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**QUALITY CONTROL OF ABSORBENT OIL FOR CAPTURING BENZENE HYDROCARBONS BY COKE RESIDUE YIELD**

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*Specific consumption of absorbent oil and its quality indicators are key characteristics of the benzene department, as they reflect the level of operating costs and determine the degree of equipment contamination with sediments. The thickening of coal tar absorbent oil during operation depends on the level of oil loss with crude benzene, the intensity of the oil polymerization and oxidation reaction, the degree of introduction of resinous and solid substances with coke oven gas, the intensity of coke formation under the influence of high temperatures, and the quality of the absorbent. Recently, little attention has been paid to such an integral indicator of absorbent oil quality as coke residue yield ("coking point"). Coking ability is associated with the viscosity, chemical composition and degree of oil purification, and is used mainly for petroleum oils operating at high temperatures. The relationship between the coke number and the physical and chemical properties of the feedstock can be traced by analyzing the dependence on the average boiling point of the tar fractions. An increase in the viscosity and density of the absorbent oil is reflected in an increase in the coke residue yield in a linear fashion, and a decrease in the content of low-boiling oil distillation in favor of high-boiling oil also increases the coke residue yield. The highest degree of correlation is observed in the exponential dependence of the coke number on the content of substances insoluble in toluene in the oil. The coking point of the absorbing oil is an indicator of the intensity of the oil oxidation and polymerization processes, the presence of corrosion and equipment wear products, the addition of tar and sulfur-containing substances, and the presence of salts. The use of tar to initiate coke formation is an indicative and convenient way to comparatively assess the performance properties of fresh oil. This makes it possible to use the method of determining the yield of coke residue to assess the tendency of fresh oil to form sediments in equipment.*

Keywords: absorbent oil, coke residue yield, fractional composition, group composition, dependence, correlation degree.

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