

Abstract Submitted  
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**Calorimetric Study of Se<sub>90</sub>In<sub>8</sub>Ag<sub>2</sub> Glassy Alloy** D SHARMA, WIT, R K SHUKLA, A KUMAR, HBTU, J C MACDONALD, WPI — The Se<sub>90</sub>In<sub>8</sub>Ag<sub>2</sub> glassy alloy was heated from 0 °C to 250 °C and cooled from 250 °C to 0 °C using calorimetric technique. Three types of transitions were found where two were endothermic and one was exothermic transitions. They are named as glass transition, crystallization and melting transition. To study effect of ramp rate, the same material was then heated and cooled at various ramp rates from 5 °C/min to 20 °C/min and the transitions found shifted showing the presence of kinetics of the transitions. These transitions follow Moynihan & Ozawa (MO) model and Johnson-Mehl-Avrami (JMA) theory. Following these models, the activation energy of each transition was calculated and found to be in the range of 202 kJ/mol, 402 kJ/mol and 558 kJ/mol for glass transition, crystallization and melting transitions respectively. Keywords: Glassy alloy, activation, kinetics, calorimetry, heating and cooling, glass transition, crystallization.

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