

Title : AN EXPERIMENT OF CERAMIC WATER FILTER CANDLE BODY
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Type of Work : Thesis (M.Ed. in Industrial Education) , Naresuan University 1999.

The purpose of the experiment was to study ceramic water filter candle body made from the mixture of diatomite, Ranong clay, alumina, dolomite and charcoal powder. Twenty percent of each material was mixed with fine carbon from the quadraxial diagram of 81 mixing substances. There were two stages in the study : Stage 1 ; weigh the substance according to the square diagram, ground and mixed them, made a sample piece, dried it and then burned it at 800, 850, 900, 950, 1,000, 1,050 degrees celcius, test its physical quality after burning, that is, water absorption and shrinkage. Stage 2 : selected the substance which was the most absorbent to be moulded in plaster cast and used as water filter, then tested its efficiency. The pore size was analysed by Thailand Institute of Scientific and Technological Research, the ratio of water filtering through this filter was analysed, had the quality, colour, and turbidity of the water analysed by the Sanitary Environment Center, Region 9 , Phitsanulok, had the water smell analysed by five specialists. The study revealed that the mixture which could absorb the most water was the seventy-ninth mixture. It could absorb 78.30 % of water after burning at 850 degrees celcius. The substances to be mixed were diatomite (45%), Ranong clay (15%), alumina (35%), dolomite (5%) and charcoal powder (20 % of the whole mixture). When tested under the water pressure of 15 lb/in², the water before going through the filter had turbidity of 58.8 ntu. After passing through the filter, the colour value was less than 2 platinum-cobalt turbidity of 0.2 ntu. The smell was satisfaction. The filtering rate was 46.45 litres per hour at the water pressure of 40 lb/in². The water before passing through the filter had the colour value of 10 platinum-cobalt turbidity of 10.37 ntu. The water after passing through the filter had the colour value of 5 platinum-cobalt turbidity of 0.04 ntu. The odor was satisfactory. The filtering rate was 100.65 litres per hour which was the standard of industrial products. of IS : 1420 – 2540 ceramic water filter candle.