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Production of coking products using a laboratory coking unit for heavy petroleum raw materials

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Abstract

The construction of a delayed coking unit at JSC Orsknefteorgsintez will increase the depth of oil refining by involving heavy oil residues in the process, which will expand the range of products and generate additional profit.

The aim of the work is to investigate the dependence of the coke yield and the quality of the obtained products on the solvent strength of the solvent dispersion medium. Studies were conducted on the production of coke on different types of raw materials. As a raw material, it is proposed to use tar of Shkapovskaya oil with a coking capacity of 12.4%.

To study the effect of the solvent force of the dispersion medium on the coke yield and the quality of the resulting coking products, mixtures of tar with an extract of oil fractions consisting of aromatic hydrocarbons were artificially composed. The addition of an extract of oil fractions changes the solvent forces of the dispersion medium.

The yield of products obtained during the coking process under laboratory conditions served as the basis for calculating the material balance of the reactor and the entire installation as a whole. The parameters of the main distillation column operation were calculated, and the cycle of coking reactors was selected.

Thus, in this paper it is shown that the introduction of a fuel option for processing Shpakovskaya oil tar at a delayed coking plant is quite justified.

The construction of a delayed coking unit at JSC Orsknefteorgsintez will increase the depth of oil refining by involving heavy oil residues in the process, this will expand the range of products and generate additional profit, including providing additional jobs.

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