

## Mechanical Behavior of 16NC6 Steel Hardened by Burnishing

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**Abstract :** This work relates to the physico-geometrical aspect of the surface layers of 16NC6 steel having undergone the burnishing treatment by hard steel ball. The results show that the optimal effects of burnishing are closely linked to the shape and the material of the active part of the device as well as to the surface plastic deformation ability of the material to be treated. Thus the roughness is improved by more than 70%, and the consolidation rate is increased by 30%. In addition, modeling of the rational traction curves provides a work hardening coefficient of up to 0.3 in the presence of burnishing.

**Keywords :** 16NC6 steel, burnishing, hardening, roughness

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