

## Simulation of Immiscibility Regions in Sodium Borosilicate Glasses

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**Abstract :** In this paper, sodium borosilicates glasses were prepared by melting in air. These heat-resistant transparent glasses have subjected subsequently isothermal treatments at different times, which have transformed them at opaque glass (milky white color). Such changes indicate that these glasses showed clearly phase separation (immiscibility). The immiscibility region in a sodium borosilicate ternary system was investigated in this work, i.e. to determine the regions from which some compositions can show phase separation. For this we went through the conditions of thermodynamic equilibrium, which were translated later by mathematical equations to find an approximate solution. The latter has been translated in a simulation which was established thereafter to find the immiscibility regions in this type of special glasses.

**Keywords :** sodium borosilicate, heat-resistant, isothermal treatments, immiscibility, thermodynamics

**Conference Title :** ICIME 2014 : International Conference on Industrial and Mechanical Engineering

**Conference Location :** Paris, France

**Conference Dates :** August 28-29, 2014