



Polymers in Semiconductor Packaging

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These 3 one-hour webinars can be taken in total or separately, but to gain the most benefit it is recommended to attend the whole series in order. A brief description of each session follows:

Session One: Overview of Polymers used in Electronic Packaging

This session will provide a broad overview of polymers and the important structure-property-process-performance relationships for electronic packaging. Topics to be covered:

- Thermosetting polymers versus thermoplastics
- Temperature dependence of physical properties
- Thermosetting polymers; curing, curing mechanisms (heat and light cured), network formation
- Overview of key chemistries used (epoxies, acrylates, polyimides, bismaleimides, curing agents, and catalysts)

Session Two: Polymer-based Materials for Semiconductor Packaging

This session will build on the previous webinar and go into more details for specific applications. We will cover in more depth the chemistries, material properties, and process considerations for:

- Adhesives (both paste and film)
- Capillary Underfills
- Packaging Substrate Materials
- Encapsulants (mold compounds) and coatings

Session Three: Rheological and Adhesion Requirements for Polymers used in Semiconductor Packaging

This session will provide an introduction to two critical areas governing the performance of polymer-based materials used in packaging semiconductors. In most cases, adhesives, underfills, mold compounds and coatings are applied as a viscous liquid and then cured. The flow properties of these materials are critical to performance in high volume manufacturing. Additionally, the adhesive properties are critical for long-term reliability performance. This session will cover the basics in:

- Introduction to the rheological properties of adhesives (shear thinning, viscosity, time dependence, rheology changes during curing)
- Introduction to rheological characterization methods (various types of rheometers, and basic techniques)
- Introduction to Adhesion Science
- Polymer chemistries of typical adhesives, bonding mechanisms

Contact Jeff to discuss how he can help increase the impact of your next event by developing a tailored presentation to captivate your audience.

Dr. Jeff Gotro

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