ABSTRACT

The metal cutting is very essential to try for high metal removing rate and the best product quality. The major problem in achieving high productivity and best quality is short life span of a tool. The methodology of Modified Taguchi optimization method for simultaneous minimization and maximization of Surface roughness (Ra), machining time and material removal rate of EN24 steel affect the aesthetical aspect of the final product and hence it is essential to select the best combination values of the drilling process parameters to minimize as well as maximize the responses. The experiments was carried out by a CNC lathe, using physical vapour deposition coated, **Al-Ti-N PERTURA** coated and uncoated (HSS) drilling tool bit for the machining of **EN24** . Experimentally found fourth specimen (RPM -500) (Feed -0.04 mm/Rev) (PECKING 2) obtained good minimum Surface roughness finish and geometrical exactness was obtained on fifth specimen (RPM -500) (Feed -0.06 mm/Rev) (PECKING 3). Through the medium speed, lower feed and higher pecking rate. Through this experimental identified coated drill bit executed good performs compared than uncoated drill bit.

KEYWORDS: *Dry drilling, Taguchi method, Analysis of Variance*