

## Analysis of Selected Aspects of Turned Bearing Rings Regarding Required Workpiece Quality

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An article deals with an analysis of selected aspects of heat-treated bearing rings during machining and comes up with a solution (a machining operation) leading to improving efficiency of a machining process (i.e. an elimination of a generally expensive cutting technology when the same surface integrity is kept) lying in the series of samples that would be tested experimentally under university conditions (a workroom C2 of Department of Machining Technology FSI VUT in Brno) using a CNC turning lathe SP 280 SY.

A theoretical part focuses on a characteristics and analysis of a given component including an applied material 100Cr6 from which bearing rings are made. A practical part deals with an analysis and evaluation of a residual tension in a surface layer (Barkhausen noise: BN) using the device Rollscan 350. The article also comes up with a solution of an issue of surface integrity after a turning operation of bearing rings. The surface integrity is analysed with a touch measuring device (the device with an inductive sensor Form Talysurf Intra – Taylor Hobson) and a contactless device Talysurf CCI Life – Taylor Hobson.

The article ends with an analysis and evaluation of assessed aspects applied during turning of heat-treated bearing rings regarding the required workpiece quality.

**Keywords:** Bearing Rings, 100Cr6, Turning Operation, Workpiece Quality, Surface Integrity, Residual Tension

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