

598e Cure and Hydrolysis of Cyanate Ester Systems

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Cyanate ester resins are based on monomers that possess low viscosity at moderate temperature. With heat and the aid of a catalyst polyfunctional cyanate esters form a polycyanurate network that possesses high glass transition temperature. Thus these materials are easily processed and yield polymers with high thermal resistance. However, the polycyanurate network is susceptible to cleavage by hydrolysis. This limits the utility of such systems. In this work the influence of catalyst type and concentration on cure and degradation behavior is explored using Differential Scanning Calorimetry (DSC) Fourier Transform Infrared (FTIR) spectroscopy, Dynamic Mechanical Analysis (DMA) and water uptake experiments. The results show that relatively mild exposures to humid environments followed by moderate heating result in significant hydrolytic degradation of the networks.