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Modern circle-segment end mills analysed by new developed software for processing and analysing of the cutting forces records

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Abstract. At present, 5-axis machining is often realized with ball end mills that do not achieve the advantages of the modern circle-segment end mills. In recent studies, these tools have been compared concerning the quality of the machined surfaces, machining times and cutting forces. An essential part of the research was an analysis of the force loading of the used tools. To get accurate data about force acting during the machining process, it was necessary to undergo experimental measuring using a cutting force dynamometer. For a force records analysis, the new software was developed based on the MATLAB platform. Evaluated results obtained by the new software are presented in the paper and compared with recent studies.

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