



## List of Publications

### Book Chapters

- 1) "Polymers and Polymer-Based Composites for Electronic Applications," with G. Schmitt and B. Appelt, in Principles of Electronic Packaging, McGraw Hill Book Company, New York, New York, (1989)
- 2) "Correlation of Glass Transition Temperature, Conversion, and Viscosity During Epoxy Resin Curing,": with B. Fuller and G. Martin, Advances in Chemistry Series, #227, Polymer Characterization: Physical Property, Spectroscopic, and Chromatographic Methods, p. 215, American Chemical Society, Washington DC (1990).
- 3) "Modeling the Rheological and Dielectric Properties During Thermoset Cure," with A. Tungare and G. Martin, Advances in Chemistry Series, #227, Polymer Characterization: Physical Property, Spectroscopic, and Chromatographic Methods, p. 235, American Chemical Society, Washington DC (1990).
- 4) Gotro, J. and Prime, R. B. (2004). "Thermosets" in J. Kroschwitz, ed., *Encyclopedia of Polymer Science & Technology*. 3rd edition, John Wiley & Sons, NY.

### New Markets/Applications

- 1) "An Improved Laminate for Embedded Capacitance Applications," with J. Kamla, Anh-Vu Le, M. Dhillon, J. Howard, and J. Young, *Proceedings of the IPC Technical Conference*, p. S04-3-1, March (1999)
- 2) "Advanced Laminates for High Density Interconnect Substrates," with G. Smith, N. Androff, B. Bedwell, E. Craddock, and R. Clancy, *Proceedings of SEMICON WEST*, July 1999.

### New or Improved Materials

- 1) "High Performance Polycyanurate Thermosets," with J. C. Hedrick and A. Viehbeck, *Proceedings of the American Chemical Society, Polymer Chemistry Division, Polymer Preprints*, v. 35(1) p. 537 (1994).
- 1) "Toughened Polycyanurate Thermosets Possessing Tailorable Glass Transitions," with J. C. Hedrick and A. Viehbeck, *Proceedings of the American Chemical Society, Polymer Materials; Science and Engineering*, v. 7(2), p. 746 (1994).
- 3) "A New Multifunctional High Performance Epoxy Resin for MCM-L Applications," with R. Japp and T. Lewis, *Proceedings of the Fall IPC Meeting*, October 24-28 (1993).
- 4) "Thermoplastic Toughened Cyanate Ester Resins: An Interesting Low Dielectric Constant Thermosetting Polymer," with J. C. Hedrick, *Proceedings of the Fall IPC Meeting*, October 24-28 (1993).
- 5) "Characterization of a Bis-Maleimide Triazine Resin for Multilayer Circuit Boards," with B. Appelt, *IBM Journal of Research and Development*, v. 31, p. 616 (1988).

