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USSR ASBESTOS-CEMENT INDUSTRY EXPANDED BUT POORLY MECHANIZED

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The USSR asbestos-cement industry expanded considerably during the postwar period with the construction of asbestos pipe and slate plants in various sections of the country.

Slate plants were built in Kuvasay (Central Asia), Krichev (Belorussia), Pikalevo (Leningradskaya Oblast), Yashkino (Western Siberia), Krasnoyarsk (Eastern Siberia), Spassk Dal'niy (Far East), and in Nizhniy Tagil (Urals), and slate production was organized in the Soviet republics of Georgia and Armenia.

An asbestos pipe plant was built in Khil'kovo (Central Asia), and a construction materials combine was built in Baku to manufacture slate products, asbestos-cement pipe, and sanitary faience products. In May 1953 an asbestos pipe plant started operations in Belgorod (Kurskaya Oblast).

Several enterprises put new technological lines in operation and increased their capacities. At the same time, most of the forming machinery was reconstructed and its work intensified. As a result, the average monthly output per forming machine in 1952 increased 93 percent above 1947. In 1952 slate and pipe output was 4 and 4.8 times as much, respectively, as in 1940.

Despite the increase in slate and asbestos-cement pipe output, the increased supply fails to meet demands, primarily because working operations are poorly mechanized. Sorting, mixing, delivery of the asbestos so it may be worked, preliminary hardening of asbestos-cement pipe, feeding water, regulating the batch in the slate forming machines, and rolling and stacking the slate are almost completely done by hand.

The machinery and devices are not coordinated sufficiently to assure a continuity of production. Not only is some of the machinery inadequate, but in several plants the boiler room facilities are so inadequate as to be unable to supply the plants with sufficient steam and hot water during the winter months or to maintain the required temperature during the final hardening process. Because of this, several plants have been short of hot water.

Good technological practices are also being violated in several plants. Inaccurate proportions are made quite frequently in mixing the raw material ingredients. Furthermore, the batch mixture is not worked satisfactorily. Not only has equipment been used very poorly, but it has been found to be in a neglected condition. Improper maintenance has resulted in breakdowns and idleness of machinery. The plants have been short of qualified engineering and technical personnel and, as a result, the mechanical repair shops have been unable to meet demands for their services. Thus, emergency breakdown repairs have been prolonged and the quality of repairs has been extremely poor.

Another inadequacy of the industry is the irregularity of plant operations during a particular month. For instance, 52-56 percent of the monthly quota is fulfilled in the first 10-20 days of the month. In the last 10 days of the month, output drops down to 42-48 percent of the monthly quota.

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The Main Administration of the Slate and Asbestos Pipe Industry of the Ministry of Construction Materials Industry USSR has been handling very poorly the problems of the expanding industry. The main administration has neither introduced new technology into the industry nor taken any measures to eliminate the lag of some of the plants.

The industry is faced with more serious problems in the future. By 1955, slate output must be increased to 1.6 billion plates and asbestos pipe output to 18,000 kilometers. A considerable increase in output is contemplated in the rayons of the Far East, Siberia, Urals, along the Volga River, in Central Asia, and in the Kazakh SSR. Not only will the industry have to increase sharply its output of pressed products, colored slate, and large-size slabs, but it will have to start producing facing slabs and reinforced pipe and floor slabs. The industry is also faced with increased demands for higher quality products. The existing slate and pipe plants will be reconstructed in the next few years with the objective of mechanizing the work as well as organizing output on a continuous basis.

To cut down the present productive cycle from 7-12 days to 2-3 days, the production of asbestos-cement products will be converted gradually to the autoclave method during 1953-55 and subsequent years. Products will be formed from sand cement containing 50-60 percent quartz sand. This will make it possible to cut cement consumption in slate and asbestos-cement pipe manufacturing more than one half and to cut the fabricating period 3-4 times.

Besides the contemplated expansion and reconstruction program to take place during 1953-55, new plants will have to be built in Vol'sk, Chernorech'ye, and other localities. Each of these plants will be equipped with two plate-forming and two pipe-making machines. Construction of asbestos pipe plants in Belgorod, Kiev, and Bryansk is also expected to be completed during 1953-55.

One of the greatest problems facing the industry in the next 2-3 years is completing the mechanization of productive operations. During the past 2-3 years [1949-52] it was possible to increase slate output per machine by stepping up machine speeds, but this procedure involves complications because the slate is cut by hand and then sheared to size on shears which work only periodically and thus do not have the output of the forming machine. The important problem facing the asbestos-cement industry now is to mechanize the shearing of rolled slate and to convert equipment to feeding the mixed batch to the machine automatically.

Because of the rapid increase in the production of asbestos-cement products, there is now a great demand for asbestos. To save on its consumption, the industry will have to resort to using mineral wool as a substitute, a factor which is dependent upon the glass industry's producing mineral wool from basalt.

To help overcome its numerous problems, the industry has been allocated additional funds for large-scale new plant construction, reconstruction of existing plants, and materials and equipment to mechanize the manufacturing process. A central base has also been established in the industry to manufacture new equipment and spare parts.

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