

KOMPISIT KRAJAIPOTE: ANALYSIS AND DESIGN OF RUBBER
DRYING SYSTEM USING COMBINATION OF HIGH FREQUENCY
ENERGY AND HOT AIR. THESIS ADVISOR : ASST. PROF. THANASET
THOSDEEKORAPHAT, Ph.D., 80 PP.

DIELECTRIC HEATING/HOT AIR/RUBBER/DRYING

The objective of this research is to studied and designed the heating of dielectric system by using high-frequency wave which can drain the moisture from inside the rubber sheet for application to combined with hot air drying which using induction heating system. The studied principle of induction heating and dielectric heating and mathematical model of these methods. The studied implement of temperature control, humidity control and speed of change in thermal energy of the system including the design and build of dielectric heating system and integrated circuit of induction heating to test the efficiency of the heating system. Analyze the results to improve the heating system to have the maximum efficiency. The results showed that the power of different electric fields affect to the using time is difference, including damage to the structure of the rubber. With a power of 500 watts, which takes about 55 minutes but found to have damage to the structure of rubber. The power of 200 watts takes about 100 minutes, the structure of the rubber does not damage.

School of Electronic Engineering

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Student's Signature Kompisit

Advisor's Signature T.Thanaset