ABSTRACT

Ergonomic work environment plays a crucial role in enhancing employee comfort and productivity. This study aims to analyze and evaluate the layout of the production area at UMKM Sandal Calvin based on thermal comfort parameters, including temperature, lighting, and noise levels. Initial observations revealed that the thermal conditions in the production area did not meet workplace comfort standards, with temperatures exceeding 35°C, lighting levels below 50 lux, and noise levels surpassing the 85 dBA threshold in certain areas. The research employed the Predicted Mean Vote (PMV) and Predicted Percentage of Dissatisfied (PPD) methods, supported by the CBE Thermal Comfort Tool, to objectively measure thermal comfort levels. Additionally, a thermal comfort questionnaire was used to capture employees' subjective perceptions. The analysis showed that the existing layout was not optimal in distributing temperature, lighting, and noise evenly throughout the workspace. Therefore, an alternative layout design based on thermal zoning was proposed to improve employee comfort. The implementation of this new layout is expected to create a more ergonomic and productive work environment in accordance with national thermal comfort standards.

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Keywords : *noise, thermal comfort, layout, lightning, countur map, temperature.*