Synthetic Polymer-polymer Composites

Inter-particle/void distance and toughening mecha;98 4.3.3.1;3.3.1. Theoretical inter-particle distance;99 4.3.3.2;3.3.2. Method for inter-particle distance measurement;100 4.3.3.3;3.3.3. Statistical properties of inter-particle distance;105 4.3.3.3.1;3.3.3.1. 3D particle generation;105 4.3.3.3.2;3.3.3.2. Results and discussion;108 4.3.3.4;3.3.4. Experimental inter-void distance and toughness;112 4.3.3.4.1;3.3.4.1. Method for void generation in matrix;112 4.3.3.4.2;3.3.4.2. Mechanical testing;113 4.3.3.4.3;3.3.4.3. Microscopy;113 4.3.3.4.4;3.3.4.4. Experimental results and discussion;114 4.3.4;3.4. Toughening mechanisms in the presence of compressive stress around particles/voids;120 4.3.4.1;3.4.1. Necessary conditions for cavitation;120 4.3.4.2;3.4.2. Graphical understanding of compressive stress around particles;121 4.3.4.3;3.4.3. Creating compressive stress around modifier particles as a toughening method;122 4.3.4.4;3.4.4. Production of mechanical testing specimens;123 4.3.4.5;3.4.5. Mechanical properties of toughened epoxies;124 4.3.4.6;3.4.6. Fracture surface morphology examination;124 4.3.4.7;3.4.7. Stress intensity factor influenced by compressive residual stress;128 4.3.4.8;3.4.8. Mohr circle analysis for fracture surface morphology;131 4.3.4.9;3.4.9. Interaction of toughening mechanisms;137 4.3.5;3.5. Conclusions;142 4.3.6;References;143 5;PART II POLYMER-POLYMER COMPOSITES WITH PREMADE FIBR EAN/ISBN : 9781569905258 Publisher(s): Hanser Fachbuchverlag Discussed keywords: Polymere Format: ePub/PDF Author(s): Bhattacharyya, Debes - Fakirov, Stoyko