

DEVELOPMENT OF RATIONAL TECHNOLOGICAL PARAMETERS FOR HEATING OF A COKE BATTERY WITH A STAMPED CHARGING OF COALS

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The article is devoted to the introduction at the PJSC «ArcelorMittal Kryvyi Rih» coke plant of a promising technology for compaction of a coal charge, which allows obtaining blast furnace coke of high mechanical and "hot" strength from charges characterized by an increased content of lean components of various stages of metamorphism. Under the present circumstances, this is of great importance for increasing the economic indicators of the production of blast furnace coke and the operation of blast furnaces. The start-up of coke oven battery No. 6, designed for the application of this technology, necessitated the determination of rational technological parameters of heating: the temperature level in the control verticals and the location of the burners for supplying coke oven gas in the vertical along the heating wall.

The article presents the calculations, the results of which confirm the expediency of rationalizing the actual starting (design) distribution of burners on coke oven battery No. 6. First of all, attention is drawn to the insufficient diameters of the holes in the burners for the extreme and pre-extreme verticals. This, according to the authors, caused underheating of the head zones and resin spills, which were observed during start-up operations on the battery.

The replacement of burners at the edges of the walls by large diameters, carried out by the personnel of the coke shop of the coke plant PJSC "ArcelorMittal Kryvyi Rih" and LLC "Koksokhimstanciya", combined with the full opening of the recirculation windows in these zones, improved the heating of the charge and significantly reduced the intensity of spills.

The experience gained was taken into account when locating the control devices at coke oven battery No. 5, which was put into operation later.

The article also formulates recommendations for adjusting the temperature regime of coking, depending on the grade and component composition, as well as the technological properties of coal charges.

Keywords: coke oven battery, stumping of coal charge, temperature in control verticals, location of burners along the length of the heating wall.

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