

**THERMAL ANALYSIS OF SURFACE GRINDING PROCESS BY
USING DESIGN OF EXPERIMENTS
(PART – II)**

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Abstract

Grinding in general is a very complex material removal operation involving cutting as well as ploughing and rubbing between the abrasive grains and the work material. The high temperatures are major source of thermal damage on the machined surface. In the previous work a simple moving heat source model has been developed to estimate maximum work piece surface temperature during surface grinding process in dry condition. The model has validated by using Design of Experiments (DoE) techniques. In this paper the previous model is further developed to find average work piece surface temperature during surface grinding process in dry condition. Experimentation is done on ferrous as well as non – ferrous materials.

Keywords: Dry Grinding, Moving Heat Source, Average workpiece surface temperature, Thermal Damage, Workpiece Burn, and Design of Experiments.