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Cornwall stone imported for consumption in the United States, 1938–42

Year	Unmanufactured		Ground		Year	Unmanufactured		Ground	
	Long tons	Value	Long tons	Value		Long tons	Value	Long tons	Value
1938	513	$4,976	233	$1,797	1941	2,730	$31,138	182	$2,658
1939	1,664	17,233	348	3,965	1942	74	1,021	5	92
1940	2,261	20,812	228	2,758					

WORLD PRODUCTION

World output of feldspar from 1937 to 1942, insofar as data are available, appears in the following table.

World production of feldspar, 1937–42, by countries, in metric tons [1]

[Compiled by B. H. Waldbauer]

Country [1]	1937	1938	1939	1940	1941	1942
Argentina (shipments)	1,346	620	1,051	1,220	2,981	(2)
Australia:						
New South Wales [3]	162	178	(2)	(2)	(2)	(2)
South Australia [3]	669	502	615	1,072	1,081	(2)
Western Australia (exports)	3,031	2,919	3,853	3,561	(2)	(2)
Brazil	8,400	(2)	(2)	(2)	(2)	(2)
Canada (shipments)	10,365	12,753	11,306	19,464	23,623	21,245
Egypt	158	199	74	138	52	(2)
Finland (exports)	3,232	5,016	5,506	(2)	(2)	(2)
France	8,900	(2)	(2)	(2)	(2)	(2)
Germany: Bavaria	9,986	10,419	(2)	(2)	(2)	(2)
India, British	495	702	501	(2)	(2)	(2)
Italy	13,437	13,391	(2)	(2)	(2)	(2)
Norway (exports)	32,555	21,761	21,282	(2)	(2)	(2)
Rumania	2,587	1,690	(2)	(2)	(2)	(2)
Sweden	49,140	45,111	40,792	(2)	(2)	(2)
United States (sold or used)	272,842	199,267	257,531	295,130	311,299	312,764

[1] In addition to countries listed, feldspar is produced in China (Manchuria) and Czechoslovakia. Official figures of Czechoslovak output are not available, but it is estimated that the annual production is approximately 30,000 metric tons (Stat. Comm. Czechoslovak Ceram. Soc.).

[2] Data not available.

[3] Includes some china stone.

ASBESTOS

By Oliver Bowles and F. M. Barsigian

SUMMARY OUTLINE

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SUMMARY

Sales of domestic asbestos in 1942—15,481 short tons—were 37 percent less than those in 1941. The decline was confined to the chrysotile variety, sales of which were smaller both in Vermont and Arizona. The value of total sales was 31 percent lower. Sales of the amphibole variety were slightly higher in both quantity and value than in 1941. Most of the United States production is of the shorter grades of chrysotile. During 1942 domestic production furnished less than 4 percent of domestic requirements.

As in the past, Canada supplied most of the United States needs of unmanufactured asbestos. Canadian chrysotile is of excellent quality and is suitable for most asbestos products, although a few specialties require asbestos from other sources. African chrysotile, which is imported in substantial quantities, is an important supplement to Canadian fibers of spinning grade. India and Soviet Russia are other sources of chrysotile for general use.

Asbestos combines noninflammability with a fibrous structure that makes it the unique source of unburnable fabrics. Because of this peculiar combination of properties it is an irreplaceable material for certain important military uses, although for some common uses substitution is possible. The most important application in the former category is for brake linings and clutch facings on automobile transport equipment. No satisfactory substitute has been found for these uses. As all types of automotive transport must have brakes and clutch facings, it is apparent that the military needs are extensive and of primary importance. Fortunately, any strong, flexible chrysotile of spinnable length is satisfactory for such use, and the extensive asbestos-producing industry of Canada can supply large quantities of satisfactory material. The demands for spinning fibers in this field are relieved to some extent by the substitution of molded for woven brake bands. The molded bands employ shorter grades of fiber, but they can be used only on certain types of brakes. Other important asbestos products are gaskets and packings around steam and com-

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pressed-air machinery. These products are also of great military importance because they are used on warships, by the merchant marine, and in even larger quantities at power plants and innumerable munition factories.

Still another important field of usefulness for asbestos is heat insulation. Asbestos is a popular insulating medium; but other materials are substituted for it to some extent, and further substitution in the general insulation field is possible. There are, however, certain types of insulation for which special grades of asbestos are essential if weight is to be conserved and efficiency maintained.

