

ABSTRACT

Gas cylinder or tube compressor is one of the important requirements in industrial and household needs. PT. Wijaya Karya is a state-owned company has several branch companies, one of which is PT. Wijaya Karya Industri dan Konstruksi engaged in industry and manufacturing. One of the industrial activity on PT. Wijaya Karya Industry and Construction are repairing a tube compressor. There are 10 stages until ready to distribute. In 10 of these stages, there is a process of moving the tube from re-assembly work station to work station sandblasting. The process is still using manual method with handtruck resulting in operator workload that is not appropriate. Incompatibility is obtained from the calculation operator workload using Rapid Entire Body Assessment (REBA) that produce a score 9 which indicates that the high-risk activities and the necessary investigation and repair. In addition, the average time spent in the tube displacement of 2.3 minutes greater than the standard time the company for 2 minutes. Penelitian so on, will be designed to support the concept of material handling this study, used the method of rational product design by Nigel Cross. In the method of designing the product, there are six stages, namely clarifying the goal, set functions, define needs, set of characteristics, alternatives and evaluate alternative generalization. With material handling concept designed by rational methods, generating design specifications and material handling equipment base on ergonomic that is expected to support the process of moving the tube to ease operator workload and minimize the process transferring tube time in accordance with the standard time set by the company

Keywords: Material Handling Equipment, Rational Product Design, Compressor Tube, Rapid Entire Body Assessment (REBA)