

## **Special Alkaline Activated Cements and Concretes on Base Local Materials**



**Amindjon Axadovich Sultanov<sup>1</sup>, Sulton Ilyasovich Axmedov<sup>2</sup>**

<sup>1</sup>Candidate of Science (Technical), Samarkand State Architectural and Civil Engineering Institute, Samarkand, Uzbekistan

<sup>2</sup> Candidate of Science (Technical), Samarkand State Architectural and Civil Engineering Institute, Samarkand, Uzbekistan

[sultanovaminaka@mail.ru](mailto:sultanovaminaka@mail.ru)

### **ABSTRACT**

Scientific and technical progress in the construction of industry includes the development and production of binders with special properties. Such materials include alkali cements based on alkali metal compounds, developed in the fifties of last century, Professor V.D. Glukhovsky and these are now active alkalization. These cements are characterized by low-cost heat and electricity in their production, high physical and mechanical properties, durability. It is caused by tumors, creating structural links in the hardened artificial stone on the basis of alkaline binders. Principles of regulation properties of the final product by direct synthesis of neo plasmas in the hardening of alkaline stone, designed by Professor P. V. Krivenko it possible to create alkaline binders with a given phase composition of building blocks, providing predictable properties, regardless of the chemical and mineralogical composition of the silicate component. One way to control the properties of proposed changes in acid-base balance of the introduction of highly basic astringent additives, in particular Portland cement, calcium oxide. Analysis of studies in this field indicates the presence of vast potential energy of the “alkali-highly basic slag additive”, the realization of which will provide high-strength cements. However, the introduction of highly basic additives leads to a drastic reduction in terms of setting and the problem is solved in these papers, the introduction of chemically pure product, potassium fluoride, which increase the cost of material and greatly complicate the process of cement production. Resources base of alkaline binders in Uzbekistan is immense, which differs in chemical and mineralogical composition and properties. Scientists of Uzbekistan on the basis of a number of active alkaline mineral binders developed low marks, which are introduced for highly basic additives, dramatically reducing setting time. In accordance with the purpose of this paper is to develop ways of setting maturities alkali cements based on local active minerals in the presence of highly basic additives and obtaining high alkaline slag Portland cement and pozzolanic. In studies with the aim of obtaining alkali binders we used tuffite Navoi career, which is currently used as an additive in the manufacture of hydraulic Portland cement plant in Navoi and deposits of which are huge.

**Keywords:** Alkaline, cement, concrete, local material.