

ABSTRAK

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FAKTOR KARAKTERISTIK DAN RADIASI SINAR LAS TERHADAP KELELAHAN MATA PEKERJA BENGKEL LAS TAHUN 2025

xvi + 55 Halaman + 8 Tabel + 7 Lampiran

Bengkel pengelasan yang berada di kota Surabaya dan Sidoarjo merupakan salah satu sektor industri informal yang memiliki tingkat risiko yang tinggi, terutama terhadap kesehatan mata akibat paparan sinar radiasi UV yang berpotensi menyebabkan kelelahan mata. Penelitian ini bertujuan untuk menganalisis faktor karakteristik pekerja (usia, masa kerja, lama paparan, penggunaan APD), dan radiasi sinar las terhadap kelelahan mata pada pekerja bengkel las di Kota Surabaya dan Sidoarjo.

Penelitian ini menggunakan pendekatan kuantitatif dengan desain analitik observasional dan metode *cross sectional*. Populasi seluruh tenaga pengelasan sebanyak 32 responden. Pengambilan sampel menggunakan *simple random sampling* dengan cara diundi, diperoleh sampel sebanyak 30 responden. Variabel pada penelitian ini adalah karakteristik yang meliputi usia, masa kerja, lama paparan, penggunaan APD pengelasan dan kelelahan mata pekerja las. Data yang diperoleh melalui wawancara, pengukuran dan uji analisis menggunakan Korelasi *Pearson*.

Hasil menunjukkan bahwa masa kerja tidak memiliki hubungan terhadap kelelahan mata pekerja las, tetapi pada usia, lama paparan, dan radiasi sinar UV las memiliki hubungan terhadap kelelahan mata pekerja las. Dalam penggunaan APD pekerja masih abai. Hasil uji Korelasi *Pearson* menunjukkan bahwa Terdapat hubungan antara Usia ($p=0,004$), Lama paparan ($p=0,001$), APD ($p=0,001$) dan radiasi sinar las ($p=0,000$) terhadap kelelahan mata pekerja las. Namun tidak ditemukan hubungan antara masa kerja ($p=0,662$) terhadap kelelahan mata.

Penelitian ini perlu meningkatkan keselamatan kerja terhadap para pekerja untuk melengkapi dan mematuhi dalam penggunaan APD guna menjaga keselamatan dan kesehatan kerja yang memberikan rasa aman nyaman saat melakukan proses pengelasan.

Kata Kunci : Kelelahan mata, Radiasi sinar las, dan Karakteristik Pekerja Pengelasan.

Referensi : 29 (23 jurnal + 3 buku + 3 Peraturan)

ABSTRACT

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**FACTORS WORKER CHARACTERISTICS AND WELDING LIGHT RADIATION
ON EYE FATIGUE AMONG WELDING WORKSHOP WORKERS IN 2025**

xvi + 55 Pages + 8 Tables + 7 Appendices

Welding workshops in Surabaya and Sidoarjo constitute a segment of the informal industrial sector characterized by a high level of occupational health risk, particularly in relation to eye health due to exposure to ultraviolet (UV) radiation, which has the potential to induce eye fatigue. This study aims to examine the association between worker characteristics (age, length of employment, duration of exposure, and use of personal protective equipment) and welding light radiation with the occurrence of eye fatigue among welding workshop workers in Surabaya and Sidoarjo.

This study employed a quantitative approach with an observational analytic design and a cross-sectional method. The population of all welding workers, totaling 32 respondents. The sampling technique used was simple random sampling through a lottery method, resulting in a sample of 30 respondents. The variables in this study included worker characteristics such as age, length of employment, duration of exposure, use of personal protective equipment (PPE), and eye fatigue among welding workers. Data were collected through interviews, direct measurements, and were analyzed using the Pearson correlation test.

The results of this showed that length of service had no relationship with eye fatigue among welding workers, while age, duration of exposure, and UV radiation from welding had a significant relationship with eye fatigue. In terms of PPE usage, workers were still negligent. The Pearson correlation test results showed that there was a relationship between age ($p = 0.004$), duration of exposure ($p = 0.001$), PPE usage ($p = 0.001$), and welding light radiation ($p = 0.000$) and eye fatigue among welding workers. However, there was no relationship between length of service ($p = 0.662$) and eye fatigue.

The study needed to improve occupational safety for workers by encouraging them to complete and comply with the use of personal protective equipment (PPE) in order to maintain occupational health and safety, providing a sense of security and comfort during the welding process.

Keywords : Eye Fatigue, Welding Light Radiation, Welding Worker Characteristics.

References : 29 (23 Journals + 3 Books + 3 Regulation)