

DEPOSITING OF MULTILAYER MULTICOMPONENT COATINGS TO INCREASE THE LIFETIME OF CUTTING TOOLS*

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In this paper, the physicochemical and tribotechnical properties of multicomponent TiB/TiBN and TiCrB/TiCrBN coating systems are investigated to reduce the wear of the material surface.

Coating deposition is carried out by combining of method of ion-plasma nitriding and vacuum-arc plasma-assisted deposition of functional coatings. As a result of the experiments, the values of microhardness and nanohardness of the deposited coatings were obtained. Tribotechnical tests were also carried out.

In the course of the work, tests of cutting tools with multilayer coatings of TiB/TiBN and TiCrB/TiCrBN systems were carried out.

According to the test results, the wear resistance of the TiCrB/TiCrBN coated cutting tool increased by four times. At the same time, the coefficient of friction with the addition of chromium in the film decreased from 0,5 to 0,2.

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