

Analysis of Physical Properties of Main Chain Liquid Crystal Elastomer

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ABSTRACT

We have carried out experiments to analysis the physical properties of main chain liquid crystal elastomers (MCLCEs). Four MCLCE samples with cross-linker concentrations varying from 8% to 16% were taken and two characterization methods were applied, namely the thermal-induction and x-ray diffraction method. The thermal induction method is used to determine the spontaneous deformation of materials whe nexposed to heat with varying temperatures, while x-ray diffraction is applied to determine the crystallite size of the material. The results of this study indicate that there are relationships between cross-linkers concentration and spontaneous elasticity and crystallinity

Kata Kunci: MCLCE, cross-linker concentration, spontaneous deformation, free elastic energy bebas elastik, crystallinity