

ANALYSIS OF MACHINING PARAMETERS FOR THE OPTIMIZATION OF SURFACE ROUGHNESS OF STAINLESS STEEL AISI 202 IN CNC FACE MILLING PROCESS

PARVEEN SAINI¹ & SURAJ CHOUDHARY²

¹Department of Mechanical Engineering, E-Max Institute of Engineering and Technology, Ambala, Haryana, India

²Department of Mechanical Engineering, Galaxy Global Group of Institutions, Ambala, Haryana, India

ABSTRACT

Face milling is a very common method for metal cutting and the finishing of machined parts. The stainless steel AISI 202 is used as work piece because of its widely use in various industries. Surface finish has been one of the most important considerations in determining the machinability of materials. The input machining parameters were being consider in this research are spindle speed, tool feed and depth of cut for the surface roughness.. The tool used for the face milling operation is carbide inserted face milling cutter. The Taguchi's L9 orthogonal array has been used to design the combinations of parameters for the experiments. The optimum levels of input parameters have been found by Taguchi's method are 2500 rpm spindle speed, 200 mm/min tool feed and 0.2 mm depth of cut. For the above results one more experiment was conducted to confirm these results and test results were found to agree with the theoretical conclusions.

KEYWORDS: Machining Parameters, Surface Roughness, Stainless Steel, CNC Face Milling