

## The Influence of Cutting Parameters on Economic and Quality Factors of the Turning Machining Process\*

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### Abstract

The article presents the subject of machining of a C55 carbon steel shaft by turning. The test workpiece was divided into six sections of equal width. After processing, measurements of the geometric structure were carried out. The impact of changing cutting parameters on machining time, manufacturing costs and the quality of the surface layer represented by the surface roughness parameter  $Ra$  was examined. The influence of cutting speed and tool feed on the quality and processing time was examined. As a result of the analysis, optimal roughing, shaping and finishing machining parameters were proposed in terms of manufacturing costs and product quality.

**Keywords:** manufacturing costs, economic factors, cutting tools, cutting process