

SURAT TUGAS

Nomor: 152-R/UNTAR/PENELITIAN/VIII/2024

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Judul : Analysis Of The Influence Of Light Intensity And Temperature On Work Speed. Case Study of 4 Color Pen Assembly.
Nama Media : ICASTE 2024
Penerbit : Universitas Tarumanagara
Volume/Tahun : 25 April 2025
URL Repository : -

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Print Security : 68bb3b35b7cecfdf513d08a19f87508b

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PAPER TITLE :

Analysis Of The Influence Of Light Intensity And Temperature On Work Speed. Case Study of 4 Color Pen Assembly

Hanoi, Vietnam, April 25th, 2024



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No. : 009- ICASTE/EXT/UNTAR/IV/2024

ABSTRACT ACCEPTANCE NOTIFICATION

Paper ID : **009-ICASTE**
Title : **Analysis Of The Influence Of Light Intensity And Temperature On Work Speed. Case Study of 4 Color Pen Assembly**
Author : **I Wayan Sukania, Lamto Widodo, Rymartin Jonsmith Djaha, Michael Hidayat**

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ANALYSIS OF THE INFLUENCE OF LIGHT INTENSITY AND TEMPERATURE ON WORK SPEED. CASE STUDY OF 4 COLOR PEN ASSEMBLY.

I Wayan Sukania¹, Lamto Widodo², Rymartin Jonsmith Djaha³, Michael Hidayat⁴

^{1, 2, 3, 4} Faculty of Engineering, Universitas Tarumanagara Jakarta

Email: wayans@ft.untar.ac.

Email: lamtow@ft.untar.ac.id

Email: rymartindjaha@gmail.com

Email: michaelhidayat2002@gmail.com

Enter : 05-04-2024, revision: dd-mm-yyyy, accepted for publication : dd-mm-yyyy

ABSTRACT

Ergonomics plays an important role in achieving work comfort. By using ergonomic principles, a work environment and work station can be designed in such a way that suits human characteristics and limitations so that humans can work efficiently, effectively, productively, safely and comfortably. Work environment factors that are in accordance with the characteristics of the people who work in it ensure optimal productivity and quality of work results. Two influential work environment factors are work space temperature and lighting. In general, a comfortable working temperature and appropriate lighting have a positive impact on performance. The more thorough the work that must be done, the brighter the lighting required. This research was conducted to find the characteristics of the work speed of the 4-color pen assembly process associated with variations in work room temperature and variations in light brightness in the workplace. The research took respondents from Untar industrial engineering students. Based on theoretical studies, research data and similar research studies, it was found that work environmental factors, namely temperature and lighting, influence the speed of assembling 4-color pens. The speed of assembling a 4 color pen can be done the fastest under normal temperature conditions and normal lighting. Extreme conditions, namely cold temperatures, hot temperatures, too bright and dim lighting result in longer assembly speeds. The recommended work space climate is a temperature of 24 C and normal lighting of 200 – 300 lux.

Key words: *temperature, bright light, working speed.*