

DIELECTRIC PROPERTIES OF CROSSLINKING EPOXY RESINS AT 2.45 GHZ

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The dielectric properties of a crosslinking diglycidyl ether of bisphenol-A (DGEBA) and 3, 3'-diaminodiphenyl sulfone (DDS) system have been studied over the temperature range of 25 to 120°C at 2.45 GHz. The epoxy resins at different extents of cure exhibit the γ relaxation, which can be described by the Arrhenius Rate Law. The relaxation is attributed to the motions of the dipolar groups associated with the crosslinking system. A simple model is proposed to represent the temperature dependences of the dielectric properties. A complete description of the evolution of the parameters during the polymerization was obtained. The nature of the information yielded by dielectrometry on the dynamics of the system is discussed.