

ECONOMIC EFFICIENCY OF USING STEELMAKING EQUIPMENT WITH METAL MIXING METHOD OPTIMIZATION TAKEN INTO ACCOUNT

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Research methodology. To justify the economic feasibility of technological modernization at steelmaking the following methods are used: scientific generalization in technical and economic data mining and processing; comparative analysis to assess the depreciation of domestic and foreign steelmaking companies; the methodology of calculating the economic effects based on explicit and implicit costs to calculate economic efficiency of mixing method optimization.

Results. The necessity of reconstruction and modernization of domestic steelmaking companies and their transition to more efficient modern technologies of production is grounded. The ways of improving the effective use of fixed assets on the example of steelmaking equipment are considered. It is pointed out that the problem of mixing alloys in steel-teeming ladles was eliminated by rocking casting-ladle transfer car, which in turn contributed to loss of nodes at trolley movement. To solve this issue it is offered to install two argon plugs in steel teeming ladle. The proposal is appropriate for the implementation at PJSC «ArcelorMittal Krivoy Rog» as the economic saving of this modernization is to make 278256,445 UAH.

Novelty. The improved method of metal mixing in steel-teeming ladles by inert gas blowing through two plugs is developed, economic savings from introduction of this modernization at a steelmaking plant are proved.

Practical value. The ways of modernizing steelmaking equipment of metallurgical enterprises are proposed. The methodology for calculating the economic effects of the preposition implementation is provided. It is based on the most significant factors such as: liquid steel volume production; blower unit cost; average stability of steel-teeming ladle and its capacity.

Keywords: modernization, steel-teeming ladle, metal mixing, argon plug, economic effect.

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