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### **ACCEPTED MANUSCRIPT**

# THE MACHINING PROCESS AND MULTI-SENSOR MEASUREMENTS OF THE FRICTION COMPONENTS OF TOTAL HIP JOINT PROSTHESIS

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#### Abstract

The paper presents issues concerning the manufacturing process and investigation of surface topography of polymeric sockets and ceramic balls incorporated into total hip joint prosthesis. In the manufacturing process of friction pairs, a crucial role is played by the type and mechanical properties of a material as well as the stages of machining process. The produced surface topography is then checked and evaluated against the requirements of the standard ASTM F2033-12 which refers to the methods for measuring the permissible limits of dimensional tolerances, departure from roundness, and surface finish (defects and roughness parameters) of the examined components. The measurements of surface topography were

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