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Proceedings - 2015 4th International Conference on Advanced Computer Science Applications and Technologies, ACSAT 2015

25 May 2016, Article number 7478715, Pages 35-38

4th International Conference on Advanced Computer Science Applications and Technologies, ACSAT 2015; Kuala Lumpur, Malaysia; 8 December 2015 through 10 December 2015; Category numberP5790; Code 121882

## 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 surface roughness and recast layer. The present work aimed to investigate the influence of: thickness, current and wire speed on the machining surface. The surface roughness and hardness have been analyzed assessed. It was conclude that surface roughness increase with the increase of thickness and current, and decrease when wire speed increase. Meanwhile, as work piece thickness increase, the surface hardness increase but it decreases when current and wire speed increases. © 2015 IEEE.

### Author keywords

hardness; surface roughness; Wire EDM

### Indexed keywords

**Engineering controlled terms:** Hardness; Machining; Wire

Cutting performance; Discharge currents; Machining surfaces; Non-traditional machining; Process parameters; Speed increase; Surface hardness; Wire-EDM

**Engineering main heading:** Surface roughness

ISBN: 978-150900424-9 Source Type: Conference Proceeding Original language: English

DOI: 10.1109/ACSAT.2015.18 Document Type: Conference Paper

Sponsors: Publisher: Institute of Electrical and Electronics Engineers Inc.

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