

SUMMARY

Term paper

From discipline "Heating engineering of casting production"

Student groups FL-31

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On a theme: the "Crucible Furnace Industrial Frequency"

In the course work was designed crucible induction melting furnace.

Course work contained 24 pages of printed text and one A1 drawings.

Explanatory note consists of seven chapters and a list links.

The first section of the explanatory note is determined by the required amount carbon metal zavaltsi, the number of pig iron in metal zavaltsi period melting the charge, oxidation during melting, calculation of ore for oxidation of contaminants for calculation of ferroalloys and alloying deoxidation, slag calculation period melting and oxidation.

The second section provides calculation of the size of the working space of the furnace.

In the third selected lining of the furnace.

The fourth section is given furnace thermal calculation, which includes calculations themselves melting point of iron, energy efficiency, heat loss.

Also designed heat conduction through the wall of costs, under, cover furnaces, thermal radiation and total cost thermal costs.

The fifth section was determined power furnace that is 343 kW.

In the sixth section were determining electrical parameters and selected transformer type ЭОМР - 1000/10 -UHL4 potuzhnisty 400 - 76 kVA, voltage UV.N. = 6.0 - 6.3 - 10.0 - 11.0 kV voltage UN.N. = 510 - 85 V, with the number 11 and the switching oil cooling.

In the seventh chapter was designed cooling inductor. Inductor Made of copper tubes of circular cross section. The water temperature at the entrance inductor $t_{V1} = 20$ ° C, and the output of the inductor $t_{V2} = 25$ ° C. Daily water movement inductor turbulent.

Keywords: CRUCIBLE INDUCTION MELTING FURNACE, INDUCTOR,
CRUCIBLE