HIGH-PRODUCTION LATHE-TURNING WITH Ra ≤ 1µm

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At classical machining with a tool having defined tip radius, the shape of tip is copied onto the machined surface of workpiece. Among the highest height of profile unevenness \( R_z \), shift \( f \) and tip radius, the analytical relation is valid, by which increasing of \( f \) strongly increases \( R_z \). This is the main obstacle in increasing machining productivity. The solution is in increasing the tip radius of tool. Within enormous increase of \( r_\varepsilon \) even by roughing, the medium arithmetic height of unevenness of machined profile \( Ra \) less than 1µm can be obtained. This contribution analyses this option.

Keywords: machining, workpiece, surface roughness, tool

REFERENCES