

Accepted Manuscript

Title: An iterative approach for isothermal curing kinetics modelling of an epoxy resin system

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PII: S0040-6031(15)00458-X
DOI: <http://dx.doi.org/doi:10.1016/j.tca.2015.11.014>
Reference: TCA 77393

To appear in: *Thermochimica Acta*

Received date: 21-7-2015
Revised date: 19-10-2015
Accepted date: 17-11-2015

Please cite this article as: <doi><http://dx.doi.org/10.1016/j.tca.2015.11.014></doi>

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1 The curing kinetics of a DGEBA epoxy resin is investigated using DSC technique.
2 Kamal's model is calibrated with isothermal runs using an iterative approach.
3 The released heat during heat-up phase is estimated using the iterative approach.
4 The calibrated model can predict the dynamic curing of the epoxy resin system.
5 The calibrated model is validated for complicated curing scenarios.

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11 **An iterative approach for isothermal curing kinetics** 12 **modelling of an epoxy resin system**

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23 **Keywords:** epoxy resins, curing kinetics, DSC, isothermal

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27 **1.1 Abstract**

28 In this work a novel iterative method for isothermal cure kinetic modelling of an epoxy resin system
29 using differential scanning calorimetry (DSC) technique is presented. To reach the isothermal cure
30 temperature, the sample has to be heated up from ambient temperature. This is commonly done with
31 very high heat-up rates to minimise the time the sample reacts at temperatures other than the desired
32 one. However, during heat up with high heating the amount of released energy rates cannot be
33 measured directly because the shape of baseline is unknown. This means that the cure state at the

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