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## Microhardness and some fracture related problems in copper doped soda lime silica glass

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### Keywords

soda lime silica glass, ion exchange, mechanical properties

### Abstract

A wide range of practical problems requires the knowledge of the mechanical characteristics of doped oxide glasses. The main purpose of this study was to investigate the effect of ion exchange and a post-exchange thermal treatment upon Vickers microhardness of a multicomponent soda lime silica (SLS) glass in which the mobile sodium ions have been partially substituted by copper. It has been stated that in dependence of the indentation load, the indentation marks have been accompanied by traces of Palmqvist cracks. The deformation and fracture related phenomena are dependent on the temperature and time of the exchange and annealing processes.



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