The most widespread occurrences of asbestos in the United States are those of the amphibole type—anthophyllite and tremolite. Hundreds of deposits are known, but production never exceeds a few hundred tons a year because the uses are quite limited. Its resistance to acids renders tremolite useful for making chemical filters; the amphibole varieties are employed also in arc welding and in making insulation products, but the uses are so restricted and relatively so unimportant that they are not classed as critical.

Chrysotile asbestos is the principal variety of commerce and occupies an important place in the war program. The principal world production centers are Quebec (Canada), Rhodesia, Union of South Africa, Swaziland, and Soviet Russia. The Canadian mines and mills supply most of the United States needs, and the quality of the product is satisfactory for most of the important uses. African chrysotile is superior for electric-insulation products that must be low in iron and therefore is regarded as essential to the military program.

Amosite, a variety of asbestos mined only in Africa, consists of long, strong fibers that are superior for making lightweight insulation to be used around steam machinery on warships. Amosite also is preferred for making 85-percent magnesia pipe covering and a block insulation of similar type that contains no magnesia. This variety is therefore regarded as essential to the highest naval efficiency. In June 1942 the War Production Board promulgated Conservation Order M–79 restricting the use of amosite in 85-percent magnesia to certain military applications.

Crocidolite or blue asbestos is regarded as essential because it is superior to other varieties in making asbestos-cement pressure pipes, chemical filters, and acid-resistant packings. Long blue fiber is used also in making gas masks. Blue asbestos is mined chiefly in Africa, but small quantities are obtained in Australia.

Beginning January 1943, fiber obtainable from the two leading producing companies in Africa was purchased on United States Government account by the Metals Reserve Co. and allocated to the various asbestos-products manufacturers. This plan offered certain advantages in control of shipping routes, stimulation of production, and allocation according to the most urgent needs.

Throughout 1942 the Bureau of Mines conducted a monthly canvass for the War Production Board, covering receipts, stocks, and consumption. Stocks of critical grades of African fibers in the hands of consumers at the end of 1942 were adequate for 6 to 8 months' use at the average rate of consumption during the year.

Salient statistics on asbestos for 1941 and 1942 are summarized in the following table.

Salient statistics of the asbestos industry in the United States, 1941–42

	1941		1942	
	Short tons	Value	Short tons	Value
Domestic asbestos—				
Produced:				
Chrysotile	20,111	(1)	13,109	(1)
Amphibole	2,252	(1)	2,208	(1)
Total produced	22,396	(1)	15,317	(1)
Sold or used by producers:				
Chrysotile	22,439	$707,589	13,373	$180,245
Amphibole	1,952	18,164	2,108	18,612
Total sold or used by producers	24,391	725,753	15,481	498,857
Imports (unmanufactured)	419,196	17,909,077	419,414	21,235,266
Exports (unmanufactured)	4,816	325,825	774	124,083
Apparent consumption [2]	[3] 438,771	[3] 18,309,005	434,121	21,609,040
Exports of asbestos products	(1)	4,835,194	(1)	5,114,496

[1] Figures not available.
[2] Quantity sold or used by producers, plus imports, minus exports.
[3] Revised figures.

The following table shows domestic production of asbestos during recent years according to varieties.

Asbestos sold or used by producers in the United States, 1938–42, by varieties

Year	Chrysotile		Amphibole		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1938	(1)	(1)	(1)	(1)	10,110	$247,264
1939	15,013	$340,097	416	$9,691	15,159	512,788
1940	18,672	664,520	1,788	9,988	20,060	674,508
1941	22,439	707,589	1,952	18,164	24,391	725,753
1942	13,373	480,245	2,108	18,612	15,481	498,857

[1] Bureau of Mines not at liberty to publish figures separately for chrysotile and amphibole.

DOMESTIC INDUSTRY

REVIEW BY STATES

Arizona.—Production of asbestos in Arizona was less than half as great in 1942 as in 1941, according to reports of producers submitted to the Bureau of Mines. Sales, which were about two-thirds those in 1941, were made by the following companies: Arizona Chrysotile Asbestos Co., Arthur Enders, Guy G. Phillips, and Pine Top Asbestos Mines, all of Globe, Ariz.; E. E. Prochnow, Winslow, Ariz.; Fiber & Metal Products Co., Downey, Calif.; Gladding, McBean & Co., 2901 Los Feliz Boulevard, Los Angeles, Calif.; and Johns-Manville Products Corporation, 22 East Fortieth Street, New York, N. Y.

The Johns-Manville Products Corporation completed its new mill at Chrysotile, Ariz., but the output in 1942 was quite limited. When it attains normal operation the mill will afford a means of grading and classifying Arizona asbestos more accurately than has been possible in the past.

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