



DRY CONSTRUCTION MIXED FOR FOAM CONCRETE

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Introduction

Autoclaved foam concrete is a multifunctional building material. The production technology is much simpler and the equipment used in production requires less metal and energy consumption. The properties of foam concrete can be improved and controlled depending on the place of use and climatic conditions of use. Therefore, its properties are variable over a large range.

Average density $r = 100-1200 \text{ kg / m}^3$, thermal conductivity $l = 0.08-0.38 \text{ W / m} \cdot \text{K}$, water absorption coefficient $W = 8-22\%$, has high fire resistance.

Based on the theoretical basis, it can be said that the most efficient way to produce foam concrete is to produce it on the basis of dry building mixes. In the case of foam concrete products based on dry mixes, the homogenization of the components and the measurement (dosing) of the components can be done very accurately. This stabilizes the state and quality of production.

Foam concrete products based on dry mix (blocks, slabs, etc.) and monolithic structures provide a number of advantages. Dry construction mixes for special foam concrete are poured into the molds and formwork on the construction sites, mixed with water on the basis of a rational composition and hardened. This leads to a reduction in the time spent on the construction process and an acceleration of construction. Dry building mixes can be widely used to implement low-rise housing construction in a short period of time.

Foam concrete production technology (classical, dry mineralization and barotechnology)..In this case, the structure may not be homogeneous and do not form a homogeneous material, and the porosity may be uneven as a result of moisture.

If foam concrete is made on the basis of dry mixes, the properties of high strength, frost resistance will increase. The basis of the process of production of foam concrete is the selection and preparation of the necessary dry mix. The quality of dry mixes is achieved through the correct selection and measurement of its constituent components (binders, mineral and organic additives).

Experiment Water retention properties of dry mix: this property is the main property of the mixture and is a key indicator in determining the setting time and the amount of water consumed. Influence of various plasticizers and foaming agents on the strength of foam concrete

Table 1. Influence of foaming agents and plasticizers on the strength of foam concrete

foaming agent	Plastifikatorsiz	Name and amount of plasticizers,%								
		C-3			Melflux			ЛСТ		
		0,5	1	2	0,5	1	2	0,5	1	2
ПБ-2000	8,5	8,5	9,0	9,0	8,5	8,0	7,5	11	11	10
	7,5	7,5	7,5	8,0	7,0	6,5	6,0	9,0	9,0	8,5
Adiment	3,5	3,5	3,0	2,9	3,8	3,8	3,6	3,3	3,2	3,0
	2,1	2,0	2,0	2,0	2,5	2,5	2,5	2,0	2,0	2,0



Selection and substantiation of the production method For foam concrete, there are two ways to reduce the liquid content of the liquid foaming additive to a dry foaming additive. Figure 1 shows how to prepare a dry mix for foam concrete.

Rocks coated with chalk and zeolite are used as soaking agents.

The second method uses quicklime, semi-aqueous gypsum or Portland cement as a hydrating component.

