

NUMERICAL INVESTIGATION OF THE EFFECT OF THE SCHEME OF AIR FLOW IN THE VORTEX FURNACE ON GASDYNAMIC PARAMETERS OF GAS FLOW AND COMBUSTION CHARACTERISTICS OF OLD SLEEPERS

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Abstract: The results of numerical calculations with the software package Fluent Ansys are presented for 6 different schemes of air supply in the vortex part of the furnace-satellite. The analysis of temperature fields in the furnace with and without sulfur compounds taken into account is provided. The values of the combustion efficiency of fuel have been calculated. Based on the results of numerical studies, the optimum scheme of supply of the secondary air in the furnace to ensure complete combustion of the reacting gases has been obtained.

Keywords: railway sleepers; furnace; combustion; solid fuel; furnace-satellite

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