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ПРИРОДА И ХАРАКТЕРИСТИКИ ГИПСОВЫХ ВЯЖУЩИХ ВЕЩЕСТВ

Аннотация: Строительные материалы и объекты на основе гипсовых вяжущих считаются очень перспективными. Гипсовые клеи и материалы на их основе обладают рядом ценных свойств.

Ключевые слова: Гипс, наполнители, гипсовые вяжущие, сухие строительные смеси, гипсовые композиции, модификация.

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THE NATURE AND CHARACTERISTICS OF GYPSUM BINDERS

Annotation: Building materials and objects based on gypsum binders are considered very promising. Gypsum adhesives and materials based on them have a number of valuable properties.

Key words: Gypsum, fillers, gypsum binders, dry construction mixtures, gypsum compositions, modification.

Annotatsiya: Gips bog'lovchilariga asoslangan qurilish materiallari va buyumlari juda istiqbolli hisoblanadi. Gips yopishtiruvchi va ularga asoslangan materiallar bir qator qimmatli xususiyatlarga ega.

Kalit so'zlar: gips, plomba moddalari, gips bog'lovchilari, quruq qurilish aralashmalari, gips kompozitsiyalari, modifikatsiya.

Currently, with the development of the construction network, the demand for the quality, cheapness of building materials and products based on mineral and man-made raw materials of the Republic of Uzbekistan and the need for industrial

production are increasing. Therefore, it is necessary to develop effective types of materials and products that are characterized by high physical and mechanical properties and allow to reduce the cost of construction. These requirements are fully met by dry gypsum mixtures and composites, which are made on the basis of local raw materials, are environmentally friendly, sufficiently high-tech, and their production has a low energy capacity.

Building materials and objects based on gypsum binders are considered very promising. Gypsum adhesives and materials based on them have a number of valuable properties. The production of gypsum viscous substances is non-toxic, characterized by low specific consumption of fuel and energy (4-5 times less than in the production of cement). Currently, in the practice of construction, it is clearly visible that modified dry construction mixtures and composites are used. Because dry construction mixtures with improved physico-chemical properties and gypsum composites will have properties and long-term performance with guaranteed high functionality.

Building mixtures made on the basis of gypsum or anhydride adhesives are called dry gypsum mixtures (qga). Dry gypsum mixtures consist of carefully dosed and mixed dry components – gypsum adhesives, fractional fillers (fillers), pigments and modifier additives of different purposes, expressing in themselves the optimal uniform composition of scattering materials.

In accordance with the existing classification, dry plaster mixtures can be divided into the following main types: for plaster, for putty, for assembly, clay, for leveling, floor screed (floor leveling). The most common are mixtures for plaster and Putty, the effectiveness of which is due to a number of unique properties of gypsum adhesives. They include: the ability to control solidification times over a wide range, a sufficient degree of strength of the solidified material, and hardness and the speed with which they are achieved, relatively low thermal conductivity and good sound quenching ability, high vapor permeability, high fire resistance, environmental purity. Low water resistance to the sentence and low values of

hardening time are undesirable plaster mixings negative properties, reducing the possibility of their application in construction.

By expressing the composition of the gypsum composite itself from hardened plaster, it will have increased pores left over from the water and will have reduced density, improved isolationism and acoustic properties. These include fence plates and panels, small donabay Wall items, ventilation blocks, etc.

Their properties and simple methods of controlling the structure of the gypsum Stone include the inclusion of fillers and production waste of mineral origin in the composition of the gypsum adhesive.

The following fillers are used in Qga: felt domain and steel casting slag, ash, quartz sand, glass crumbs, lime, dolomite, zeolite minerals, Tuff, pumice, microkremnezem, felt ceramic brick, ceramzite, ceramzite dust, perlite sand prepared according to GOST 10832-91; perlite sand prepared according to the composition of mixtures for plastering mixtures and floor devices, the benefits of which are vermiculite sand, quartz sand according to gost 21 38-91, etc.

In binding compositions, complementary composite building materials play a structure-forming role at the level of Physico-mechanical influences in accordance with the cases of polystructure theory. A mixed structure is formed with the introduction of the filler in optimal quantities and optimal dispersibility, in which, as a result of the reduction of private volumetric deformations in the hardening process, a microstructure of an artificial stone with reduced technological damage is formed. When a certain level of filling is reached, a sharp drop in the density of the artificial stone occurs as a result of the direct interaction of the filler grains and the formation of tension sections.

The physical and mechanical effects of structure formation are conditionally divided into 2 stages:

- cross-particle interactions that form structure aggregates;
- expansion of the volume of aggregates leading to fine particle interactions at the border of adjacent blocks [20].

When introducing thin dispersive fillers into such systems, it becomes possible to control the mechanism of Organization of the structure at all slopes of the formation of the structure. An important role in this is played by the average size of the granules and the surface activity of the filler. It is established that at the first stage of crystallized carcass formation, the deorganization effect of thin dispersing fillers leads to a decrease in the strength of gypsum compositions, when introducing dimensional fillers close to the dimensions of gypsum adhesive granules, the same as fraction sizes.

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