International J.of Multidispl.Research & Advcs. in Engg.(IJMRAE),
ISSN 0975-7074, Vol. 4, No. IV (October 2012), pp. 35-42

EFFECT OF PROCESS PARAMETERS ON THE SURFACE ROUGHNESS OF CNC LATHE

AJAY KUMAR[1], H. S. KHATAK[2], MANJEET CHABRA[3] AND MAHESH KUMAR[4]

[1] Research Scholar, [2] Head of Department, [3] Associate Professor, [4] Research Scholar,
Deptt. of Mechanical Engineering, NCCE Israna, Panipat (Haryana), India

Abstract

Machining of the die steel is very difficult. With the more precise demands of modern engineering products, the control of surface texture together with dimensional accuracy has become more important. This investigation outlines the Taguchi optimization methodology, which will be applied to optimize process parameters in CNC Lathe Machining. The study is conducting on machining operation in hardened die steel EN8. The processing of the job will be done by H11 Die steel tool on CNC Lathe Machine under finishing conditions. The process parameters are cutting speed, feed rate and depth of cut. The experiments will be conducted by using orthogonal array as suggested by Taguchi. Signal-to-Noise (S/N) ratio and Analysis of Variance (ANOVA) are employed to analyze the effect of process parameters on surface roughness. MINITAB-15 software is also used for analysis and to find out the result.

Keywords:- Taguchi method, Minitab-15, CNC turning, surface finish.