

WEAR PROPERTIES OF SHOT PEENED SURFACES OF 36NiCrMo16 ALLOYED STEELS UNDER LUBRICATED CONDITION

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ABSTRACT

Shot peening processing is used to increase static and dynamic strength of the working part. Not just a change of surface layers characteristics but also a change of tribological characteristics can be obtained by using this method.

Results of laboratory investigations presented and analysed in this paper are related to effects of final machining by shot peening as a surface plastic forming, and they are further tribologically validated by wear tests using 36NiCrMo16 alloyed steel.

Tribological investigations showed that total effects of final machining by shot peening have positive influence on tribological behaviour of machined parts and that they can contribute to improvement of tribological level of tribomechanical elements.

Keywords: shot peening, wear, friction, alloy steel.

AIMS AND BACKGROUND

Character and intensity of tribological process and consequently exploitation characteristics of tribomechanical elements depend on microgeometry of contact surfaces. Existence of optimum roughness can be discussed from aspects of friction and wear intensity. Roughness variation in both directions, if compared to its optimum value, is followed by increase of the friction coefficient and wear intensity. Parameters of shape and micro-roughness, such as radius of asperities tips and exponent of the bearing curve of profile, are of special significance for tribological processes development.

Optimum values do not have universal character, but are conditioned by spectra of parameters of working conditions and contact pair structure. In case when

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