# Features of the structure of the titanium alloy VT6 surface layer after deforming cutting and subsequent thermochemical treatment

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*The article considers the effect of preliminary processing by deforming cutting (DC) on the thickness, structure and hardness of the strengthened diffusion layer during the subsequent nitriding and oxidation of the titanium alloy VT6. It is found that the temperature of the phase transition is exceeded when obtaining the finned macrostructures by deforming cutting due to intense mechanical and thermal effects. Subsequent thermochemical treatment of macrostructures obtained by DC results in forming the strengthened layer along the entire perimeter of the rib. It is shown that the most effective method of thermochemical treatment for macrostructures obtained by DC is oxidation, since a nearly twofold increase in the thickness of the strengthened layer has been achieved as well as greater hardness with a much shorter processing time.*

***Keywords:*** *titanium alloys, deforming cutting, thermochemical treatment, diffusion layer, microhardness*

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