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# COKING OF RAMMED COAL CHARGES. GAS COAL CONTENT ≥ 40%

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*Preliminary studies have shown that an increase in the sintering ability, determined by both plastometric and petrographic methods, and the coking capacity of a charge with a gas coal content of ≤ 40% leads to an improvement in the mechanical strength of blast-furnace coke. Graphical and mathematical dependencies have been developed to predict the mechanical and post-reaction strength indicators, as well as the reactivity of blast-furnace coke obtained from a rammed charge with a gas coal content of ≤ 40%.*

*This paper presents similar studies, however, using coal mixtures characterized by the content of coal of the gas group ≥40%.*

*The coal concentrates of the operating coke-chemical production, which are part of the coal charge for tamping, were studied. The initial samples were studied using a set of standardized methods with the determination of data from technical, petrographic and granulometric analysis, as well as the chemical composition of the ash. In addition, in the samples taken, the value of the Hardgrave’s grind ability coefficient and the expansion pressure in the tamped form were determined.*

*Laboratory coking of coal charges was carried out in a five-kilogram laboratory furnace. The tamped cake was made in a separate collapsible matrix.*

*Based on the results of experimental coking, it was found that the mechanical strength of coke obtained from coal charges, characterized by an increased (more than 40%) content of gas group coal, is most affected by the degree of metamorphism (Vdaf, R0) and expansion pressure (P10).*

*Mathematical and graphical dependences have been developed to predict the mechanical (P25, I10) and post-reaction strength (CSR), as well as the reactivity (CRI) of coke obtained from coal blends characterized by an increased content of gas group coal.*

Keywords: coal, rammer, coke, mechanical strength, reactivity.

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