

**MOTOR CURRENT TO PREDICT SURFACE SMOOTHNESS QUALITY
ON THE TAPER HOLE OF ANCHOR BLOCK**

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, or material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

MOTOR CURRENT TO PREDICT SURFACE SMOOTHNESS QUALITY ON THE TAPER HOLE OF ANCHOR BLOCK

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Surface Roughness measurement is one big problem on the Anchor Block making process. The problem is caused of the weight of product is around of 30 – 50 kg / piece, volume of product is around 1100 pieces / month, and the distance of the quality room and the production line is around 800 meter. We want find some solution of this problem by creating a device that can convert the current on the machine spindle to be roughness level value.

Current on the spindle motor is one thing that always present on the milling manufacture process. By knowing the characteristic of the machine and the process, then the produced current can used as a parameter comparison of mechanical output for example surface roughness on the hole of anchor block.

By modify current measurement device to be Roughness Predicting Device, with add the equation $y_2 = (-0.00037) * x_1^2 + 0.185 * x_1 + 0.0$ in the control of the device, with the tolerance of the Roughness Predicting Device is $\pm 10\%$, and using current on the spindle motor as a parameter input for the device. We can directly compare mechanical output (surface roughness) on the machine without bringing the work piece to the quality room.

Keywords: Spindle Motor Current, Surface Roughness, Roughness Predicting Device



DEDICATION

I dedicate this work for the better future of ATMI Cikarang, the place that I work



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Praise be to the Lord, for all his grace and guidance, so that the Author can finish his thesis with the title **“MOTOR CURRENT TO PREDICT SURFACE SMOOTHNESS QUALITY ON THE TAPER HOLE OF ANCHOR BLOCK “**

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