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# Study of influence of a new epoxyaminophenol system for service characteristics of polymer-modified cement material

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**Abstract**

The possibility of using epoxy resin ED-20 cured with new polyaminophenol compounds in the polymer-cement material was studied. Polyaminophenol compounds were synthesized by Mannich reaction. It was found that optimum amount of hardener is 27% of the weight of epoxy resin, using the method of hot acetone extraction of epoxyamine polymer films. The polymer component was introduced into cement mixture in the form of aqueous emulsion. The amount of epoxy-amine emulsion in the polymer-cement solution varied from 20 to 40% by weight. It was found that use of synthesized polyaminophenol compounds for curing an epoxy oligomer makes it possible to increase the compressive strength of a polymer cement by 10-40% compared to a polymer-cement material cured with an industrial aminophenol AF-2. It was shown that epoxy-cement-based materials cured with synthesized aminophenol compounds have good water resistance, the aging in corrosive media (solutions of acids or alkalis) does not lead to visible destruction of the material.

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