

ABSTRACT

Comfortable work environment is the one of supporting factor for increasing employee morale, however, hot work environment is not only to do harm, such as causing health problem but also increasing physiological response to the workers. Goals of this research were to identify the different of body temperature and heart rate before and after exposed to heat on the first shift employee at Rolling Mills 3 section PT. Hanil Jaya Steel.

This was an observational descriptive research with *cross sectional* approach. Respondents in this study were 25 people whom working on first shift at Rolling Mills 3 section PT. Hanil Jaya Steel.

The results of this study showed that Wet Bulb Globe Temperature (WBGT) measured were RHF/ Rehaeting Furnace (point I) 33,3°C, Mill Line (point II) 30,3°C, Cooling Bed (point III) 30,6°C, and Heandling Bed (point IV) 29,9°C with moderate work demand. The averages of body temperature before exposed to heat was 36,49°C, while after was 37,02°C. Meanwhile the averages of heart rate before exposed to heat was 79,40/minutes, while after was 89,96/minutes.

Based on results of this study, it is recommended that the workers should increasing drinking water consumption as often as possible, the company should providing comfortable rest place for the workers, do health examination to the old age worker, conducting work environment monitoring and controlling, and also increasing monitoring the use of Personal Protective Equipment.

Keywords: hot work climate, work demand, body temperature, heart rate