DESIGN AND CONSTRUCT OF ERGONOMICAL FRAME STRUCTURE ON MECHANICAL COMPOSTER

Name : Aji Rakhmat Muliawan
NRP : 2102 100 090
Departement : TEKNIK MESIN FTI-ITS
Lecture : Prof. Ir. I. N. Sutantra, MSc. PhD.

Abstract
In these days garbage has became serious problem in Indonesia especially in big cities like Surabaya so a good and integrated garbage processing is needed to reduce its volume especially non-recycleable garbage in this case changing organic garbage to compost in short period of time. An equipment that support this method is needed so that it can be easily applied by public.

This design of frame structure were built based on safety, comfort and is of manufacturing process criteria. To simplify the design process, CATIA V5R14 software is used in analizing frame safety and risk rate, anthropometry of japanese people is used with RULA (Rapid Upper Limb Assesment) method on CATIA V5R14 software.

From strength test result, frame with 15,824kg of weight can hold 199,4kg of load from Mechanical Composter system. With risk rate of 3 and 4, it can be said that the motion posture body is acceptable.

Key word: mechanical composter, manufacturing process, CATIA V5R14, ergonomic, RULA, stress, frame.