

ABSTRACT

For any manufacturing industry that uses machining operation like turning operation, Material Removal Rate and Surface Roughness are the important parameter which is to be considered for quality product. The material selected for the experiment is DELRIN 500& TUFLON. Turning is one of the important processes that is widely used to create cylindrical components and it is also used for surface finish the product to make it smooth. Nowadays, plastic materials are widely used for making variety of components. To make a component with high dimensional accuracy, turning operation is used. The main concerns of turning are tooling cost and the effect of process on machinability characteristics. By observing, the output responses value exhibits minimum Roughness average, along with high degree precision of geometrical quality but the same time geometrical errors were found. Experimentally found third specimen (RPM -750) (FEED -0.08 mm/Rev) and (NOSE RADIUS 0.8) obtained minimum geometrical error along with minimum Surface roughness.

Keywords: CNC Turning, Delrin, Ra, Co -axial error, MRR