

Title : AN EXPERIMENT TO FIND THE FORMULA FOR SUKHOTHAI RED CLAY  
FOR STONEWARE PRODUCED ON A POTTER'S WHEEL

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Degree : Thesis for M.Ed. (Industrial), 1998.

The objective of this research was to investigate the efficiency of red clay at Sukhothai for stoneware bodies and examine stoneware produced on a potter's wheel. The 108 samples were produced from Thoongluang red clay mixing Lanhoy stone and quartz, Bansuan red clay mixing Lanhoy stone and quartz, Kouseelan red clay mixing Lanhoy stone and quartz. They were derived from triaxial diagrame bland mixed by weight, grinded fine on the pot mill, glost fired at temperature 1,230 degree selsius, and then tested for physical properties and professionally tested on the potter's wheel.

The results of this research showed that:

1. An examination of the efficiency of stoneware bodies by testing Thoongluang red clay mixing was physical properties showed that before firing, the drying shrinkage was between 2.00 - 7.00 percent, modulus of rupture between 8.10 - 18.64 Kg/cm<sup>2</sup>, water plasticity between 18.36 - 23.00 percent, and 19 samples past the professional potter's wheel test. After being fired the firing shrinkage was between 2.00 - 9.05 percent, water absorption between 0.06 - 10.12 percent and loss on ignition between 1.69 - 6.67 percent. The colour of bodies are red-brown, brown, and dark-brown. The glaze fired was glossy and tranparent with a smooth surface.

2. An examination of the efficiency of stoneware bodies by testing Bansuan red clay mixing was physical properties showed that before firing, the drying shrinkage was between 2.00 - 8.00 percent, modulus of rupture between 8.01 - 18.50 Kg/cm<sup>2</sup>, water plasticity between 16.20 - 20.20 percent, and 17 samples past the professional potter's wheel test. After being fired the firing shrinkage was between 2.56 - 11.16 percent, water absorption between 0.00 - 16.52 percent and loss on ignition between 0.77 - 8.49 percent. The colour of bodies are red-brown, brown, and dark-brown. The glaze fired was glossy and transparent with a smooth surface.

3. An examination of the efficiency of stoneware bodies by testing Kouseelan red clay mixing was physical properties showed that before firing, the drying shrinkage was between 2.00 - 7.00 percent, modulus of rupture between 7.16 - 18.06 Kg/cm<sup>2</sup>, water plasticity between 18.50 - 22.00 percent, and 15 samples past the professional potter's wheel test. After being fired the firing shrinkage was between 1.01 - 11.11 percent, water absorption between 0.00 - 16.52 percent and loss on ignition between 0.77 - 5.02 percent. The colour of bodies are red-brown, brown, and dark-brown. The glaze fired was glossy and transparent with a smooth surface.

4. The experiment showed that: stoneware from Thoongluang red clay mixing body formula number 20 is 50 percent Thoongluang red clay, 20 percent Lanhoi stone, and 30 percent quartz, stoneware body from Bansuan red clay mixing body formula number 12 is 40 percent Bansuan red clay, 40 percent Lanhoi stone, and 20 percent quartz, and stoneware

from Kouseelan red clay mixing body formula number 12 is 40 percent Kouseelan red clay, 40 percent Lanhoi stone, and 20 percent quartz was easy to use for the throwing method, to move while greenware, and easy to glaze. The glaze fired glossy and transparent.