ABSTRACT

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THE PROCESS OF MAKING DESIGN AND ANALYSIS OF THE PROTOTYPE FRAMES OF COCONUT SHOOTING TOOLS
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(xii + 48 + appendices)
The prototype of an automatic coconut shell peeler is a tool to help industry and SMEs (micro, small and medium enterprises) in the field of shredded coconut to increase their production and sales. In its operation, this tool is assisted by several supporting components, namely, AC motor, DC motor, hydraulic motor, worm gear type gear box, bearing holder, coconut shell peeler knife, coconut clamp and frame. And the role of this frame is very important, because it is necessary to do a good design and one of them is in terms of strength, where the engine frame receives the load from some of the components themselves and from the coconut shell to be peeled. In scientific writing, we will discuss the design of a prototype frame for an automatic coconut shell peeler using Solidworks software using hollow iron with code JIS G3466 with size (50 x 30 x 2.6) and angle iron with code JIS G3101 using size (25 x 25) mm and (35 x 35) mm, static analysis on the frame using Ansys software, calculating material requirements, and calculating the need for type E6013 electrodes. The results of the static analysis produce a maximum deformation value of 0.10515 mm and a minimum of 0.011684 mm, a stress value of 9.1709 MPa, a strain value of $5.2289x10^{-5}$ and a minimum sefty factor value of 15 and a maximum of 15. 25 mm is 8.3 m, for (35 x 35) mm is 1 m, hollow iron (50 x 30 x 2.6) mm is 2.45 m, and the need for electrodes is 212.5 grams for 1 meter.

Bibliography (2016-2021)