Evaluation of Cutting Forces and Surface Roughness after Machining of Selected Materials

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This article deals with the evaluation of changes in mean values of the individual components of cutting forces and measuring the roughness parameters after machining variable cutting conditions such as cutting speed and feed rate. Were evaluated 3 materials from different classes' machinability: steel 14109, alloy CuZn40Pb2 and brass AlCu4PbMg. The materials have been chosen with respect to their use in the extrusion method of the ECAP. The experiment was carried out on the machine SUI 40, the forces were measured on a dynamometer KISTLER 9441 and on the roughness equipment Hommel Tester T2000. All measurements will be evaluated in tables and graphs. The results could be used in abbreviated testing machinability as indicative.

Keywords: Machining; measuring; cutting forces; surface roughness

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