
TECHNOLOGICAL SCHEME OF PROCESSING OF SECOND RESIN-LIKE PRODUCTS IN COKE PRODUCTION

© A.L. Borisenko, PhD in Technical Sciences, F.F. Cheshko, Doctor of Technical Sciences (SE "UKHIN"), A.A. Bekhter, G.M. Tkalich, V.V. Zelenskyi (PJSC "ZAPOROZHCOKE")

The article describes the technological scheme developed by the authors of processing of resin by-products of coke production, namely acid tar of sulfate department (ATS), acid resin of benzene rectification (ATB), polymers of benzene department (PBD) and fuses of coke production plant. The technology involves the transfer of these components into a solid state to facilitate their supply to the coal coking charge.

The advantages over the currently most common method of using these resin-like materials, which is their supply to the coal mixture of coking in the liquid state by dosing on the layer of the charge, moved by the conveyor belt, are shown. This is accompanied by liquid and vapor emissions into the environment. Pumping and dosing in the liquid state of such materials is associated with additional difficulties due to their corrosion risk, as well as the formation of deposits on the inner surface of the pipelines. Preliminary neutralization of ATS and ATB is undesirable because it excludes the possibility of initiating the influence of additives on the course of processes occurring in the coal charge during its coking, which contributes to the increase of coke yield and improve its strength.

Based on the above, as the main technological principle of processing, thermocatalytic (autocatalytic) treatment of a mixture of these materials with solvent additives (component that prevents uncontrolled flow of thermopolycondensation of sulfonic acids has been proposed. They are part of the FTS and ATB and hard conditions) to obtain a component of boiler fuels and a solid (under normal conditions) granular additive to the coking charge.

The basic technological scheme of the process, its detailed description, parameters of the technological regime (raw material composition, process temperature, etc.), type and technological features of the main devices are given, the environmental solutions included in the scheme are listed.

Keywords: coke-chemical production, resin-like by-products, processing, additive to coal charge, thermopolymerization, solidification, granulation, mixing.