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# An investigation of structural and elastic properties of soda-lime glasses doped with rare earth oxide

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All glass samples in the system (90-x)RWG - 10$Na_2O$ - x$Nd_2O_3$ where the RWG is recycled window glass (where x = 0, 0.1, 0.25, 0.5, 0.75 and 1 in mol% respectively).The glass samples were prepared by using melt quenching method. The elastic moduli were studied by measurement ultrasonic velocities using pulse echo technique.The structural properties of the glass samples were investigated using infrared absorption spectroscopy. The results illustrate that increase of $Nd_2O_3$ content lead to the distorted glass network, which brings to the decrease of rigidity of glass network. In addition, the FTIR spectra was supported the ultrasonic result.

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