### Processing of Advanced Polymers

- 1) "The Rheological Characterization of Fluorinated Thermoplastics Using Squeezing Flow Viscometry," with G. Martin and Y. Deng, *Polymer Engineering and Science*, v. 34, p. 213 (1994).
- 2) "Determining the Rheological Flow Window for Thermosetting Polymers," with G. Kohut and G. Martin, *Society of Plastics Engineers, Technical Papers*, v. 39, p. 2614 (1993).
- 3) "Dielectric Cure Monitoring During Composite Lamination," *Proceedings of the North American Thermal Analysis Society, Fall Meeting*, p. 523 (1990).
- 4) "Simultaneous Dielectric and Dynamic Mechanical Analysis of Thermosetting Polymers," with M. Yandrasits, *Polymer Engineering and Science*, v. 29 p. 278 (1989).
- 5) "Viscosity Modeling During Epoxy Resin Curing," with G. Schmitt and J. Wiley, *Polymer Engineering and Science*, v. 29, p. 329 (1989).
- 6) "Analysis of Flow in Epoxy-Glass Cloth Prepregs," with G. Schmitt, J. Wiley, and T. Ellis, *Society of Plastics Engineers, Technical Papers*, v. 35, p. 1106 (1989).
- 7) "Predicting the Flow Behavior of Thermosetting Resins During Processing," with A. Tungare and G. Martin, *Polymer Engineering and Science*, v. 29, p. 1279 (1989).
- 8) "Chemorheological Characterization of Thermoset Cure," with A. Tungare and G. Martin, *Polymer Engineering and Science*, v. 28, p. 1071 (1988).
- 9) "Modeling the Structure-Property-Processing Relationships of Epoxy Resins During Cure," with B. Fuller, G. Martin, and A. Tungare, *Society of Plastics Engineers, Technical Papers*, v. 35, p. 1079 (1989).
- 10) "Correlation of Viscosity, Ionic Conductivity, and Glass Transition Temperature During Epoxy Resin Curing," with B. Fuller and G. Martin, *Proceedings of the American Chemical Society, Polymeric Materials; Science and Engineering*, v. 59, p. 975 (1988).
- 11) "Modeling the Rheological and Dielectric Properties During Thermoset Cure," with A. Tungare and G. Martin, *Proceedings of the American Chemical Society, Polymeric Materials; Science and Engineering*, v. 59, p. 980 (1988).
- 12) "Residual Stresses and Warpage in Woven Glass/Epoxy Laminates," with I. Daniel and I. Zewi, *Experimental Mechanics*, v. 27, p. 44 (1987).
- 13) "Viscosity Modeling During Epoxy Resin Cure," with G. Schmitt and J. Wiley, *Society of Plastics Engineers, Technical Papers*, v. 33, p. 977 (1987).
- 14) "The Influence of Lamination Parameters on Warpage of Woven-Glass/Epoxy Laminates," with D. Karalekas and I. M. Daniel, *Society of Plastics Engineers, Technical Papers*, v. 33, p. 339 (1987).
- 15) "Thermoanalytical Investigation of Composite Lamination," with B. Appelt, T. Ellis, and M. Yandrasits, *Polymer Composites*, v. 8, p. 222 (1987).
- 16) "Characterization of Resin Flow in Composites," with B. Appelt and T. Ellis, *Society of Plastics Engineers, Technical Papers*, v. 32, p. 371 (1986).
- 17) "Composite Lamination - Analysis and Modeling," with B. Appelt, T. Ellis, G. Schmitt, and J. Wiley, *Society of Plastics Engineers, Technical Papers*, v. 31, p. 289 (1985).
- 18) "Residual Stresses and Warpage in Circuit Board Laminates," with I. M. Daniel and I. Zewi, *Proceedings of the 1985 Society for Experimental Mechanics, Conference on Experimental Mechanics*, p. 19 (1985)

### Characterization of Advanced Polymers

- 1) "Triazine Formation in Cyanate-Based Resin Systems at Room Temperature Conditions," with A. Osei-Owusu, and George C. Martin, *Polymer* v. 37, p. 4869, (1996)
- 2) "Gelation in Thermosets Formed by Chain Addition Polymerization," with M. Heise and G. Martin, *Polymer Engineering and Science*, v. 29, p. 83 (1990).
- 3) "The Effects of Network Structure on the Interfacial Adhesion Between Epoxy Composites and Copper Foil," with B. Fuller and G. Martin, *SAMPE Quarterly*, v. 21, p. 29 (1990).

