

The invention relates to metallurgy, in particular to the composition of high-strength cast iron with nodular graphite for the manufacture of cast parts of complex configuration. The cast iron contains, wt. %: carbon - 2.85-3.25, silicon - 3.3-4.0, manganese - 0.2-0.5, chromium - 0.05-0.20, magnesium - 0.035-0.055, rare earth metals - 0.005-0.015, titanium - 0.015-0.03, vanadium - 0.005-0.25, nickel - 0.4-0.6, calcium - 0.008-0.015, aluminum - 0.005-0.010, barium - 0.005-0.01, niobium - 0.005-0.15, nitrogen - 0.002-0.005, sulfur  $\leq 0.015$ , phosphorus  $\leq 0.05$ , iron - the rest. The invention contributes to the formation of a homogeneous ferrite metal base with an amount of ferrite of more than 93 % and an increase in the average values of mechanical properties in the cast state: the tensile strength  $\sigma_B$  increases by 22.3-30.1 %, the conditional yield strength  $\sigma_{0.2}$  - by 35.6-40.8 %, the relative elongation  $\delta$  - by 1.7-2.0 times. At the same time, the stability of the cutting tool during machining increases by 34-42 %.