



## Performance of Uncoated and Baln/Tin Coated Tool on Aisi410 in CNC Turning

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**Abstract :** Stainless steels are classified according to their crystalline structure with the addition of nickel content and Martensitic stainless steel (AISI410) is one of the categorized metals with a high resistance to pitting corrosion with variety of applications but making of product is difficult. CNMG uncoated carbide tool and BAIN/TiN coated cutting tool is selected for CNC turning on AISI410 under dry conditions. This turning process is conduct in three different cutting conditions of cutting speed, feed and depth of cut varied to determine the output response characteristics like surface roughness, material removal rate and tool wear. The present research work approaches to optimization of turning process parameters using grey relational analysis and the experiments were conducted according to within the intervals recommended by the tool manufacturer.

**Keywords:** AISI410; CNC Turning; Grey relational analysis; coated cutting tool.

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