



DETERMINATION OF THE CONTENT OF DRY CONSTRUCTION MIXED ON THE BASIS OF LOCAL MARBLE WASTE POWDER

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<https://doi.org/10.5281/zenodo.8351768>

ARTICLE INFO

Qabul qilindi: 05-September 2023 yil

Ma'qullandi: 10-September 2023 yil

Nashr qilindi: 16-September 2023 yil

KEY WORDS

marble, mix, dry mix, plaster, gypsum, cement, binder, portland cement, lime, magnesia.

ABSTRACT

This article examines the composition of a dry construction mix conducted under laboratory conditions on the basis of marble waste. Nowadays, by obtaining dry construction mix on the basis of waste, the environment is also able to start the production of cheap and high-quality construction mixes.

The cost of finishing works on the construction of buildings and structures is on average 30-40%. Therefore, the reduction of labor costs for technological processes in the finishing work, improving the quality of work performed, the introduction of new advanced technologies and materials in the production is a topical issue.

This in turn increases the demand for cheap and high quality building materials. It also encourages increased speed by minimizing labor costs on construction sites [1].

To this end, in order to accelerate the finishing work on hundreds of multi-storey residential, public and industrial buildings under construction and reduce construction time, wet mixes are being replaced by ready-made dry mixes. The number of enterprises producing such dry mixes is growing day by day [1].

There are a number of advantages of quality dry construction mixtures prepared in enterprises equipped with new modern technological equipment. For example, the following:

- Improving the quality of plastering and finishing works due to the moderate composition of the dry mix and ease of processing;
- increase in labor productivity by 1.5-3.5 times depending on the level of mechanization of work organization;
- can be seen in the reduction of material consumption and other factors.

It is especially convenient to transport and store such dry mixes over long distances. In addition, the availability of such materials even in the cold seasons of the year is one of the positive qualities of dry construction mixtures.

According to GOST-31189-12 "Mixing dry construction classification", which is an international standard, dry mixes are classified as follows:

- dry construction mixtures for external and internal use, depending on the

conditions of use;

- according to the largest fraction of aggregates - (Dmak): concrete and mixed;
- according to the conditions of use: brick and stone picking, plaster, make-up, flooring, repair, insulation, mixtures for special works;
- According to the type of binders: cement, gypsum, lime, magnesia, polymer, and composite can be divided into dry construction mixtures [6,7].

The physical and mechanical properties of marble powder (waste) are studied in the laboratory, after which, based on the results, it can be used to create a dry building mix for finishing work. First of all, the moisture content of the marble powder (waste) is determined. A special drying drum is used to dry the marble powder (waste). It is possible to dry using a drying drum at a temperature of 400-500 C0 because the high temperature has no effect on the chemical composition of the marble powder.

The production of modern quality building materials, including dry building mixes, using various industrial wastes and local raw materials is a topical issue.

At the Department of "Building Materials and Structures" of Jizzakh Polytechnic Institute created several compositions of dry construction mortar and ceramic tiles with the use of natural decorative stones from such local raw materials, in particular, marble waste powder from the processing of marble.

The aim is to launch the production of low-cost and high-quality construction mixtures, which are now available to the environment on the basis of waste. The advantage of marble powder (waste) putty is that it is cheaper than modern dry mixes produced by KNAUF, Eleron, Megamix and others, meets modern requirements and does not lag behind them in terms of quality [1,3, 4].

For this purpose, marble powder, M400 Portland cement of "Kyzylkum" cement plant, construction gypsum, paper waste paper, floral paper glue and "Pertlix" adhesives of KNAUF "Pertlix" were used. mainly laboratory research was carried out and the contents listed in the table below were selected.

Ingredients of dry construction mix based on marble powder
Table 1

Contents	Names of raw materials	Amount, in%	Note
1	Marble cookies	70	For exterior makeup
	Construction plaster	20	
	"Pertlix" glue KNAUF	10	
2	Marble cookies	65	Ceramic tile glue
	Portland cement M400	30	
	"Pertlix" glue KNAUF	5	

As can be seen from the table, the main component of dry mix mixtures is 70% to 80% of marble powder. When calculating the cost of the body, it was found that the proposed composition is 50-60% cheaper than the same series of dry construction mixes [1, 8].

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