CONCLUSIONS

As a result of the research of Al-Mo alloys, the following was made and established:

1) 2 fused samples (mass percentages): Al-5Mo, Al-60Mo and a gradient sample in the form of an aluminum matrix with a plate of molybdenum in a vacuum-arc melting furnace with an argon atmosphere were carried out.

2) Microstructures and phase composition of samples: Al-5Mo, Al-60Mo and a gradient sample in the form of an aluminum matrix with a plate of molybdenum with the help of light microscopy, scanning electron microscopy, electron probe microanalysis and X-ray phase analysis were performed.

3) The phase composition of the obtained samples of the alloy is determined. It has been established that the phase composition of the Al-5Mo sample, consists of the following phase ratio: 84% Al and 16% $Al_{17}Mo_4$. Sample has Al-60Mo phase ratio of 92% Al_8Mo_3 and 8% $AlMo_3$.

4) The order of formation of crystalline phases in an alloy with a gradient of aluminum concentrations, with increasing the concentration of aluminum, is established the next order of formation of the phases: (Mo) → Al_8Mo_3 → $Al_{17}Mo_4$ → $Al_{12}Mo$.

5) The Al-60Mo alloy revealed the formation of metastable eutectics, consisting of two phases: Al_8Mo_3 and $AlMo_3$. The eutectic point is approximately near 55% Mo at 1510 °C. This information can be used in the development of the industrial technology of the Al-Mo ligature.