RESUMEN 109

MIXTURE DESIGN APPLIED TO THE FORMULATION OF MULTICOMPONENT PORCELAIN STONEWARE

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ABSTRACT

The methodology of mixture design presents an alternative for the study and optimization of ceramic formulations. By the application of this methodology the behavior of the raw materials can be evaluated in mixture. This methodology is usually applied to systems where the number of raw materials is smaller than four. This hinders its use at industrial level where sometimes up to ten raw materials are used in a formulation. This work aims to test the viability of application of this methodology in a stoneware complex systems composed by 9 raw materials. The application of the methodology was evaluated in the study of product properties as mechanical strength, water absorption, linear shrinkage and apparent density. A linear mathematical model was chosen which fitted well to the studied properties, presenting a high prediction quality and the possibility of evaluating the behavior of each material in mixtures.