

ASBESTOS (LONG FIBER)

Investigation disclosed that in certain essential uses Canadian long fiber asbestos can not form a suitable substitute for the varieties obtained from Rhodesia and South Africa. ?

Stockpile recommendation to Metals Reserve Company is for purchase of 3,000 tons of Rhodesian chrysotile, 9,000 tons of amosite and 8,000 tons of blue fiber. Metals Reserve has contracted for 1,560 tons of blue fiber, and other large factors in the trade are now investigating to determine what amounts of these grades will be available over and above industry requirements.

Imports from South Africa arrived in record volume in 1940, but consumption is also increasing rapidly and we will not know until the completion of the current canvass by the Bureau of Mines what the current demand-supply picture is. Arizona can produce small amounts of high-grade chrysotile, but only at extremely high prices.

5/10/41

I. USES AND SOURCES

A. Uses

1. Chrysotile. The bulk of the world's production of both long and short fibre is of this type and is mined principally in Canada and Rhodesia. This variety is characterized by its strength and flexibility that permit the use of its longer fibres for spinning. The long fibres of this type are used in textiles, such as brake linings, clutch facings, cloth, tape, tubing, and cord. The shorter fibres are used in insulation products, such as building materials, asbestos cement products, and pipe covering.

2. Blue (Crocidolite). This type occurs in commercial quantities in South Africa, with small quantities now coming from Australia. Blue asbestos, which is very high in iron content, is characterized by its resistance to the action of acids and is the only type having this quality. It is used principally in acid packings, filter cloth, and asbestos cement pipe.

3. Amosite. This type is found only in South Africa and is characterized by its unusually long fibres, averaging about 4 to 5 inches in length. It is used primarily in fireproof board, high temperature insulation pipe covering, and blankets for insulating turbines on combat ships.

There are other types of asbestos fibres which are mined in small quantities but which are unimportant commercially.

B. Sources

1. Domestic. The domestic production of asbestos amounted to about 20,000 short tons in 1940, which was an all time high and a 30 percent increase over 1939; yet this tonnage was only about 8 percent of our total requirements. This production of the Chrysotile type was chiefly from Vermont and consisted mainly of short fibres used principally in paper, compressed sheet packings, and moulded brake linings.

Arizona produces small quantities of long fibre Chrysotile which can be substituted for similar South African types, though at a higher cost. The Johns Manville Corporation is reopening a property in Arizona which should increase its production from that state from some 300 tons to 500 tons per year.

During September 1941, Mr. J. R. Thoenin, of the U. S. Bureau of Mines, and Mr. A. E. Granger, of the U. S. Geological Survey, made a survey of the better known producing mines in Gila County,

Arizona. The results of this survey indicated that some 1,800 short tons of the critical grades of the Chrysotile type could be produced during 1942. To increase this amount would call for intensive mining development; and even so, it is doubted if the district would more than double this production except over a period of years.

Asbestos is found in many other states but in such small quantities as to be negligible.

2. Foreign. Canada produces the bulk of the world's asbestos, but its production consists solely of the Chrysotile type. About 88 percent (226,000 short tons in 1940) of our Chrysotile imports are from Canada. Some grades of this type can be used in place of like grades of South African Rhodesian fibres. The chief mines in Canada are those of the Johns Manville Company, Ltd.; Asbestos Corp., Ltd.; Johnsons Company; Bell Asbestos Corp., Ltd.; Quebec Asbestos Corp.; and the Nicolet Asbestos Mines.

The Union of South Africa produces most of the world's "Blue" and all of the world's supply of Amosite fibre. The Blue type is used in the manufacture of acid-resisting packings, asbestos cement pipe, and is currently being used experimentally in gas mask filters. The Amosite type is used in high temperature pipe covering, in blankets to insulate turbines on combat ships, and in the manufacture of flame-proof boards. The principal producer of this type is the Cape Asbestos Company, Ltd., with offices in New York.

In addition, Rhodesia produces various grades of Chrysotile asbestos. The principal producer is Turner and Newall, Ltd., of England.

About 17,000 short tons were imported from South Africa during the year 1940. Imports from Australia and India were insignificant during 1941, although we are advised that shipments from these places could be increased to 25 tons per month if needed.

Australia has both Blue and Chrysotile types; the latter, free from iron, could be substituted for Rhodesian Chrysotile; the Blue is suitable for products such as gas mask filters and textiles.

Imports from Russia during 1940 were exceedingly small. During 1941 about 500 short tons have been received. This fibre is of the Chrysotile variety and compares with the Canadian types.