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Use of rice husk and eucalyptus ashes in the composition of raw glazes

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Industrial activities contribute significantly to the environmental imbalance. Therefore, the tireless search for alternative energy sources and the need to reduce the emission of pollutants in nature brought a further concern for businesses that use biomass as an energy source, especially those that use rice husk and Eucalyptus as an alternative source. The use of biomass as an energy source generates a byproduct with higher silica content addressing characteristics that make biomass raw materials of potential interest for application in various branches of the ceramic industry. Thus, the aim of this work was the use of rice husk ash and eucalyptus ash to obtain a raw glaze. A mixture experimental design (DoE) was employed and the factors were the percentages of eucalyptus and rice hullsashes, added to other components such as calcium carbonate, zinc oxide, anhydrousborax, alumina and potassium nitrate. The output variables were the measured properties, hue of the glazes and glaze spreading during firing. As a result, despite the need to use other components in the formulation with an added cost, it is feasible to develop raw glazes from biomass because the ashes form 80 wt. % of the main formulation.

Keywords: Recycling, rice husk ash, Eucalyptus ash, rawglaze.