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**Temperature Dependence of the Front Lathe Tool Surface on Evolutionary Changes in the Cutting System**

**Abstract:** The research aims at modeling the distribution of temperature on a surface of heavily loaded tribocontact on the front surface of a chip lathe, taking into account the evolutionary changes of tribo-deformation parameters. Determination of the surface temperature was carried out based on the mathematical modeling of the data obtained during the experiments on lathe turning of 15X2HMΦA steel with the plates of T15K6 hard alloy. The length of the chip contact with a front surface and the chip shrinkage coefficient used for calculation, as well as the mean temperature in the cutting area have been determined during the resistance tests. Temperature distribution on the front surface of a chip lathe has been modeled in two variants: taking into account the evolutionary adjustment of the chip shrinkage coefficient and related parameters (sliding velocity and thickness of the plastically deformed layer in a chip), and without taking into account these adjustments. It has been found that modeling taking into account the changes of the tribological parameters allows us to obtain the estimated values of the front surface temperature closest to the mean temperature recorded experimentally in the cutting area.