

## SUMMARY

pre-graduation practice report

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on theme "Plasma-arc remelting technology non-compact titanium charge"

The report deals with the pre-diploma practice remelting technology Noncompact charge, the use of this technology in the production and the possible advantages and disadvantages

Pre-graduation practice report includes 23 pages of printed text. The report includes introduction, basic information on the topic and conclusions.

The introduction provides general information about the non-compact titanium charge and possible methods of use.

In the basic information and information about waste management and characterization of titanium sponge substandard, and thermodynamics of interaction of impurity gas phase with the liquid titanium melting process parameters impact on the quality of ingot

As a result, pre-diploma practice an analysis of the literature and determined that at the first stage production of titanium metal produced 6% of hard sponge and its properties depend strongly on the concentration of impurities such as carbon, nitrogen, oxygen and hydrogen. It was established that the only impurity that is removed during refining, is hydrogen. It is shown that one of the promising methods of processing sponge fines may be melting method using plasma-arc furnace UP-100.

The work achieved the following results: Experimental evidence of the law of the square root of the interaction of hydrogen with liquid titanium in the PAR not only constant, but on alternating current. It is shown that an increase in power and a relatively large size bath use AC or DC in terms of absorption of hydrogen is equivalent, and its concentration in the metal depends on the partial pressure of the latter in the gas phase and the temperature of the bath.

Keywords:

Plasma-arc remelting, titanium, Substandard charge.