

## Optimizing of Machining Parameters of Plastic Material Using Taguchi Method

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**Abstract :** This paper applies Taguchi Optimization Method in determining the best machining parameters for pocket milling process on Polypropylene (PP) using CNC milling machine where the surface roughness is considered and the Carbide inserts cutting tool are used. Three machining parameters; speed, feed rate and depth of cut are investigated along three levels; low, medium and high of each parameter (Taguchi Orthogonal Arrays). The setting of machining parameters were determined by using Taguchi Method and the Signal-to-Noise (S/N) ratio are assessed to define the optimal levels and to predict the effect of surface roughness with assigned parameters based on L9. The final experimental outcomes are presented to prove the optimization parameters recommended by manufacturer are accurate.

**Keywords :** inserts, milling process, signal-to-noise (S/N) ratio, surface roughness, Taguchi Optimization Method

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