

**DEVELOPMENT OF MATERIAL HANDLING TECHNIQUES TO
IMPROVE OCCUPATIONAL HEALTH IN MALAYSIAN SMALL
& MEDIUM INDUSTRIES (SMIs)**



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LAPORAN AKHIR PENYELIDIKAN GERAN IRPA - "DEVELOPMENT OF MATERIAL HANDLING TECHNIQUES TO IMPROVE OCCUPATIONAL HEALTH IN MALAYSIAN SMALL & MEDIUM INDUSTRIES (SMIs)"

Merujuk kepada perkara di atas, bersama-sama ini disertakan 2 (dua) naskah Laporan Akhir Penyelidikan Geran IRPA yang bertajuk "Development Of Material Handling Techniques To Improve Occupational Health In Malaysian Small & Medium Industries (SMIs)".

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ABSTRACT

The main focus of this research is to develop material handling techniques by introducing ergonomic interventions in improving occupational health In Malaysian Small & Medium Industries (SMIs). The research was divided into three main focus areas. The first research work was conducted in Masa Sinar Holding Sdn. Bhd., a metal stamping company under Malaysian Small and Medium Industries (SMIs) located in Port Klang. Four processes were evaluated including degreasing, blanking, pryda and spot welding processes. Camcorder was used to record the working posture of the operator for detailed analysis. This video recording data was used to provide data for calculations using CATIA software. The recordings were done from different angles to capture all possible views of the body postures and movements during the degreasing process. This process was then analyzed using the Rapid Upper Limb Assessment (RULA). RULA is a postural targeting method for estimating the risks of work-related upper limb disorders. The outcome of RULA assessment performed on degreasing operation is presented.

The second research was conducted in Extra – Built Sdn. Bhd. which is located in Shah Alam. In measuring cause and effect on the work-related musculoskeletal disorders in this company three different type of measurements were established. The first measurement also used camcorder to record the different postures of the three different workers. Then, the results were analysed using REBA software to determine different effects of the working postures. The second measurement was done using instrument which is called SEMG (Surface Electromyography), to measure the muscle activities.. The muscle activities were measured based on raw signal analysis