INFLUENCE OF WOLLASTONITE ON THE MECHANICAL STRENGTH OF THE CEMENT STONE MADE OF PORTLAND CEMENT CLINKER

The authors have completed a research into the influence of wollastonite onto the strength of the cement stone, if the latter is freshly made or stored in the humid environment for four months. The authors believe that the optimal share of the wollastonite admixture is equal to 5…9 %.

The strength of wollastonite-free clinker samples is not reduced, if the clinker is stored in the humid environment and exposed to heat and moisture treatment. Upon the expiry of the 28-days' curing period, the strength of samples is down by 4 % in the regular environment. In this case, the wollastonite admixture (7 %) improves the strength of samples upon the expiry of the 28 days' curing period and their strength goes up by 28 %, while the strength of samples goes up by 17 % upon their exposure to heat and moisture treatment.

The authors believe that the influence produced by wollastonite may be explained by the following reasons. In the event that freshly milled powder (clinker) is added, wollastonite produces its influence on the hydration process, as formation of new compounds (hydrates) is influenced by a strong adsorption field of wollastonite particles.

If clinker is stored in the humid environment, its substantial share is subject to hydration and carbonization.

Key words: Portland cement clinker, cement stone, storage period, mechanical strength, wollastonite.

References

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