, Ill.	Medical Supplies: Abdominal Packs and Surgical Pads	548,000	9/42	2/43	Army
Liebel Flarsheim Co. Cincinnati, Ohio	Medical Equipment: Tables, Urological	151,000	10/42	5/43	Army
Machlett Labs., Inc. Springdale, Conn.	Tubes, X-ray	119,000	10/42	1/43	Army
Mattern Mfg. Co., Frank Chicago, Ill.	X-ray Equipment: Machines, X-ray Portable; Radio- graphic and Fluo- rescopic Machines	119,000	10/42	10/43	Army
Minnesota Mining Mfg. Co. St. Paul, Minn.	Tape, Adhesive	54,000	10/42	1/43	Army
Patagonset Finishing Co. Niantic, Conn.	Medical Supplies: Bags, Pack, Abdom- inal; Type III Gauze with Tape Loop, 8" x 36"; 8 plies and 11" x 12", 6 plies	246,000	9/42	3/43	Army
Peerless Labs., Inc. New York, N. Y.	X-ray Equipment	52,000	10/42	12/42	Army
Randall Faichney Corp. Boston, Mass.	Syringes	62,000	10/42	12/42	Army
Ritter Co., Inc. Rochester, N. Y.	Medical Equipment: Dental Chairs	53,000	8/42	9/42	Army

Contracts Reported to the War Production Board During the Period
November 1, to November 8, 1942

Company and Location	Contract Item	Dollar Value	Contract Awarded	Completion Date	Awarding Agency
Seamless Rubber Co. New Haven, Conn.	Medical Supplies: Gause, plain; Cotton Absorbent; bandages, gause, rolls, etc.	\$ 445,000	10/42	5/43	Army
Oxlar Mfg. Co., J. Long Island City, N. Y.	Medical Supplies: Medical Instruments	103,000	9/42	-	Army
" "	Medical Supplies: Forceps, Clamps, Scissors, etc.	127,000	9/42	6/43	Army
Standard X-ray Co. Chicago, Ill.	Medical Equipment: Cassette Changer, Stereoscopic	170,000	10/42	6/43	Army
Tower Co., Inc. Seattle, Wash.	Medical Supplies: Mandible Fracture Kit	87,000	10/42	5/43	Army
Weber Dental Mfg. Co. Canton, Ohio	X-ray Equipment X-ray Machine, Dental	82,000	10/42	2/43	Army
" "	Medical Equipment: Dental Operating Chairs	218,000	9/42	5/43	Army
" "	Medical Supplies: Cuspidor Fountain, Ear, Nose, Throat; Oil for Dental En- gine; Operating Units, Dental	573,000	9/42	4/43	Army
Beck Co., Edward Brooklyn, N. Y.	Forceps	115,000	9/42	4/43	Army
Westinghouse Electric Mfg. Co. X-ray Division Baltimore, Md.	X-ray Equipment: Machines, Radio- graphic and Fluoro- scopic, Shockproof Unit	591,000	10/42	11/43	Army

Contracts Reported to the War Production Board During the Period
November 1 to November 8, 1942

<u>Company and Location</u>	<u>Contract Item</u>	<u>Dollar Value</u>	<u>Con- tract Awar- ded</u>	<u>Com- ple- tion Date</u>	<u>Awarding Agency</u>
White Dental Mfg. Co., S. S. Prince Bay, N. Y.	Medical Equipment: Explorers # 23; Den- tal Engines; Foot Engines; Dental Lathes, Electric	\$ 74,000	9/42	1/43	Army
Wolf X-ray Products, Inc. New York, N. Y.	Aprons and Gloves	128,000	10/42	4/43	Army
Zimmer Splint Co. New York, N. Y.	Medical Supplies: Bone Drills, Exten- sion Apparatus, Splints	115,000	9/42	12/42	Army
Oneida, Ltd. Sherrill, N. Y.	Forceps	92,000	9/42	-	Army

Recapitulation of Contracts
Reported in the Week November 1 to November 8, 1942

Fire Equipment Products	\$ 2,202,000
Safety Equipment Products	7,002,000
Technical and Scientific Equipment Products	27,241,000
Surgical and Dental Instru- ments and Supplies	<u>8,258,000</u>
Total	\$ 44,703,000