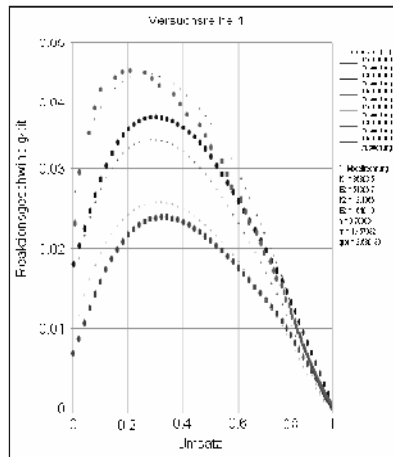


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Determination of Caloric Parameters

The process of curing has a great impact on the process and on the material properties of the final part with **thermosetting** polymers. Due to the heat development and the viscosity alteration it decisively influences the processing and the warpage of the application. Therefore, the knowledge of the **curing process** is an important condition for a basic understanding of the process itself and for a good product quality.

For the description of the curing of molding materials the approach by **Kamal and Sourer** is used nowadays. For the determination of the required parameters for this model, caloric data must be determined. For this, so called isothermal **DSC** tests are usually carried out. The heat which is produced by the chemical reaction is recorded. From it the reaction rates



DSC Evaluation

and the degrees of curing must be determined. In the following, the model parameters according to Kamal and Sourer can be gained from non-isothermal tests by means of a non-

linear optimization.

Based on the M-Base evaluation software, now a tool is available which offers an user independent, **automated determination** of these model parameters. The software reads in the raw data which are generated during the test, which are then processed to the reaction rate-curing diagrams. Diagrams of different temperatures are easily to compile and are approximated automatically with the model approach.

Normally the complete evaluation runs without any user interference. Results of the different evaluation steps are **visualized**, so that the user is able to control/prove intermediate results and - if necessary - to change them comfortably.

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