

*Vovk V. V. Reprocessing of nickel-containing wastes by plasma-arc remelting*

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The thesis deals with the development of basics of production by metallurgical methods of nickel-containing foundry-alloy for micro alloying pig- iron instead of conventionally used ferrous alloys by means of utilizing wastes produced at machine-building plants.

On the basis of the conducted analysis of structural and phase terms of wastes of electro-erosion treatment of machine-parts containing nickel alloys a new high-temperature process of carbon-thermal regeneration has been proposed. Fractal-and-factorial experiment has been conducted to determine the optimal conditions for obtaining regenerated product.

The detailed literature review on the issue of recycling, which contain nickel, to further their use as an alloying.

Recommendations from processing waste containing nickel, to obtain complex dopants and study the possibility of replacing commonly used ferroalloys proposed ligature.

Resulted options for receiving waste containing nickel, for further processing.

*Key words:* wastes of electro-erosion treatment of parts containing nickel alloys, regenerating processes, complex admixture, alloyage, pig-iron, nickel, plasma-arc remelting, recycling of wastesc.