The objective of this research is to study the fungicidal properties of the cement composition modified by chitosan (deacetylation rate - 95%, molecular weight - 200 kDa (MM 2,7x10^5)). The optimal concentration of chitosan is identified so that its infusion into the cement paste did not deteriorate the physical and mechanical characteristics, structure and composition of the latter. The authors have identified that the infusion of 1% chitosan (in relation to the cement mass) into the cement composition is optimal. It has resulted in (1) the slight improvement of the strength properties of modified samples, (2) the reduction of dimensions of the porous space alongside with the increase in the number of gel pores (20%), (3) the reduction of the number of capillary pores (5%).

The other subject of this research represents interaction of 1% (and lower concentrations of) chitosan with calcium hydroxide. No interaction between 2% chitosan and calcium hydroxide is identified. The conclusion is that the infusion of 1% chitosan into the cement composition provides it with fungicidal and fungistatic properties, while the strength characteristic of the cement paste is slightly improved.

**Key words:** chitosan, cement composition, porosity, biocide characteristic, fungicidal characteristic, fungicidal characteristics, ecological compatibility.

**References**


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**For citation:** Darchiya V.I., Ustinova Yu.V., Nikiforova T.P., Sazonova N.S. Predotvraschenie biogen- noy destruktsii vvedeniem khitozana v tsementnyu kompozitsiyu [Prevention or Biogenic Destruction by Adding Chitosan into the Composition of Cement]. Vestnik MGSU [Proceedings of Moscow State University of Civil Engineering]. 2012, no. 9, pp. 95—100.