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Light Building Constructions Based on Modified Gypsum Mixture Water Resistance and Water Performance

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Abstract: *Technical requirements for waterproof gypsum and anhydrite binder, lightweight construction constructor based on mixtures.*

Keywords: *Labor productivity, real, cash, potential, key factors, calculation methods, directions of development, labor productivity depends on many factors.*

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Building materials - natural and artificial materials and products used in the construction and repair of buildings (structures). There are general purpose materials (eg cement, concrete, wood) and special types (eg acoustic materials, thermal insulation materials, refractory materials).

They are divided into the following main groups according to their technological and operational characteristics. Natural stone materials are mechanically processed rocks (slabs, crushed stone, gravel, etc.). Ceramic materials and products are made from clay raw materials by molding and baking (see Ceramics, Bricks). Inorganic binders are powdered materials (cement, gypsum, lime, etc.) that, when mixed with water, turn into a plastic slurry and then into a stone. Concrete and admixtures are natural stone materials with known physical, mechanical, and chemical properties obtained from a mixture of binders, water, and aggregates. Lightweight concrete is used in the manufacture of large prefabricated structures and products. To increase the flexural and tensile strength of structural elements, concrete is made in conjunction with steel reinforcement (see Reinforced Concrete, Reinforced Concrete Structures). Metal construction is mainly based on rolled steel. Steel fittings, building frames, pipes, pipelines, roofing materials and others are made. Aluminum alloys are also used. Thermal insulation materials (mineral wool, foam concrete, asbestos, foam, fiberglass, etc.) are used for wrapping constructions of buildings, structures, industrial equipment, for thermal insulation of pipes. Organic binders and waterproofing materials include a large group of materials based on bitumen, ruberoid, fiber, asphalt concrete and other polymer-synthetic polymers. They are used for flooring (linoleum, rails, etc.), construction and decoration materials (glass, decorative films), heat and sound insulation materials (foam, glass). L o k and paints - form a decorative and protective coating on the surface of the painted structure. They

are based on organic and inorganic binders. In addition, building materials include glass and plastics.

Construction materials in Uzbekistan include clay, cement, alabaster, gypsum, sand, gravel, marble and wood. In total, more than 120 standards for construction materials have been adopted in the standards of the Republic of Uzbekistan.

Technical requirements for waterproof (air) gypsum and anhydrite binder Non-water resistant gypsum and anhydrite binders are obtained in a variety of waysvarious gypsum-containing waste technologies (phosphogypsum, borogyps, citrogyps,) sulfogips, silica gypsum, hydrolyzed gypsum, etc.). The most common gypsum binders from phosphogypsum and sulphogypsum.

The properties of the obtained binders depend both in terms of the quality of the waste used and in terms of the production technology used adhesive Gypsum and anhydrite binders derived from gypsum-containing wastes are required gypsum binder and meets the requirements of applicable standards for maintenance conditions for specific types of binders Technical requirements for waterproof gypsum and anhydrite binders substances Waterproof gypsum and anhydrite binders from gypsum-containing wastes mainly obtained by mixing waterproof ready-made fasteners Portland cement and special additives and the addition of these components in the process of obtaining direct binders (or in the hydrothermal phase) processing, or during cooking, or during grinding, etc.). The result is binders, mainly gypsum-cement-pozzolanic binder varieties.

Therefore, these binders must meet the requirements of TU 21-0284757-90 and specifications for certain types of connectors.

Calculation of the composition of lightweight gypsum concrete in porous aggregates

Lightweight gypsum concrete in artificial porous aggregates is selected according to its composition

Popov consists of:

Determine the empirically optimal amount of water grain size composition options of aggregates;

Choosing such a combination of binder and grain content consumption

It is possible to obtain concrete with moderate density and strength minimum consumption of gypsum binder.

Before determining the composition, tests of gypsum binder and aggregates are carried outin accordance with the relevant GOST.Usually take two drops of gypsum binder and two or three grainsaggregate composition .The composition of the aggregates in the recommended grain composition General The greatest size, mm% By content, volumes and coarse aggregate Crushed stone

20

40 ... 50

70 ... 50

on

45 ... 65

55 ... 35

Gravel

40

15 ... 30

85 ... 70

20

25 ... 45

75 ... 55

on

40 ... 60

60 ... 40

Calculating the content of gypsum concrete in organic matter fillers

The design of lightweight concrete structures based on organic aggregates has its own characteristics properties related to the specific properties of organic fillers. And so, the sawdust most commonly used in such concrete differs from the usual density aggregates with large clearance and low mobility, hence mobility sawdust concrete mix is obtained only by the amount of gypsum paste in it, increased the size of the gaps in the sawdust by about 1.45 times.

Consumption as a result the gypsum binder cannot be determined by the above formulas.

In this regard, it is possible to recommend a method for the selection of concrete cut with gypsum

G.G.Bulycheva, according to which the consumption of gypsum binder (kg / m 3) is determined from the sum

Absolute volume of components in 1 m 3 of concrete:

Where:

n - wt soni. Gypsum binder, including sawdust for 1 wt;

r d - dry wood density g / cm3;

r g is the density of gypsum binder, g / cm3

To find the value of N, you need to know the invalidity of dry sawdust:

0- one

R where r about -, g / cm dry sawdust volume density 3

Then consumption of gypsum binder (G) for 1 m 3 of dry sawdust:

DIND.R single1000, 45P single

Determine the value of n by knowing the consumption of the connector (G):

After that, the consumption of gypsum binder for 1 m 3 of gypsum fiber concrete is determined

According to formula 6.11 and sawdust consumption:

Op = rn

In practice, another method described in Example 6.3 is often used the cost of materials per batch is adjusted accordingly to the production gypsum concrete mix

GYPSUM MATERIALS AND PRODUCTS

Classification of gypsum materials and products

Gypsum materials and products are classified as follows:

By appointment:

- walls and partition walls to cover structures;
- constructive, including load-bearing;

- termination;
- acoustic;
- face-to-face (decorative);
- fire protection;
- thermal insulation;
- Special.

By design:

- ✓ hard;
- ✓ hollow;
- ✓ reinforced;
- ✓ Not strengthened.

In terms of content:

Gypsum made of gypsum binders (waterproof and waterproof) and water with or without chemical additives;

Gypsum concrete, in its composition, various except gypsum binders mineral or organic fillers and (or) aggregates chemical additives.

On the appearance of the front surface:

- ✓ without completion;
- ✓ With termination.

For wet working conditions:

made of waterproof gypsum binders, designed for conditions, except for regular wetting and dry and Normal humidity conditions in accordance with SNiP II-3-79 **;

made of waterproof gypsum binders designed for exterior and interiors of buildings with dry, normal and humid conditions Work in accordance with SNiP II-3-79 **.

Conclusion

Gypsum and products made from it are well known. It is the oldest mineral used in architecture, medicine and, of course, in construction. A number of properties of construction gypsum should be noted: low thermal conductivity, small mass and volume, soundproof, odorless when hardened, as well as environmentally friendly product, because it does not contain harmful substances and does not emit harmful substances, as well as air permeability.

Construction gypsum is widely used in the walls of buildings, plastering ciphers, as well as in the manufacture of various products - drywall, dry mixes and other products.

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