

DESIGN OF FRAME CONSTRUCTION ON COCONUT PAPER MACHINE

Name Of Student : Jaka Siswahyudi
NIM : 2204181185
Advisor : Razali, ST., MT

ABSTRACT

Coconut is a type of plant from the aren-arenan tribe and the sole member of the cocos clan. The color of the coconut fruit depends on the type of tree, it can be yellow or green, for old fruit it will turn brown. This research focuses on the discussion about the coconut coir peeler. The purpose of this TA is to design and manufacture the framework for a coco peeling tool as well as to simplify and speed up the coco peeling process. The method used is to conduct a field study and then conduct a literature study and start designing and collecting data and materials used in the process of making the framework for the stripping tool. From the simulation results using the Autodesk Inventor Pro 2019 software computing system with the stress analysis report method. Modeling is done by measuring the construction dimensions of the coconut husk peeler frame. By analyzing the strength of the construction of the coco peeling machine, the calculated value of the simulation results of the construction design of the coco peeling machine is the value of Strees 0.0165104 Mpa maximum 38.6232 Mpa, Strain 0.0000000657773 ul maximum 0.00015557 ul , Displacement 0 mm maximum 0 .336126 ul and Safety Factor 5.35948 ul maximum 15 ul. While the results of the calculations obtained are Strees on the gasoline engine mount 2000 N/m², Strees on the gasoline engine gearbox mount 555.5 N/m², Strees on the paring shaft 8,202 N/m², Strain on the gasoline engine mount 1.3 m, Strain on the petrol engine gearbox mount 1.3 m, Strain on the stripper shaft 1.1 m, Modulus 1,538.5 N/M², Modulus of Elasticity on the gearbox mount for the petrol engine 427.3 N/M², Modulus of Elasticity on the peeler shaft 7,456.3 N /M², Safety Factor on the petrol engine mount is 0.0174 KN, Safety Factor on the petrol engine gearbox mount is 0.0139 KN, Safety Factor on the peeler shaft is 0.15 KN.

Keywords: *frame construction design, stress analysis, profesional autodesk inverter 2019.*