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Complex modification technology of bituminous insulating materials

Myrkhalykov Z., Bazhirov T., Kemalov A., Kemalov R., Syrmanova K., Botashev Y.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© National Academy of Sciences of the Republic of Kazakhstan, 2017. Strategic trend of modern oil refining industry is concluded in further extension of oil refining. On this evidence, development of intensive technology for processing of heavy oil residuals taking into account new scientific achievements on physical-chemical mechanics of oil dispersed systems [1], with a view to produce special bitumen with tailor-made properties and paint materials on their basis is actual task. High insulating properties with respect to aqueous media, as well as cheapness and practically inexhaustible domestic raw material base refer to the primary advantages of bitumen as a film-forming basis of paint materials [1-4] . Factors constraining wide use of coatings on the bitumen basis are their low physical-mechanical properties, i.e. hardness, adhesion and strength [5-9]. This is connected with raw material chemical composition features, technological conditions of the heavy oil residuals' oxidation process [10] . It is expedient to use fluxes of heavy oils of naphtheno-aromatic base with minimal content of paraffin hydrocarbons, which reserves are extremely insignificant, as the raw material for production of special bitumen. In this connection, enhancement of the bitumen production raw material base by involvement of the heavy oil residuals of resin-paraffin base proves actuality of the topic.

Keywords

Asphaltenes, Film-forming substances, Heavy oil residuals, Oil dispersed systems, Petrochemistry, Physical-mechanical properties of coatings, Pigments, Thermoplastic resins

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