- 4) "Thermomechanical Behavior of Multilayer Structures in Microelectronics," with I. Daniel and T. Wang, *Journal of Electronic Packaging, Transactions of the ASME*, v. 112, p. 11 (1990).
- 5) "Curing Chemistry-Physical Property Relations in Bis-Maleimide Resins," with A. Tungare and G. Martin, *Society of Plastics Engineers, Technical Papers*, v. 36, p. 970 (1990).
- 6) "Determination of Chemical Cure Shrinkage in Woven-Glass/Epoxy Laminates," with I. Daniel, T. Wang, and D. Karalekas, *Journal of Composites Technology and Research*, v. 12, p. 172 (1990).
- 7) "Analysis of the Curing Behavior of Cyanate Ester Resin Systems," with A. Osei-Owusu and G. Martin, *Polymer Engineering and Science*, v. 31, p. 1604 (1992).
- 8) "Room Temperature Reactivity and Structural Build-up in Polycyanurate Networks," with A. Osei-Owusu, G. Martin, M. Poliks, and J. Balko, *Proceedings of the American Chemical Society, Polymeric Materials; Science and Engineering*, v. 66 p.449 (1992).
- 9) "Analysis of Gel Formation: An Interdisciplinary Approach," with M. Heise and G. Martin, *Polymer Engineering and Science*, v. 32, p. 529 (1992).
- 10) "Catalysis and Kinetics of Cyclotrimerization of Cyanate Ester Resins," with A. Osei-Owusu and G. Martin, *Polymer Engineering and Science*, v. 32 p. 535 (1992).
- 11) "Network and Rheological Properties of Cyanate Ester Resin Systems," with A. Osei-Owusu, G. Martin, and G. Kohut, *Society of Plastics Engineers, Technical Papers*, v. 38, p. 1162 (1992).
- 12) "Thermoviscoelastic Analysis of Residual Stresses and Warpage in Composite Laminates," with T. Wang and I. Daniel, *Journal of Composite Materials*, v. 26, p. 883 (1992).
- 13) "Characterization of Imidazole-Cured Epoxy/Phenol Resins," with M. Heise and G. Martin, *Journal of Applied Polymer Science*, v. 42, p. 1557 (1991).
- 14) "The Role of Metal Catalysts on the Physical Properties of Cyanate Ester Resin Systems," with A. Osei-Owusu and G. Martin, *Society of Plastics Engineers, Technical Papers*, v. 37, p. 727 (1991).
- 15) "The Chemorheology of Epoxy-Imidazole Resin Systems," with B. Doshi, G. Martin, and G. Kohut, *Proceedings of the North American Thermal Analysis Society Meeting*, p. 500 (1991).
- 16) "Characterization of Bisphenol A-Based Cyanate Ester Resin Systems," with A. Osei-Owusu and G. Martin, *Proceedings of the American Chemical Society, Polymeric Materials; Science and Engineering*, v. 65 p. 304 (1991).
- 17) "Determination of Chemical Cure Shrinkage in Woven-Glass/Epoxy Laminates," with I. Daniel, T. Wang, and D. Karalekas, *Society of Plastics Engineers, Technical Papers*, v. 35, p. 632 (1989).
- 18) "The Physical Behavior of Imidazole-Cured Epoxy Resins," with M. Heise and G. Martin, *Society of Plastics Engineers, Technical Papers*, v. 35, p. 1070 (1989).
- 19) "A Multidisciplinary Approach to the Characterization of Thermosetting Polymers," with B. Fuller and G. Martin, *Proceedings of the North American Thermal Analysis Society*, p. 358 (1989).
- 20) "Thermal Characterization of a Bis-Maleimide Triazine Resin for Composites," with B. Appelt and K. Papathomas, *Polymer Composites*, v. 8, p. 39 (1987).
- 21) "The Use of FTIR to Characterize Photosensitive Thermosets," with R. Snyder, *J. of Applied Spectroscopy*, v. 41, p. 476 (1987).
- 22) "Cure Monitoring Using Dielectric and Dynamic Mechanical Analysis," *Society of Plastics Engineers, Technical Papers*, v. 33, p. 1039 (1987).
- 23) "A Rheological Analysis of the Cure Behavior of Epoxy Resins," with A. Tungare and G. Martin, *Society of Plastics Engineers, Technical Papers*, v. 33, p. 330 (1987).
- 24) "Thermal and Rheological Analysis of Epoxy Resin Cure," with M. Yandrasits, *Proceedings of the North American Thermal Analysis Society*, p. 309 (1987).
- 25) "Evaluation of the Chemorheological Parameters of High Performance Resins," with G. Martin and A. Tungare, *Proceedings of the North American Thermal Analysis Society*, p. 418 (1987).
- 26) "Dielectric Characterization of a Bis-Maleimide Triazine Resin for Composites," *Proceedings of the North American Thermal Analysis Society Conference*, p. 247 (1986).
- 27) "Thermal Characterization of a Bis-Maleimide/Bis-Cyanate Epoxy Thermosetting Resin for Composites," with B. Appelt and K. Papathomas, *Proceedings of the North American Thermal Analysis Society*, p. 168 (1985).

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- 28) "Role of Chain Microstructure on the Melt Rheological Properties of an Ethylene-Propylene Copolymer," with W. W. Graessley, *Proceedings of the American Chemical Society, Polymer Chemistry Division, Polymer Preprints*, v. 23, p. 38, (1982).
  - 29) "Model Hydrocarbon Polymers: Rheological Properties of Linear Polyisoprenes and Hydrogenated Polyisoprenes," with W. W. Graessley, *Macromolecules*, v. 17, p. 2767, (1984).
  - 30) "Thermorheological Effects of Long Chain Branching in Entangled Polymer Melts," with J. M. Carella and W. W. Graessley, *Macromolecules*, v. 19, p. 659, (1986).