

## ABSTRACT

Welding is a process of connecting metallurgical material on a metal connections or metal alloy which are carried out in molten and liquid state. One of welding hazard for occupation health and safety is concerning to ergonomics, particularly Musculoskeletal Disorders (MSDs). According to the ILO, MSDs continues to increase every year. The purpose of this research was to analyze the level of risk of musculoskeletal disorders on welding workers at PT. Tuban Steel Work in 2014.

This research was an observational descriptive one, with cross-sectional approach. Primary data were collected by observation and direct interviews to welding workers and secondary data were obtained from the company. Respondents of the research were 8 welding workers. Data obtained by documenting the respondents while their job. The data obtained was then processed according to the method of Rapid Entire Body Assessment (REBA), by scoring the neck, torso, legs (right and left), upper arm (right and left), forearm (right and left), wrist (right and left), the load, the type of grip, and muscle activity undertaken by respondents, so that the results, risk of MSDs could be obtained from each respondents that were studied.

The results showed that posture, ranging from body posture, neck, leg, upper arm, forearm and wrist were all not in their natural positions during working, all workers got a load of light tools (0,55 kg), using work tools that had equipped with good handles, doing welding work with a static position in a long time more than 1 minute. Most of the worker (75%) had high risk of MSDs while rest (25%) had moderate risk of MSDs.

The management is advised to make rearrangements for the design of welding work station into a sitting position by providing tables and chairs, in addition, directing the workers to do the job with a more dynamic position is needed, so that the risk of MSDs can be lowered.

**Keywords:** welding, risk of MSDs, REBA