ANALYSIS OF THE EFFECT OF GURDI (DRILLING) AND COOLING PARAMETERS ON BURR FORMATION OF CNC ROUTER MILLING MACHINE RESULTS ON ALUMINUM SHEET 1100

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ABSTRACT

In the machining process, one of the things that cannot be released is the occurrence of burr formation or chip that sticks to the moment after the deduction process is carried out. To reduce burr formation is usually by determining good cutting parameters and given a cooling medium that functions to control the temperature during lubrication. This study aims to determine the burr formation on the 1100 aluminum sheet material using the machining method of milling raouter with the depth of feeding in accordance with the thickness of the workpiece. The spindle rotation used is 1200 rpm with a variation of the cutting tool eyes that is 4 mm, 6 mm, and 8 mm of the HSS tool brand and variations of the cooler namely air, coolant, oil. This research uses taguchi and ANOVA methods by measuring burr formation using USB microscope with 1200 x magnification. Then get the smallest burr formation value of 0.16819 mm with the parameter arrangement of the diameter of the drill bit 6, (f) 40 mm / minute, oil coolant. As for the Exit (outlet) the smallest burr formation of 0.27211 mm in the arrangement of the diameter of the tool diameter of the 4, (f) 50 mm / minute oil cooler.

Keywords: *burr formation, aluminum sheet 1100,, taguchi, ANOVA. USB microscope,*