

# MANUFACTURE AND TECHNOLOGY OF PRODUCTION OF ALLOYED STEEL WITH MICROCRYSTAL STRUCTURE

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Production of billets by casting processes allows controlling the composition and the structure of the billets' material at the expense of the modification of casting processes, temperature regimes, mechanical, magnetic, acoustic impacts on the flux and others. Metal's characteristics depending on the inner structure and crystallization conditions of the flux have been investigated.

*Alloying, overcooling, relief, structure, crystallizer, durability, ultra-dispersion, monostructure*

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## References

1. Dibrov I.A. State and prospects of development of foundry. Russia. Transactions of the 8<sup>th</sup> Congress of casters of Russia. Book 1, 2007, p.3-12.

2. Pelikh S.G. Optimization of metal's capacitance and reliability of cast parts. Foundry. №6. 2006, p.8 -16.

3. Pikunov M.V., Belyaev I.V., Sidorov E.V. Alloy crystallization and directional hardening of foundry. Vladimir. VGU, 2002. p.214-219.

4. Gavrilin I.V. Melting and crystallization of metals and alloys. Vladimir. VGU, 2000. p.260-267.