

Research of possibility of introduction polymer – knitting components in a bituminous emulsion

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Keywords: bitumen, cationic emulsifier, rubber, polymer-knitting component, an emulsion, adhesion, destruction.

Abstract

The possible application of introduction of the polymer-knitting components in a bituminous emulsion, based on synthetic rubbers in order to use them in road construction is investigated by. The physic-mechanical indexes such as a penetration, softening temperature by the "ring and sphere" method and the operational indexes prepared polymer-bituminous compositions are defined. The physic-operational indexes are improved, if a bituminous emulsion input in a matrix of synthetic rubber SKI-3S, such as coupling with mineral material, which is 90% of all surfaces of crushed stone, a penetration (90 mm) and conditional viscosity (28 c), in comparison with properties of traditional bituminous emulsions.

References

- [1] Y.V. Sokolov, V.N. Shestakov. The bitumen emulsion in road building: Training and Reference Manual. Omsk: GUIPP "Print Omsk house." 2000. 256p.
- [2] K Heliopolis et al. RF Patent number 2183600 IPC C08L95/00. Thick emulsion-mineral mix. Publ. 20.06.2002.
- [3] Non-departmental construction norms SN 115-75. Technical guidance on the preparation and application of road emulsions. Introduced. 3.1.76. M: Transport. 1996. 77p.
- [4] O.I. Novotny et al. The possibility of using polymer-bitumen binders on the basis of asphalt in road construction. Proceedings of the University of Saratov. New episode. Series Chemistry, Biology, Ecology. 2013. Vol.13. No.4. P.27-30.
- [5] GOST R 55420-2013. Highway public. Emulsions bitumen for road cationic. Specifications. M.: Publishing house STANDARTINFORM. 2014. 11p.