

ENHANCEMENT OF PORTLAND CEMENT CLINKER ACTIVITY USING INDUSTRIAL WASTE INCLUDING GYPSUM

Jovliyev Ziyodulla

Termiz State University

Phone.+998905228116, e-mail.: ziyodullajovliyev35@mail.ru

Decree of the President of the Republic of Uzbekistan No. PF-4947 of February 7, 2017 "On the Strategy of Actions for Further Development of the Republic of Uzbekistan", No. PQ-2615 of September 28, 2016 "Construction in 2016-2020 further development of the industry on the program of measures", PQ-3182 of August 8, 2017 "On priority measures to ensure rapid socio-economic development of the regions", PQ-4335 of May 23, 2019 No. "Addendum on the rapid development of the construction materials industry Decisions on measures" have been adopted, and the construction materials production industry is developing widely in our country.[1]

One of the most promising directions in the use of industrial waste is its use as a building material in production. It meets 40% of the demand for raw materials.

President of the Republic of Uzbekistan Sh. Mmirziyoyev in the decision No. PQ-4198 of February 20, 2019, regarding further deepening of the structural changes in the construction materials industry in accordance with the decision "On measures for the fundamental improvement and comprehensive development of the construction materials industry" "The fact that systematic work is being carried out is the justification of the topic. At present, the demand for economically affordable materials and products is increasing in the field of construction around the world. In this case, building materials made from industrial waste first of all save energy in the process of their preparation. secondly, due to the use of industrial waste, its cost will partially decrease. At the same time, the use of secondary rocks in order to rationally use the depleted natural resources is a topical issue today.

Policy also plays an important role in waste management. It is known from experience that enterprises do not encourage existing prices of waste and finished goods depending on their use. Enterprises are interested in producing new materials from waste compared to natural raw materials.

It is necessary to make it legal to reward those who use and generate waste materials. There should be a special network to reward the organization and its employees that have used waste effectively. one of the important aspects of the problem is waste processing: drying, granulation, fractionation. In order to solve this problem, it is necessary to create special vehicles for the transportation of waste.[2]

The problem of waste management should be taken seriously and cannot be prioritized over the problems of state management. Waste transportation and storage costs should not exceed the price of the device.

Efficient use of raw material resources is possible only if teams of different departments, employees, engineers and scientists work together. The issue of resource use should be seen as a major economic issue. it is the duty of every employee of the industry to solve it.

Economic, economical use of resources, use of waste as the main raw material in the production of building materials, production of hundreds of millions of tons of quality products from cheap raw materials, implementation of all measures of the complex of reducing waste areas serves to

clean the environment. the complex of waste material-raw material resources economy is one of the big problems of the state.

Today, many opportunities are being created in our country for large-scale production of construction materials and products. in particular, in this master's dissertation work, it is considered to find a solution to the problems in science. From the point of view of the internal need of the science, it is considered that the stocks of building gypsum used in the production of portland cement are decreasing. In order to solve this problem, it is our task to add industrial waste phosphogypsum instead of natural gypsum raw material

№	name of raw material	price is soum/ton	Consumption standard for 1 tn of clinker		the price is soum	
			PS	SAS	In the AQMK	in the project
1	kaolin clay	105.800	0,198	0,151	0,079	0,060
2	limestone/chalk-stone	70.000	1,148	0,583	1,159	0,587
3	Gypsum	400.000	0,100	-----	0,300	----
4	phosphogypsum	200.000	-----	0,535	-----	0,802
5	Total:		1,396	1,269	1,538	1,449

Comment: AQMK - Angren Building Materials Combine.

At the prices of 2022, the price of mixed cement is 565,000 soums/ton, PS - 670,000.

One of the widely used gypsum wastes is phosphogypsum, which is exactly what I want to use. It is also possible to add instead of natural gypsum to control the hardening of portland cement. As a result, we could effectively use phosphogypsum waste. Analyzing the solidification process of portland cement after adding phosphogypsum instead of gypsum.

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