

Research Title A Study of the Properties of Plastic Yellow Clay
 from Amphoe Mae Rim for Making Some Ceramic Products

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Abstract

The plastic yellow clay in the area near by Nawaminthrachuthit Payap School, Amphoe Mae Rim, Chiang Mai was studied. The chemical analysis of the raw clay was 51.9 % SiO_2 , 24.8 % Al_2O_3 , 4.0 % Fe_2O_3 , 0.5 % TiO_2 , 0.1 % MgO , 0.1 % CaO , 0.4 % Na_2O , 2.9 % K_2O and 8.8 % L.O.I. The particle size distribution of the natural raw clay was found more than 70 percent of the size less than 20 μ . The raw clay was sieved through the wire screen of 115-250 mesh in order to obtain the suitable size for forming. Good physical properties when firing at 1100°C to 1150°C were obtained. These are a reddish brown color in the texture appearance, 10-13 % shrinkage, 3-5 % porosity, 35 kg/cm^2 dried strength and 142 kg/cm^2 for the fired strength. The clay can be used to mix with other raw materials for body preparation such as : 66.7 % raw clay, 9.5 % dolomite, 19.0 % feldspar and 4.8 % bone ash. This clay body fitted well with glaze of the composition of : 60 % frit FP-643, 15 % feldspar, 5 % lime stone, 5 % zinc oxide and 15 % Lampang stone. Some typical products are small jars, flower vases, mugs, house gallery posts and a kind of filtering material for drinking water, etc.