

ABSTRAK

Produk yang dibuat di Unit Export Oriented Product (EOP) PT. Mega Andalan Kalasan yaitu Trendgate Bed. Proses deburring merupakan proses menghilangkan sisa hasil proses pengelasan yang dilakukan dalam waktu lama dan berulang-ulang saat membuat produk tersebut. Berdasarkan wawancara dengan keenam operator, didapatkan beberapa keluhan selama melakukan aktivitasnya. Keluhan tersebut yaitu yang pertama ukuran meja belum disesuaikan dengan postur tubuh sehingga menyebabkan nyeri terutama di bagian pinggang, punggung, siku, lengan, tangan dan betisnya. Yang kedua, meja kerja deburring belum terdapat wadah penyimpanan mata gerinda yang kedap udara untuk menyimpan mata gerinda yang masih bisa dipakai dan yang sudah tidak bisa dipakai. Yang ketiga yaitu banyak debu hasil aktivitas deburring yang jatuh ke lantai. Berdasarkan perhitungan persentase cardiovasculair load (CVL) operator termasuk kedalam klasifikasi kelelahan diperlukan perbaikan. Hasil dari kuesioner pengukuran kelelahan kerja subjektif juga diperoleh bahwa keenam operator deburring mengalami kelelahan sedang. Perhitungan skor RULA terhadap keenam operator saat proses deburring didapatkan action level dengan nilai 3 yang berarti penyelidikan dan perubahan terhadap postur kerja dibutuhkan segera.

Pendekatan yang digunakan dalam perancangan meja kerja deburring ini yaitu dengan pendekatan antropometri. Tahap perancangannya yaitu meliputi kegiatan perencanaan, pengembangan konsep, perancangan tingkat sistem, perancangan detail, pengujian dan perbaikan, produksi awal, dan peluncuran produk. Penggunaan pendekatan antropometri dan tahapan perancangan produk ini diharapkan mampu mengembangkan meja kerja deburring yang dapat meminimalisir terjadinya kelelahan akibat kerja.

Hasil dari penelitian ini yaitu terciptanya meja kerja deburring yang dapat meminimalisir kelelahan akibat kerja dan mampu memenuhi harapan operator dari segi fungsi, postur tubuh dan antropometri operator. Meja kerja deburring ini telah mengurangi tingkat kelelahan melalui persentase CVL dari diperlukan perbaikan menjadi tidak terjadi kelelahan dari pos 1 sampai 6 berturut-turut yaitu sebesar 15,41%, 18,26%, 13,12, 14,68%, 8,92% dan 5,71%. Pengukuran kelelahan kerja subjektif mampu diturunkan dari tingkat kelelahan sedang menjadi kelelahan ringan pada pos 1 sampai 6 berturut-turut yaitu sebesar 15 %, 21,54%, 13,79%, 20,97%, 26,56% dan 30,67%. Tingkat action level berkurang dari skor 3 yaitu diperlukan perbaikan segera menjadi skor 2 yaitu perbaikan lebih lanjut diperlukan dan perubahan mungkin diperlukan.

Kata kunci: Meja Kerja Deburring, Antropometri, Perancangan Produk, RULA, cardiovasculair load, kelelahan kerja subjektif

ABSTRACT

Products made at the Export Oriented Product (EOP) Unit of PT. Kalasan Mega Andalan namely Trendgate Bed. Deburring process is a process of eliminating the residual results of the welding process that is done in a long time and repeatedly when making the product. Based on interviews with the six operators, several complaints were obtained during their activities. The complaint is that the first table size has not been adjusted to posture, causing pain, especially in the waist, back, elbows, arms, hands and calves. Second, the deburring work table does not yet have an airtight grinding container for storing the grinding eyes that can still be used and those that cannot be used. The third is a lot of dust from deburring activities that fall to the floor. Based on the calculation of the percentage of cardiovascular load (CVL) operators included in the classification of fatigue needed repair. The results from the subjective work fatigue questionnaire were also obtained that all six deburring operators were experiencing moderate fatigue. RULA score calculation for the six operators during the deburring process obtained an action level with a value of 3 which means that investigation and changes to work posture are needed immediately.

The approach used in the design of this deburring worktable is the anthropometric approach. The design phase includes planning activities, concept development, system level design, detailed design, testing and improvement, initial production, and product launch. The use of anthropometric approach and product design stages are expected to be able to develop a deburring work table that can minimize work fatigue.

The results of this study are the creation of a deburring work table that can minimize work-related fatigue and be able to meet operator expectations in terms of function, body posture and anthropometry of the operator. This deburring desk has reduced the level of fatigue through the percentage of CVL from the necessary repairs to no fatigue from heading 1 to 6 in a row that is 15.41%, 18.26%, 13.12, 14.68%, 8.92% and 5.71%. Measurement of subjective work fatigue can be reduced from the level of moderate fatigue to mild fatigue at headings 1 to 6 in a row that is equal to 15%, 21.54%, 13.79%, 20.97%, 26.56% and 30.67%. The level of action level is reduced from a score of 3 ie needed immediate improvement to a score of 2 ie further improvement is needed and changes may be needed.

Keywords: Deburring worktable, Anthropometry, Product Design, RULA, cardiovascular load, subjective work fatigue