

BASALT FIBER GRAVEL - SCIENTIFIC-METHODICAL PRINCIPLES OF CREATION OF ROCK STONE COVERING MATERIALS

Babayev Sul-tonbek

Samarkand State University of Architecture and Construction, PhD student

Abstract: In the scientific article, the opinions of foreign scientists were studied in order to obtain basalt-fiber gravel-rock composite compounds. Proposals and recommendations are given on the scientific and methodological bases of the production of basalt fibrous gravel-stone products.

Key words: Basalt, basalt fiber, microsilica, strength, composite material, coatings, Basalt - dense.

Introduction. Today, construction works in every aspect of our country have reached the highest level. Naturally, the demand for construction materials is increasing. Therefore, the relevance of cheap basalt gravel and wedge stones, which are needed for the construction process, is evident.

Therefore, production of high-quality, ecologically clean, low-cost construction materials made from local raw materials is one of the urgent issues of today. To prepare personnel with a modern worldview who can thoroughly and quickly master the innovations of today's science and scientific technology, to create sufficient conditions for them to exchange experience and improve their knowledge in foreign higher education institutions, scientific research institutes, financially support Special attention was paid to support. (1)

President of our country Sh.M. Mirziyoev in his decision of August 20, 2021 "On measures to support the construction materials industry", PQ-4335 of May 23, 2019 - number "Regarding the rapid development of the construction materials industry" "On additional measures" indicates that today the ground is being created for the development of the demand for construction materials.

Analysis of the literature on the topic: problems in the process of studying the scientific and methodical bases of the effective organization of production of construction materials in enterprises were discussed by scientists K. Matyoqubova [1], M. Saidmuradova [2], E. Kasimov [3] and N.A. Samig'ov, M.S. It is widely covered in the works of Samig'ova [4], N.N. Khodokova, T.K. Uglova, V.V. Firsov, O.S. Tatarintsiva [8] and others.

However, as a result of the study of the above scientists, the following definitions were given to basalt rocks. Basalt is a dense, sometimes porphyritic texture, similar to gabbro. Its density is 2.7-3.3 g/cm³, its compressive strength is 110-500 MPa. Basalt stone is used as a filler for concrete in a crushed state. Basalt can be melted at high temperature to obtain very fine fibers and heat-insulating fabrics from them.

Basalt (lat. basaltis, Greek. basanos - test stone) is an igneous rock. The color is gray and black. S.og. 2.5 — 3. The composition consists mainly of plagioclase (Labrador); there are also

pyroxenes, olivine and magnetite, titanite, apatite, etc. Due to its fine polishing, it has been used in sculpture since ancient times in Egypt, Assyria, Rome, Byzantium, Armenia and other places. It is found in Kamchatka, Zabaikalye, Armenia, Ukraine, and the Kurama, Turkestan, and Tomdi mountains of Uzbekistan (Paleozoic layers) (see also Igneous rocks).

Research methodology and empirical analysis: Large-scale scientific research works and practical experiments on the production of basalt fiber are mainly in the forefront in Russia. According to the information provided on the Internet [3], more than 150 enterprises producing basalt fiber are operating in Russia, and these enterprises are concentrated in the Ural, Caucasus, Karelia, Siberia and Altai regions. The main raw materials of these enterprises are basalt, gabbro-basalt, porphyrite, diabase, amphibolite. Basalt fiber is obtained in one-step technological process on the basis of one-component cheap and non-scarce raw materials. Therefore, their cost is 15-20% cheaper than other types of fiber, 1 kg of basalt fiber can be obtained. Devices and technologies for obtaining basalt fibers are environmentally friendly, compact, and do not generate waste.

**The average of basalt raw materials distributed in different regions
chemical composition (in mass %)**

№	Country, genus name	Components (minerals)								
		SiO ₂	TiO ₂	Al ₂ O ₃	Fe ₂ O ₃	FeO	MgO	CaO	Na ₂ O	K ₂ O
1	Tajikistan andezitli porphyrite	49,05	2,83	12,49	3,98	10,25	5,37	8,54	3,34	0,65
2	Uzbekistan basalt	48,2	0,60	11,8	4,12	6,20	9,15	13,3	1,45	2,25
3	China, tholeiitic basalt	48,03	2,85	12,59	3,88	8,15	5,47	10,5	2,32	2,68
4	Ukraine, andesite basalt	52,8	1,17	18,14	5,28	5,1	3,72	8,44	2,24	1,37

There is no evidence of carcinogenic effects in the presence of asbestos in food and water. The fibrogenicity and carcinogenicity of different asbestos fibers varies greatly and depends on the diameter and type of fibers. Data on the increase in the number of deaths and illnesses of workers have already been published. For example, one of the largest open-pit mines in Europe was located in Paakkila, Finland. Only 586,076 tons of amosite and crocidolite asbestos were mined. The death rate in this community reached 150 percent of the national average. In the 1970s, the average male life expectancy here was 57 years, compared to 67 years nationwide. The main cause of death of former workers is lung cancer. As a result, the mine was closed even before the international recognition of the carcinogenic substance.

Conclusion and discussion: The strategic directions of the development of our country have been clearly defined in all spheres, and the ongoing practical work is directed towards a specific goal. The new buildings being built in the process of building a new Uzbekistan show the high potential of our country. In the decision of the President Sh. Mirzayoyev dated May 23, 2019 "On additional measures for the rapid development of the construction materials industry" No.

PK-4335, special attention was paid to the issue of the use of new technologies in construction. In our research, at the same time that environmentally friendly building materials are relevant, we conducted scientific research on the creation of highly efficient, basalt fiber-based asbestos-free composite sheet insulation materials on the basis of nano technologies and innovative developments, based on local conditions, and tested its results in practice.

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