

Chairat Hongthong 2006: Design and Development of Look – Choob Molding Machine for the Minimization of Working Fatigue. Master of Engineering (Safety Engineering), Major Field: Safety Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Prakob Surawattanawon, Ph.D. 140 pages.  
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In the production of Look-Choob, all types of this dessert are developed from the sphere shapes before transformed into various styles as designer requires. The traditional molding is one of the obstacle processes because it platitudinous and time-consuming work. This causes great tiredness or fatigue for the workers. By maintaining the same position and continuous exertion of the same muscle groups over a period of time cause discomfort and pain because muscle groups become overloaded and blood flow reduced. This may lead to injuries, accidents, poor quality, and lost productivity. The novel Look-Choob molding machine was designed and developed in order to minimize this problem. The machine consists of two-components, namely, screw extruder and sphere molding. The screw extruder used to control the density of the raw material and also the volume of each. Mechanical linkage was designed to assure the feeding continuity of the raw material. The sphere molding utilizes the pulley rotation to continuously generate the sphere shape during the process. The designs of screw and transmission belt were applied to fulfill the work requirement. The machine is driven by AC and DC electrical motors. Test results shows that appropriate factors controlling performance of prototype are rectilinear speed for screw feeder at 0.005 m/s and angular speed for sphere molding at 16 rpm. This configuration gives rise to the capacity of 25 pieces per minute while conventional manual molding capacity is 6 pieces per minute. Based on engineering economical analysis, it indicated that pay back period was found to be 0.6 year and the machine can be used to completely eliminate this fatigue work from the production process.

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