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# Investigate the effect of using sunflower oil as a lubricant during turning operation of stainless steel


## Abstract

The study was focused on the effect of using Sunflower Oil as a lubricant during turning operation of Stainless Steel. Cutting speed, feed rate and depth of cut were set as the control factor for the machining operation. An Orthogonal Array of L4 (23) was used. Then ANOVA analyses were carried out to identify the significant factors affecting surface roughness, Ra and tool wear, Vb, and determined the optimal cutting combination design by seeking the responses and signal-to-noise ratio. Finally, the confirmations run can optimize the optimal parameters and cutting fluid for surface roughness and tool wear.


**Keywords:** Sunflower Oil; Taguchi Method of Orthogonal Array; ANOVA; Surface Roughness; Tool Wear