Influence of Cutting Conditions on Profile Milling of INCONEL 738LC Alloy

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This article presents particular results from a long term research focused on machining of INCONEL alloys. As a representative of this group of material INCONEL 738LC is selected and the article presents results of different experiments conducted. The behavior of material under different conditions was evaluated with focus to define cutting condition that can be recommended as suitable cutting conditions for profile milling of material. Basic problems of profile milling are exposed with focus to the respective material. Several machining experiments are explained and archived results are discussed. Effect of tool geometry and geometrical constraints and relations during profile milling is defined. Tool wear and cutting forces were measured and evaluated. The final conclusion is a recommendation for successful machining of given material.

Keywords: Inconel 738LC, profile milling, CAM, cutting force, tool wear

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