

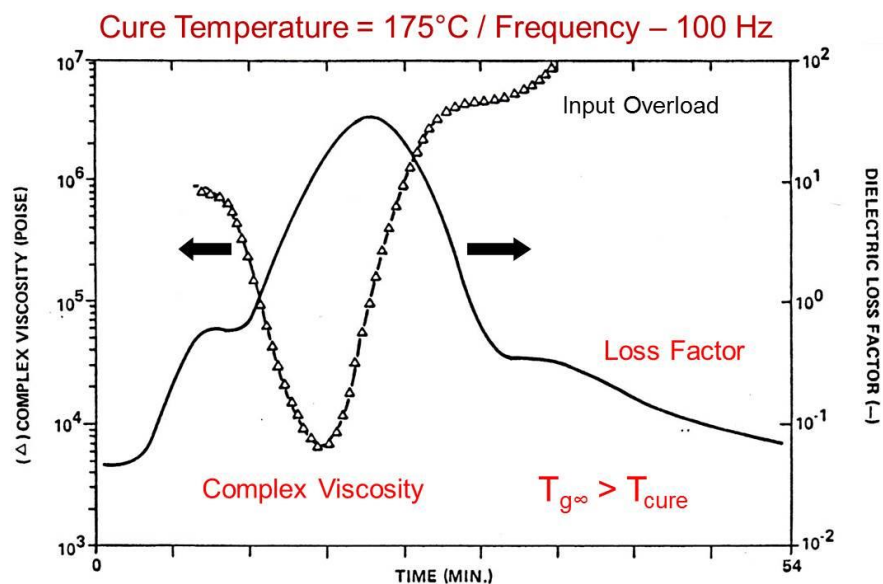
# Dielectric Cure Monitoring of Thermosets

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Bis-maleimide Triazine Epoxy ( $T_g=185^\circ\text{C}$ )

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# Introduction to Dielectric Cure Monitoring

This eBook is a collaborative effort covering an extended series of posts by Jeff Gotro and Huan Lee covering the dielectric cure monitoring of thermosets. The current eBook has been expanded to cover recent developments in the application of dielectric cure monitoring to thermoset processes. A key aspect of understanding thermosets and their applications is to have a basic knowledge of the testing methods available to characterize both the curing and processing of thermosetting resins.

In our previous eBook, Characterization of Thermosets, we covered the most common thermal analysis methods including an introduction to curing kinetics. In our recent eBook on Rheology of Thermosets we provided a comprehensive treatment of rheological methods used in the processing of thermosets. In this eBook, we will provide a solid background in the basics of dielectric methods and provide numerous examples of practical application of dielectric cure monitoring.

*In this eBook, the following topics will be covered:*

- Introduction to dielectric measurements
- Dielectric cure monitoring during isothermal and non-isothermal curing
- Simultaneous measurement of the viscosity and the dielectric loss factor
- How dipoles contribute to the dielectric signal
- Lamination process monitoring case study
- Types of dielectric sensors
- Equipment used for dielectric cure monitoring
- Practical examples of using dielectric cure monitoring
- Do's and Don'ts for dielectric cure monitoring