GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ)
ISSN (E): 2347-6915
Vol. 10, Issue 11, Nov. (2022)

ROLE OF FILLER IN POROZED ARBOLT

Turapov Farkhod Khursanovich
Termez State University

In a market economy, the problem is especially acute for enterprises that produce modern energy-saving building materials, such as foam concrete, polystyrene concrete, etc. from rising cement prices. The reason for this is the increased (compared to traditional materials) consumption of high-quality cement and, as a result, high selling prices for finished wall materials. However, the need for energy-saving building materials is very high today. One of the ways to solve this problem is to master the production of porous building materials, in particular, porous wood concrete based on a multicomponent binder.

The deformation of porous materials based on mineral binders is volumetric changes in the concrete mixture and concrete that occur during the preparation of the concrete mixture, its hardening and operation of concrete under the influence of various factors: the structure of concrete, the properties of its components, the features of its manufacturing technology, and other factors. Concrete deformations have a great influence on the quality of structures. Shrinkage deformations of porous materials arising due to moisture shrinkage, contraction and carbonization occur during the initial strength of the material.

To select the composition of the arbolite mixture, the requirements for it and the hardened material must be specified. In particular, the requirements indicate the maximum allowable density of wood concrete, its required structure, design and tempering strengths, stiffness or mobility of the mixture, as well as data on the properties of the starting materials. In this regard, our research was aimed at optimizing the composition of porous wood concrete.

For the preparation of a porous arbolite mixture, we used the following raw materials:

- aluminosilicate component - finely ground electrothermophosphorus slag (Ssp=300 m2/kg);
- alkaline component - sodium silicate soluble with different silicate module;
- organic filler - rice husk, crushed cotton stalks and kenaf fire;
-foaming agent - foam concentrates: Setora, Vinpor and Arecom-4.

When obtaining porous arbolite, the classical technology was used: the aluminosilicate and alkaline components of the BSC were mixed separately with organic filler, which were subsequently mixed with foam, then samples of 100x100x100 mm in size were molded.

It is known that for the course of the process of hydration of the binder, it is enough W / C = 0.2-0.25. However, in order to obtain a porous mass, the required mobility usually has to be kept at 0.4 or more. At the initial period of hardening of the porous material, free moisture begins to be removed, causing shrinkage deformations, as a result of which microcracks are formed due to internal stresses. These microcracks can eventually lead to cracking and failure of the finished material. In order to improve the physical and mechanical properties and eliminate the lack of tendency to cracking in practice, the possibility of improving the strength characteristics of cellular concrete with its dispersed reinforcement with fibrous additives was shown.

In porous arbolite, the role of a reinforcing filler is played by organic fillers of plant origin. In the porous arbolite, the space between the grains of the organic filler is filled with a porous binder mass. It has been established that the inclusion of an organic filler in the composition

in an amount of up to 80 kg/m3 made it possible to reduce the consumption of the aluminosilicate component by up to 25%, without reducing the strength. In this case, the main shrinkage occurs during the first 30 days, after which it is negligible and is usually below 0.1%. In our opinion, this is due to the fact that the organic filler, being a moisture accumulator, prevents intensive evaporation of moisture in the initial stages from the hardening material, which prevents the formation of microcracks.

REFERENCES

1. Исследование влияния суперпластификаторов на физико-механические свойства бетона ФХ Турапов, АҚ Холтаева проблемы геологии и освоения недр, 477-478
2. Dry construction mixed for foam concrete T.F. Khursanovich Academicia Globe: Inderscience Research 3 (05), 201-204
3. Effect of chemical additive " beton strong-17" on the mechanical properties of concrete Abilov E.E., Turapov F. X.

International engineering journal for research & development 5

4 Abdurakhimov,A.A Application of ASH of Heat Power Plants in Mixtures Central Asian journal of theoretical and Applied sciences Volume:02 Issue:11 / Now 2021 Issn:2660-5317.

5 AA. Abdukhalimzoda, the use of filler mixtures assessment of the current status. Galaxy International Interdisciplinary Research Journal, Vol 9 No (12), 467–470 (2021

6 Abdumuminov.O.R. economic efficiency of rational use of secondary resources. European Scholar Journal (ESJ) Available Online at: https://www.scholarzest.com Vol. 3 No.3, March 2022

7 Abdumuminov.O.R. Sh.Raximov.Z. Axmedov. The Development of Compositions and Research of the Properties of Fine Concrete. American journal of social and humanitarian research. November, Vol. 4 No. 9 (2021)