# THE APPLICATION OF ULTRASONIC DYEING TO SATIN SILK FABRIC USING NATURAL DYE FROM **HIBISCUS FLOWER *(Hibiscus rosa sinensis)***

**By**

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# ABSTRACT

**THE APPLICATION OF ULTRASONIC DYEING TO SATIN SILK FABRIC USING NATURAL DYE FROM HIBISCUS FLOWER**
(*Hibiscus Rosa sinensis)*

The natural dyeing of silk using Hibiscus flower *(Hibiscus Rosa sinensis)* with and without the application of ultrasound was studied. The purpose of this study is to compare the effectiveness of using ultrasonic energy and conventional method using natural dyestuff. Ultrasonic was applied only at 50℃ when its most maximum cavitation action occurs. Meanwhile, the conventional dyeing process was done in low and high temperature of 50℃ and 100℃. Mordants were chosen to obtain various colors using two techniques at two temperatures and times. The results in terms of light reflectance, absorption, values of colours of the dyed samples and the fastness properties were analysed and compared within those two conditions. It was found that the ultrasonic energy helps obtaining better fastness properties in terms of staining but less in change of colour after wash and in alkaline perspiration. Ultrasonic application was effective in increasing the colourfastness properties. Increasing the time and temperature also enhance the depth of the colour. Most of the results also depend on the mordant used and the cavitation activity. This study has proven that the use of ultrasonic energy has some advantages in terms of time and colourfastness of the dyed materials of dyeing. In addition, it may be have some benefits on reducing the used of harmful chemicals especially mordant.