Quality of the Cutting Tool Microgeometry for Machining Aluminium Alloys

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Modern cutting tools with high quality attributes are very important factors for companies that want to increase their production efficiency and product quality. Cutting tool properties include high durability, endurance and cutting power. Quality shapes and surfaces of cutting edge micro and macrogeometry are also important. This article deals with cutting edge microgeometry on sintered carbide end mill tools. Drag finishing technology is used for preparation of cutting edge microgeometry. Two process media are used during the experiment. Due to the different process media, the final surface quality will also be different. Nowadays, cutting edge preparation is one of the basic but inseparable parts of development and production of cutting tools. Microgeometry quality affects the behaviour of cutting tools during the machining process. The behaviour mainly includes cutting forces, friction and vibration. The impacts of drag finishing on the functional surfaces of the cutting tool are investigated in this article. An IFM G4 microscope is used for measuring the cutting edge microgeometry.

Keywords: Cutting edge modification, Cutting edge microgeometry, Drag finishing, Surface quality

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