

Ceramic Glazes from Recycled Bottle Glass

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Abstract : This research was a study based on an application of used glass in producing glaze on ceramics. The aim was to identify the factors in the production process that affected ceramic product property when used glass was applied as the ceramic glaze. The study factors included appropriate materials, appropriate temperature used in fusion process, percentage of water absorption, fluidity, crazing and appropriate proportion in glaze production by Biaxial Blend Technique and use of oxide in glaze coloring both on test and real product. The test of fluidity revealed that the glazes number 15 and 16 had appropriate fluidity ratio for use as basic glaze. When each glaze was mixed with oxide at different proportion, it was discovered that the glaze number 16 showed glossy brown with beautiful but not clear crazing, due to its dark shade. This was from the mixture of kaolin and pieces of glass at the ratio of 1:3 (kaolin : pieces of glass), affecting at 10% with iron oxide. When 0.5% of copper carbonate and 0.1% of tin oxide were added, the result was the glaze with glossy, Muzo emerald (green- blue) color with beautiful and clear crazing. Lastly, 0.4% of cobalt carbonate was added, ending in the glaze with glossy, bright blue with beautiful but not clear, due to its dark shade.

Keywords : glaze, recycled, bottle glass, ceramic

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