CONCLUSIONS

1. Cr_3C_2-ScB_2, Cr_3C_2-TiB_2, Cr_3C_2-ZrB_2, Cr_3C_2-CrB_2, Cr_3C_2-ZrB_2, Cr_3C_2-CrB_2 alloys were investigated , it was established that the fluctuation diagrams of these systems belong to the eutectic type.

2. Coordinates of the eutectic transformations of Cr_3C_2-ScB_2 systems (25% by weight ScB_2, T_E, = 1250 ˚C), Cr_3C_2-TiB_2 (12% by weight TiB_2, T_E, = 1480 ˚C), Cr_3C_2-ZrB_2 (10 wt. % ZrB_2, TE, = 1700 ˚C) and the corresponding fluctuation diagrams were constructed.

3. It was determine that the hardness of the eutectic has a lower reduction in hardness compared with the individual phases of the carbide of chromium and diborides, as well as in the Cr_3C_2-ScB_2 system , is equal to 13,1 GPa, in Cr_3C_2-TiB_2 15,3 GPa, Cr_3C_2-ZrB_2 14,8 GPa.

4. It was established that for the Cr_3C_2-MeB_2 systems, the ratio of the melting points of the eutectic to the sum of melting points of the components is a constant value of 0.32.

5. The dependence of the melting temperature of the eutectic on the molar content of the diboride according to the specified values of the melting point of the eutectic was built, according to the constant in alloys Cr_3C_2-50 mol% ScB_2 (T_E = 1326 ˚C), in Cr_3C_2-28 mol% TiB_2 (T_E = 1500 ˚C), Cr_3C_2-15 mol% ZrB_2 (T_E = 1630 ˚C).

6. The melting point of the eutectic in the Cr_3C_2-CrB_2 system (T_E = 1310 ˚C) and the chromium diboride content (about 53 mol%) was determined. The hardness of this alloy is 19 GPa.

7. The scientific and technical relevance has been substantiated and a business project on the research topic has been developed.

8. Measures that ensure healthy working conditions and the principles of ensuring emergency in emergency situations were developed.