

## Analisis kelelahan mata akibat paparan sinar ultraviolet-B pada pekerja las di PT. Jaya Asiatic Shipyard Batam tahun 2012

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### Abstrak

**ABSTRAK** Bahaya radiasi Ultraviolet-B di tempat kerja yang dihasilkan oleh proses pengelasan merupakan salah satu faktor yang dapat menyebabkan terjadinya gangguan kesehatan dan penyakit akibat kerja pada pekerja PT. Jaya Asiatic Shipyard Indonesia ? Batam, yang mana dalam proses produksinya melakukan proses pengelasan dalam penyambungan logam mempunyai potensi untuk terjadinya kelelahan mata pekerja las. Penelitian ini bertujuan untuk melihat apakah terjadi peningkatan keluhan kelelahan mata sebagai akibat paparan radiasi Ultraviolet-B pada pekerja las di workshop Hull perusahaan. Faktor yang berhubungan dengan keluhan kelelahan mata yang diteliti adalah tingkat radiasi Ultraviolet-B, serta beberapa faktor yang berkaitan dengan individu yaitu umur, lama paparan dan pemakaian Alat Pelindung Diri. Penelitian ini dilakukan dengan disain deskriptif analitik dengan pendekatan cross sectional untuk menemukan fakta dengan interpretasi yang tepat dan akurat melukiskan gejala-gejala kelelahan mata pada kelompok atau individu pekerja las. Pengumpulan data dilakukan dengan mengukur tingkat radiasi Ultraviolet-B memapar pekerja las, serta mendapatkan data umur, lama paparan, dan pemakaian Alat Pelindung Diri melalui kuesioner. Dari hasil penelitian diketahui bahwa 90% pekerja las di workshop Hull mengalami keluhan kelelahan mata. Setelah dilakukan analisis data, ternyata keseluruhan pekerja las terpapar dengan tingkat radiasi yang dihasilkan oleh proses pengelasan yang melebihi nilai ambang batas. Analisis hubungan antara faktor-faktor yang mempengaruhi keluhan kelelahan mata pekerja ternyata tidak terlihat adanya hubungan. Dari penelitian ini dapat disimpulkan bahwa dari hasil pengukuran radiasi Ultraviolet-B di workshop Hull melebihi nilai ambang batas yang diperbolehkan berdasarkan PERMENAKERTRANS No. PER.13/MEN/X/2012. Bagi peneliti lain yang ingin melihat faktor-faktor yang mempengaruhi keluhan kelelahan mata pekerja las, perlu mempertimbangkan adanya populasi kontrol.

**ABSTRACT** Ultraviolet-B radiation hazards in the workplace is a factor that caused of health effect and occupational disease on the workers of PT. Jaya Asiatic Shipyard Indonesia - Batam, where in the process of their production conducting welding to connect metal, has the potential for eye fatigue of the welders. This study aims to determine whether there is an increase in eye fatigue complaints as a result of UV-B radiation exposure to welder in Hull Workshop. Factor associated with complaints of eye fatigue studied is Ultraviolet-B radiation levels, as well as a number of factors relating to the individual, namely age, duration of exposure, and usage of Personal Protective Equipment. The research was done by analytical descriptive design with cross sectional approach to find the facts to the proper interpretation and accurately describe the symptoms of eye fatigue on the individual or group of welder. Data collection was performed by measuring the levels of UV-B radiation exposed welders, as well as getting the data on age, duration of exposure and the use of Personal Protective Equipment through questionnaires. The survey results revealed that 90% of workers in the Hull welding workshop complaint of eye fatigue. After analyzing the data, it turns out that the whole welders were exposed to radiation levels generated by the welding process that exceeds a threshold limit value. Analysis of the relationship between the factors that affect

workers' complaints eyes fatigue was not visible. From this study it can be concluded that the measurement of UV-B radiation in Hull workshop exceeds the threshold limit value allowed by PERMENAKERTRANS No. PER.13/MEN/X/2012. For other researchers who want to look at the factors that affect welders complaints eye fatigue, needs to consider the control population.;Ultraviolet-B radiation hazards in the workplace is a factor that caused of health effect and occupational disease on the workers of PT. Jaya Asiatic Shipayrd Indonesia - Batam, where in the process of their production conducting welding to connect metal, has the potential for eye fatigue of the welders. This study aims to determine whether there is an increase in eye fatigue complaints as a result of UV-B radiation exposure to welder in Hull Workshop. Factor associated with complaints of eye fatigue studied is Ultraviolet-B radiation levels, as well as a number of factors relating to the individual, namely age, duration of exposure, and usage of Personal Protective Equipment. The research was done by analytical descriptive design with cross sectional approach to find the facts to the proper interpretation and accurately describe the symptoms of eye fatigue on the individual or group of welder. Data collection was performed by measuring the levels of UV-B radiation exposed welders, as well as getting the data on age, duration of exposure and the use of Personal Protective Equipment through questionnaires. The survey results revealed that 90% of workers in the Hull welding workshop complaint of eye fatigue. After analyzing the data, it turns out that the whole welders were exposed to radiation levels generated by the welding process that exceeds a threshold limit value. Analysis of the relationship between the factors that affect workers' complaints eyes fatigue was not visible. From this study it can be concluded that the measurement of UV-B radiation in Hull workshop exceeds the threshold limit value allowed by PERMENAKERTRANS No. PER.13/MEN/X/2012. For other researchers who want to look at the factors that affect welders complaints eye fatigue, needs to consider the control population., Ultraviolet-B radiation hazards in the workplace is a factor that caused of health effect and occupational disease on the workers of PT. Jaya Asiatic Shipayrd Indonesia - Batam, where in the process of their production conducting welding to connect metal, has the potential for eye fatigue of the welders. This study aims to determine whether there is an increase in eye fatigue complaints as a result of UV-B radiation exposure to welder in Hull Workshop. Factor associated with complaints of eye fatigue studied is Ultraviolet-B radiation levels, as well as a number of factors relating to the individual, namely age, duration of exposure, and usage of Personal Protective Equipment. The research was done by analytical descriptive design with cross sectional approach to find the facts to the proper interpretation and accurately describe the symptoms of eye fatigue on the individual or group of welder. Data collection was performed by measuring the levels of UV-B radiation exposed welders, as well as getting the data on age, duration of exposure and the use of Personal Protective Equipment through questionnaires. The survey results revealed that 90% of workers in the Hull welding workshop complaint of eye fatigue. After analyzing the data, it turns out that the whole welders were exposed to radiation levels generated by the welding process that exceeds a threshold limit value. Analysis of the relationship between the factors that affect workers' complaints eyes fatigue was not visible. From this study it can be concluded that the measurement of UV-B radiation in Hull workshop exceeds the threshold limit value allowed by PERMENAKERTRANS No. PER.13/MEN/X/2012. For other researchers who want to look at the factors that affect welders complaints eye fatigue, needs to consider the control population.]</p>