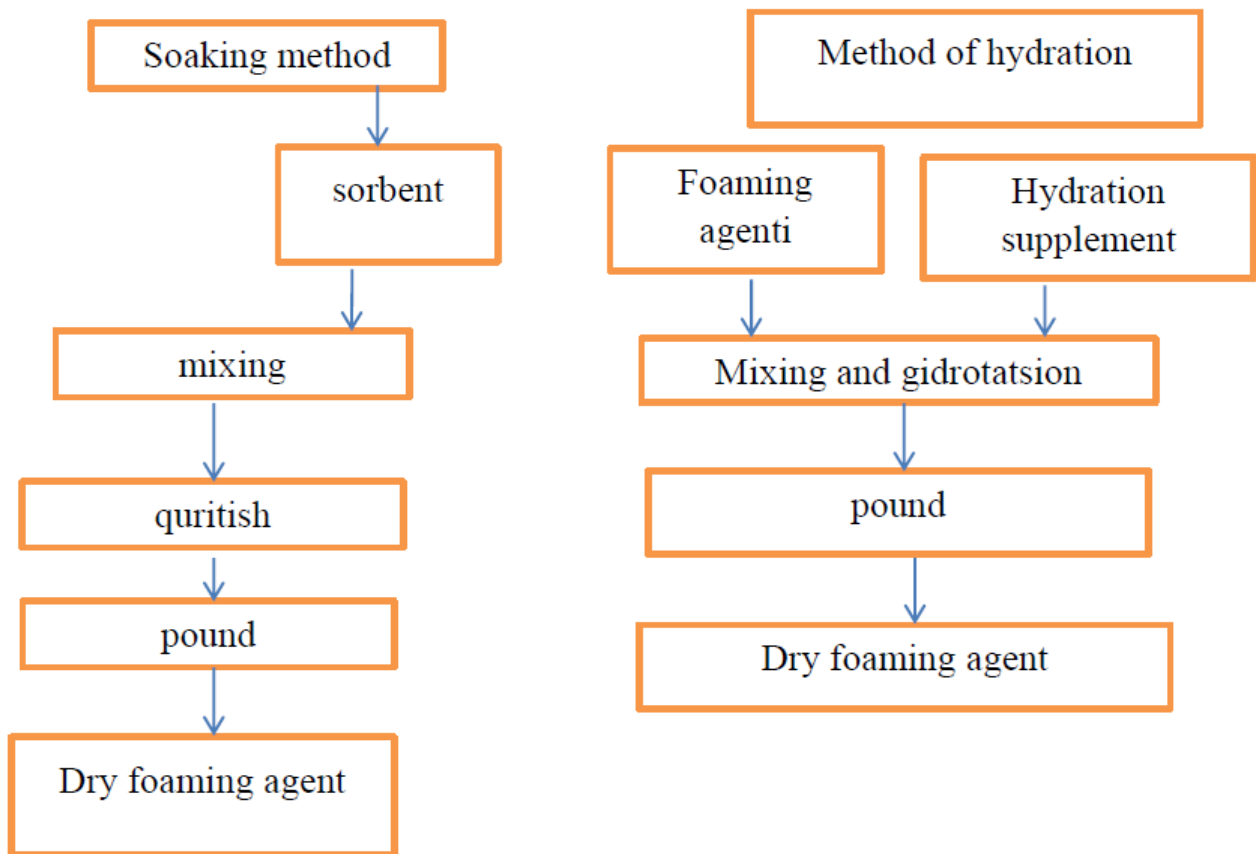


Figure 1: Methods of preparation of foaming concentrate.

Experiments have shown that the method of hydration of foaming solids can increase the strength of foam concrete by 20-30%.

The technological scheme of production of dry mix for foam concrete is shown in Figure 2.

The technology of production of dry construction mix is carried out in the following sequence.

Dry building mixes are produced in centralized automated plants or on specially adapted production bases. It is designed in a vertical scheme in factories that produce dry mixes abroad.

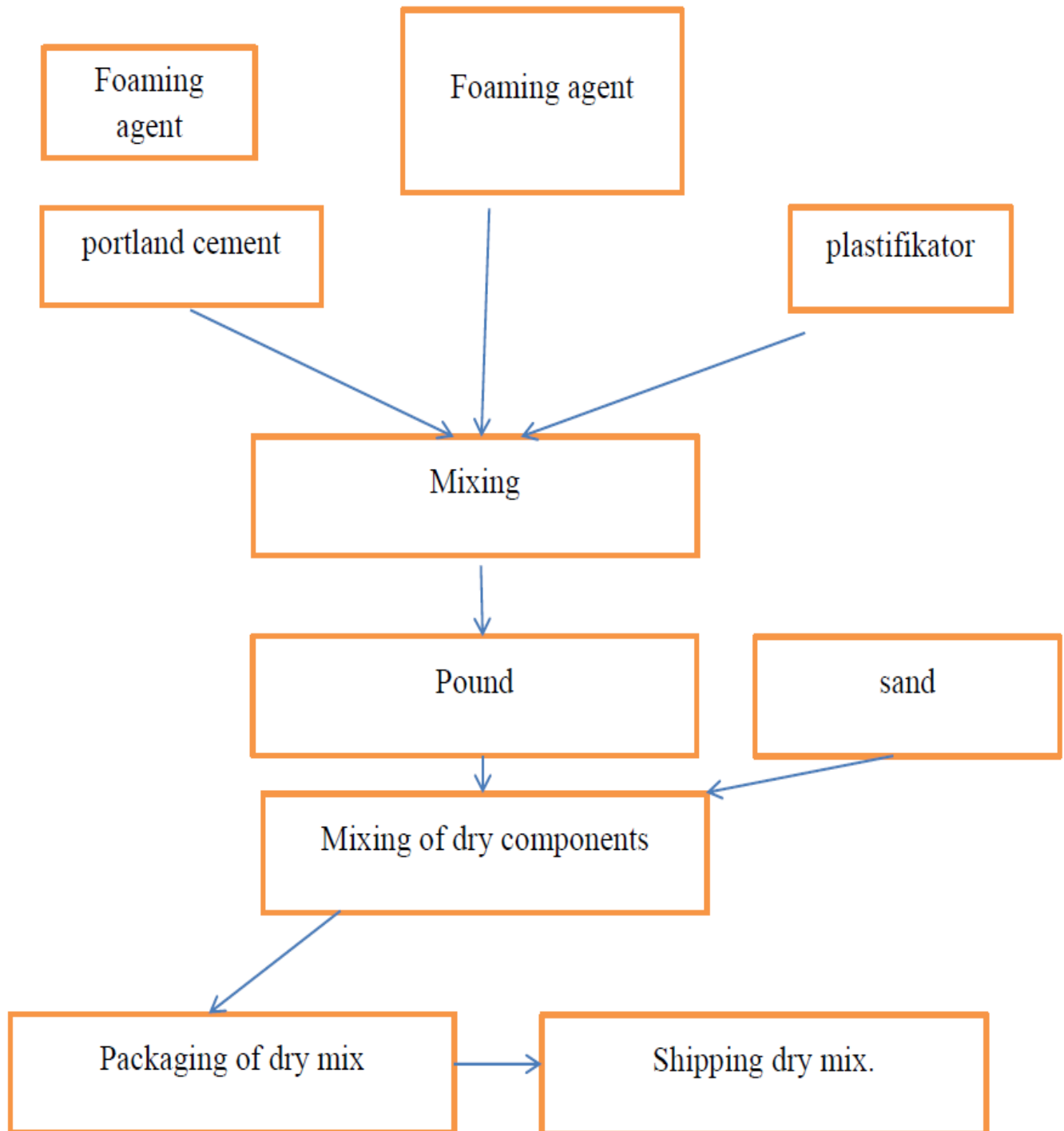


Figure 2. Technological scheme for the production of dry mix for foam concrete.



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