QUARTITES OF UZBEKISTAN AS A SILIUM SOURCE OF OBTAINING AMORPHOUS SILICA

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Annotation: *Data are reported on the demanded area of application of amorphous silica, as well as the main sources of raw materials in the conditions of Uzbekistan.*

Keywords: *active additives, rubber products, dry mixes, quartz glasses, crystal, quartz monocrystals.*

For the production of active additives [1], fillers for paints and varnishes [2], for rubber products [3], for dry building mixtures [4], quartz glasses, crystal [5] and for growing single crystals [6,7], milky white is used. and transparent vein and granular quartz, partly rock crystal. Milky white quartz consists of grains containing a large number of microcracks and gas-liquid inclusions; it is suitable only for optical glass melting and single crystal growth. Transparent quartz differs from milky white in a lower content of gas-liquid inclusions, so it can be used for melting quartz glass. For the same purposes, granular vein quartz is used, represented by aggregates of transparent or translucent (due to the development of microcracks) grains ranging in size from 1 to 10 mm. Quartz transparent and multicomponent optical glasses are widely used in lighting engineering, optical-mechanical and other industries. Large quartz crystals, their fragments and pebbles, from which defect-free single-crystal areas (mono-regions) sufficient in size for the manufacture of optical and piezo-optical products from them, are called piezo-optical quartz. The main consumers of piezo-optical quartz are the radio engineering and optical-mechanical industries. The ever-increasing demand for this raw material and its limited resources led to the development of methods for obtaining synthetic quartz crystals (rock crystal). The industrial production of synthetic quartz has been established in Russia, Japan, the USA, China, and some other countries [6]. It is widely used in radio engineering and ultra acoustics. The industrial sector of Uzbekistan does not have the production of radio engineering and optical-mechanical products based on piezo-optical quartz, although there are sufficient raw materials, scientific-production and energy prerequisites in the region. Another important widely

demanded material is crystal products. As is known, the production of crystal will require especially pure quartz sands and veined quartz [5]. The following table shows data on deposits of quartzites and quartz veins in Uzbekistan [8,9]. Another important widely demanded material is crystal products. As is known, the production of crystal will require especially pure quartz sands and veined quartz [5]. The following table shows data on deposits of quartzites and quartz veins in Uzbekistan [8,9]. Another important widely demanded material is crystal products. As is known, the production of crystal will require especially pure quartz sands and veined quartz [5]. The following table shows data on deposits of quartzites and quartz veins in Uzbekistan [8,9].

1 table.

The main sources and volumes of quartzites in Uzbekistan.

№	Name	Location	Reserves, million tons
1	Zargar, Ikram, Sodik, Karakish, Egizbulak	Jizzakh region	15.0
2	Kuduk, Kumdarya, Gisar	Kashkadarya region	20.0
3	Kirbulak, Buttermilk, Asil, Darasai, Ermamat, Kvartsli	Samarkand region	15.0
4	Shavazsay, Yangiabad, Aktash, New, Khuzhakurgan	Tashkent region	30.0
5	Khurshid, Sultan Uwais	Republic of Karakalpakstan	3.0
	Tozbulak, Sarykul, Bitab	Navoi region	50.0

According to chemical analysis, most of these materials are rich in quartz mineral, where the SiO2 content reaches more than 98.0%. The most promising are the deposits of Kashkadaryo, Samarkand and Navoi regions. The problem with the use of quartzites in industrial areas is their hardness. To facilitate the process of grinding and grinding, pieces of quartzite were subjected to thermal shock, resulting in an easily crushed material with a brittle structure. Conducted X-ray studies have established that the obtained materials are X-ray amorphous. This method of quartzite preparation allows to reduce glass melting temperatures by approximately 50°C or more, which will justify the primary costs associated with thermal shock of the feedstock.

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