

Thesis Title	Efficiency Improvement in Mulberry Bark Boiling Process Using Pressure Boiler
Author	Mr. Niwat Gitpisansakul
Degree	Master of Engineering (Industrial Engineering)
Thesis Advisor	Associate Prof. Isra Teerawatsakul

Abstract

This research was designed and constructed the Pressure Boiler. When it operate , will operate high temperature at 120 °C and pressure for 2 bars steam. The structure made by use stainless steel sheet which has two layer. It has fiber glass insulator cover between inside layer and outside layer. It was install the safety equipment. It is safety for user such as safety valve , release valve , Temperature guage and pressure guage.

Pressure boiler which is designed. It will take to use in boiling process for produce the pulp and take it to make Saa paper sheet. This study use Design of Experiment technique for research the optimal condition in boiling process by use Pressure boiler. It has two factors such as 1) Boiling time. 2) Quantity of chemical. The results can reduce boiling time for 50 %. It reduce boiling time from 4 hours to 2 hours. The quantity of chemical can reduce for 50 %. It reduce quantity of chemical from 10 to 5 % of weight of dry pulp of Saa. The effect from reduction of chemical quantity , it can reduce pollution problem which happen from water contaminate the chemical.

The feasibility study for economics of using pressure boiler in boiling process of producing Saa paper. We found that can save cost for chemical , fuel and water. It can reduce the load of user in control while operate this machine.