

## High-quality asphalt binders produced by deasphalting of natural bitumen

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### Abstract

© SGEM2018. Commercial field development of high-viscosity oil and natural bitumen presents a global issue nowadays due to increase in hydrocarbon consumption, changes in structure of oil reserves with the increasing dominance of heavy and extra-heavy crudes, and development of innovative technologies of production and processing of natural bitumen. The estimated probable bitumen reserves are 790-1000 billion tons, much greater than reserves of light and medium viscosity oil. Bitumen processing technologies include production of synthetic crude and various bituminous materials. Bituminous materials are usually produced by oxidative polymerization and their quality don't meet the requirements of European standards. In this work deasphalting of natural bitumen using oxygen-containing solvents was investigated. The object of research was natural bitumen of Ashalcha oil field of Tatarstan Republic. Solvent: crude ratio was maintained 3:1-4:1. Bituminous materials produced by deasphalting were characterized by higher bitumen melting point, compared to oxidized asphalt at the same penetration level. Based on the asphalt produced by deasphalting asphaltic concrete was prepared. Possible application of natural bitumen for production of asphalt binders without preliminary processing was shown.

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### Keywords

Asphalt binders, Deasphalting, Hard-to recover reserves, Natural bitumen

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