

Burnishing Effect on the Mechanical Characteristics of 100C6

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Abstract : This work relates to the physico-geometrical aspect of the surface layers of 100C6 steel having undergone the burnishing treatment by hard steel ball. The application of tip diamond burnishing promotes better roughness compared to turning. In addition, it allows the surface layers to be consolidated by work hardening phenomena. The optimal effects are closely related to the parameters of the treatment and the active part of the device. With an 80% improvement in roughness resulting from the treatment, burnishing can be defined as a finishing operation within the machining range. With a 40% gain in consolidation rate, this treatment is an efficient process for material consolidation.

Keywords : 100C6 steel, burnishing, hardening, roughness

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