ABSTRACT

PT. Muawanah Al-Ma'soem is one of the companies engaged in the AMDK sector. The increasing demand of Mineral Water every year this causes a competitive competition among the mineral water companies. one of the product produced by PT. Muawanah Al-Ma'soem is a mineral gallon water. on the production of gallons of mineral water the process on the palletting work station is still use manual material handling. manual material handling process causes excessive material movement and excessive workload for workers, it causes waste of waiting which resulted in not achieving production targets.Therefore, this research aims to design a material handling equipment to help workers when doing the palletting process. proposed material handling designed uses nigel cross's rational product design method. in order to find the best concept combination of material handling equipment concept that can meet the required criteria. after analyzing the results of the design, the lead time of each gallon becomes shorter. at the existing condition the average number of transfers that can be carried out by each operator is 6 gallons/minute. while after using the proposed material handling equipment can be increased to 14 gallons/minute each operator. neverthless the RULA score on the operator when operating proposed maerial handling equipment is 2 and 3 for the left body and the right body. This shows with the proposed material handling equipment, can increase productivity and reduce the workload of workers that will impact on corporate profits as well.

Keywords: *Material Handling Equipment, Rational Product Design, Nigel Cross, Karakuri, mineral water gallon*