Analyzing and Modeling the Influence of Workpiece Thickness on Geometry of Slot Machining Wire EDMs (Conference Paper)

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Abstract
Wire erosion discharge machining is one of the non-traditional machining processes which use heat energy of spark to remove material from work piece. Process parameters have given the major influence of the cutting performance on wire EDM. Parameters such as pulse on time, peak current, wire diameter and discharge current are well known for their effect to surface roughness and material removal. This present work aimed to investigate the influence of thickness, current and wire speed on the material removal. The surface roughness and hardness have been analyzed. It was concluded that surface roughness increase with the increase of thickness and current, and decrease when wire speed increase. Meanwhile, as work piece thickness increases, the surface hardness increase but it decreases when current and wire speed increases. © 2018 IEEE.

Author keywords
Hardness, surface roughness, Wire EDM

Informed keywords
Engineering controlled term: Hardness, Machining, Wire
cutting performance, discharge current, Machining surfaces, Non-traditional machining, Process parameters, Speed increase, Surface hardness, Wire-EDM

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